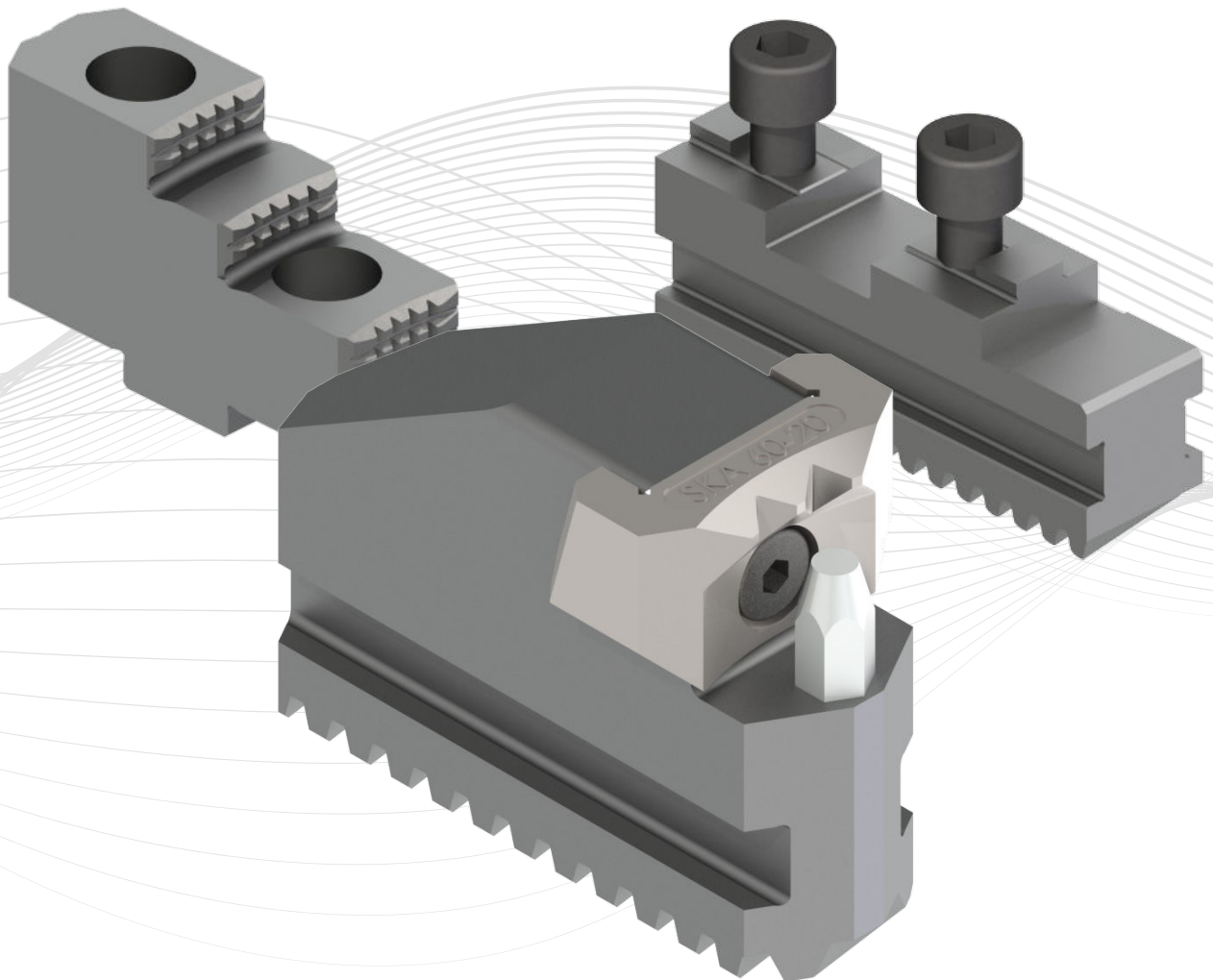




FORKARDT.DE



# CLAMPING JAWS

CLAMPING JAWS FOR MANUAL AND POWER CHUCKS



# CLAMPING JAWS FOR MANUAL AND POWER CHUCKS

## CLAMPING TASKS SAFELY UNDER CONTROL

This brochure lists all clamping jaw types for manual and power chucks. Should you require further information beyond the data sufficient data in most cases, please contact us.

With perfectly matched force transmission between chuck and workpiece, FORKARDT clamping jaws ensure that workpieces are securely during turning operations.

Only the use of clamping jaws suitable for the task at hand allows the full performance of the lathe chuck and the machine tool can be utilized, thus maximizing productivity.

That is why FORKARDT's wide range of clamping jaws includes exactly the right clamping jaw for a large number of workpieces to be machined. For complicated production tasks FORKARDT offers individually designed special top jaws, which are exactly adapted to the workpiece and the machining method.

### **More information at:**

Since we are constantly working on improving our products, the dimensions and data in this publication may not always correspond to the latest versions. You can find the latest data on our website.

# CONTENT

## Clamping jaws for power chucks with wedge bar system

|                                             | Jaw type        | Suitable for             | Site         |
|---------------------------------------------|-----------------|--------------------------|--------------|
| Term definition                             |                 |                          | <b>4</b>     |
| Base jaws                                   |                 |                          |              |
| • Angled serration                          | FGB             | F; F+; FNC; FNC+S        | <b>6</b>     |
| • Straight serration                        | GGB             | FNC+G                    | <b>7</b>     |
| Hard top jaws                               | FHB             | F; F+; FNC; FNC+S; FNC+G | <b>8</b>     |
| Soft top jaws                               | FWB             | F; F+; FNC; FNC+S; FNC+G | <b>9</b>     |
| One piece stepped jaw                       |                 |                          |              |
| • Angled serration                          | FStB            | F; F+; FNC; FNC+S        | <b>10</b>    |
| • Straight serration                        | GStB            | FNC+G                    | <b>11</b>    |
| Soft monoblok jaw                           |                 |                          |              |
| • Angled serration                          | FMB             | F; F+; FNC; FNC+S        | <b>12</b>    |
| • Straight serration                        | GMB             | FNC+G                    | <b>13</b>    |
| Gripper jaw                                 | KBKTNC          |                          | <b>14</b>    |
| • For outside clamping (angled serration)   | with SKA insert | F; F+; FNC; FNC+S        | <b>15-17</b> |
| • For outside clamping (straight serration) | with SKA insert | FNC+G                    | <b>18</b>    |
| • For inside clamping (angled serration)    | with SKI insert | F; F+; FNC; FNC+S        | <b>19-20</b> |
| • For inside clamping (straight serration)  | with SKI insert | FNC+G                    | <b>21</b>    |
| Chuck inserts for KBKTNC                    | SKA, SKI, WSE   | all KBKTNC jaws          | <b>22</b>    |

## Clamping jaws for power chucks with wedge bar system (without FNC; FNC+S)

|                               | Jaw type | Suitable for                                                                                            | Site      |
|-------------------------------|----------|---------------------------------------------------------------------------------------------------------|-----------|
| Hard top jaws, inch gearing   | HB       | QLC, QLC-KS, QLK, QLK-KS, KS, KT, KG, KL, KLNC, KP, NH, NHF, KGH, KSH, KTH, KTHS, KTGF, KGHF, KSHF, UVE | <b>23</b> |
| Hard top jaws, metric gearing | HBMS     |                                                                                                         | <b>24</b> |
| Soft top jaws, inch gearing   | WB       |                                                                                                         | <b>25</b> |
| Soft top jaws, metric gearing | WBMS     |                                                                                                         | <b>26</b> |
| Soft top jaws                 | 2BLEWB   | BLE, BLN                                                                                                | <b>27</b> |

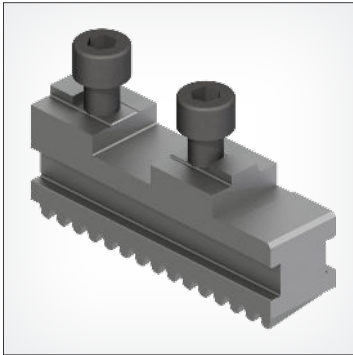
## Special solutions for special applications

**28**

## Accessories for clamping jaws

|                        | Jaw type   | Suitable for | Site      |
|------------------------|------------|--------------|-----------|
| Jaw mounting screws    | FG, FNG    |              | <b>29</b> |
| Strokes                | ANS        |              | <b>30</b> |
| Slot nuts              |            |              |           |
| Split version          | FN         |              | <b>31</b> |
| In special version     | NSTB, NSTS |              | <b>31</b> |
| Undivided version      | NSTU, NSMS |              | <b>31</b> |
| Pendulum grip inserts  | PEG        |              | <b>32</b> |
| With cylindrical mount | PEGZA      |              | <b>33</b> |
| Carbide inserts        | Angle-Lok  |              | <b>34</b> |

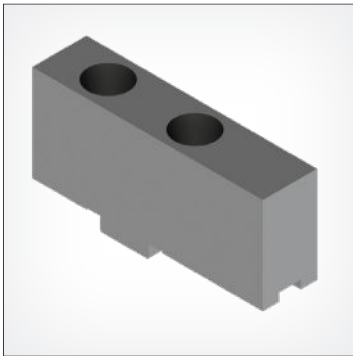
# DEFINITION



## FGB / GGB

**Base jaws FGB (angled serrated) / GGB (straight serrated)**

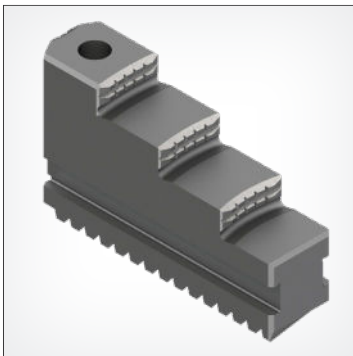
- transmission jaw for top jaw
- Precision ground for maximum repeatability



## FWB

**Soft top jaw FWB**

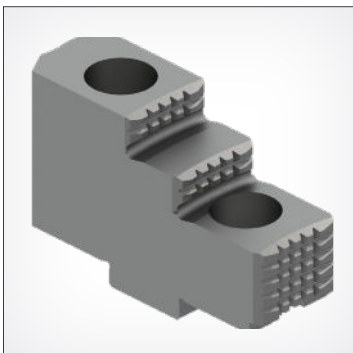
- Ideal for clamping on machined surfaces
- High precision by turning out the jaws in the chuck
- Changeover accuracy due to exchange of top jaw and base jaw as jaw unit



## FSTB / GSTB

**one piece stepped hard jaws FSTB (angled serrated) / GSTB (gerade verzahnt)**

- Hardened, one-piece clamping jaws for universal use
- Clamping jaws can be subsequently ground out in the chuck
- Increased driving force due to block gearing
- When supplied with a FORKARDT chuck ground out in the chuck
- Highest stability

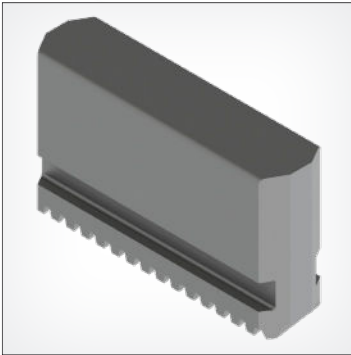


## FHB

**Hard top jaw FHB**

- Hardened top jaw for universal use
- Clamping jaws can be subsequently ground out in the chuck
- rincreased driving force due to block gearing
- When supplied with a FORKARDT chuck ground out in the chuck

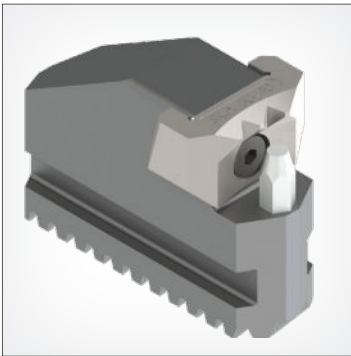
# DEFINITION



## FMB / GMB

**Soft monoblock jaws FMB (angled serrated) / GMB (straight serrated)**

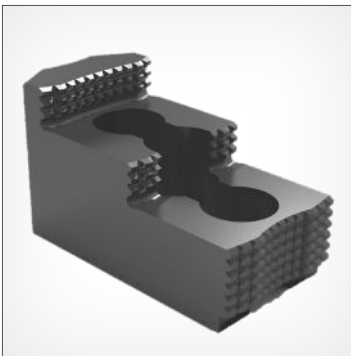
- Ideal for clamping on machined surfaces
- High precision by turning out the jaws in the chuck
- Maximum depth of clamping
- Highest stability



## KBKTNC

**Gripper jaws KBKTNC**

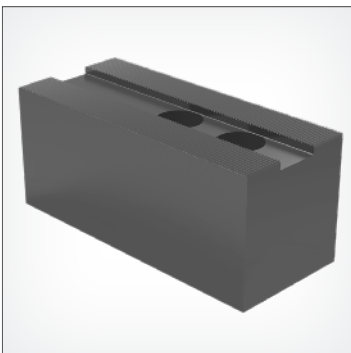
- Maximum cutting volume due to maximum driving force
- Shorter cutting time with the same clamping force
- High efficiency due to exchangeable claw insert
- Practical, material-saving short clamping option
- Suitable for all FORKARDT wedge bars and quick change jaw chucks
- Adjustment of the clamping depth by exchangeable strokes



## HB

**Hard top jaws HB / HBMS**

- Hardened top jaw for universal use
- Clamping jaws can be subsequently ground out in the chuck
- Increased driving force due to block gearing
- When supplied with a FORKARDT chuck ground out in the chuck

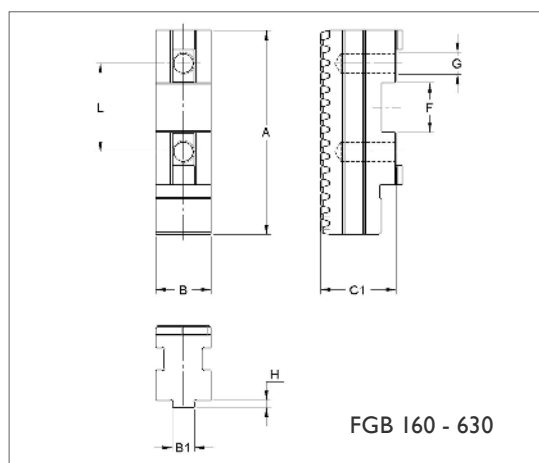
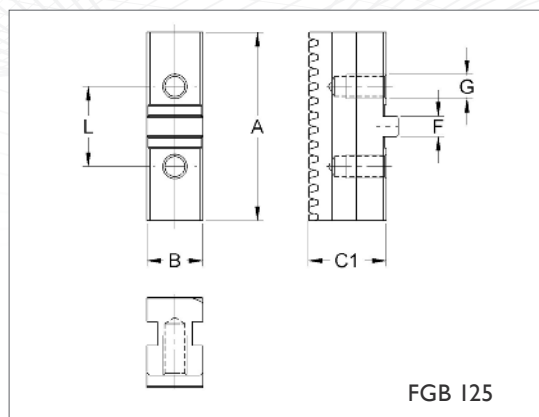
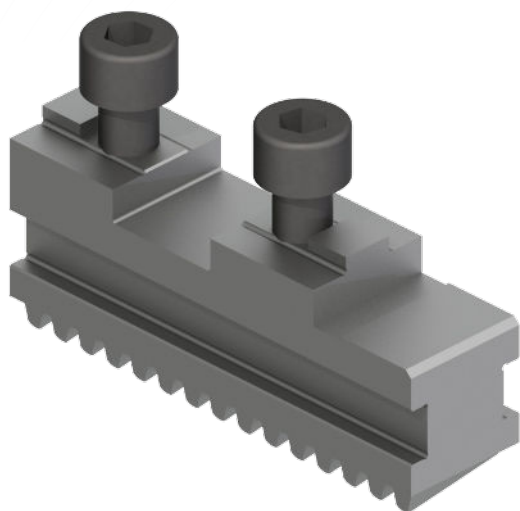


## WB

**Soft top jaws WB / WBMS**

- Ideal for clamping on machined surfaces
- High precision by turning out the jaws in the chuck
- Changeover accuracy due to exchange of top jaw and base jaw as jaw unit

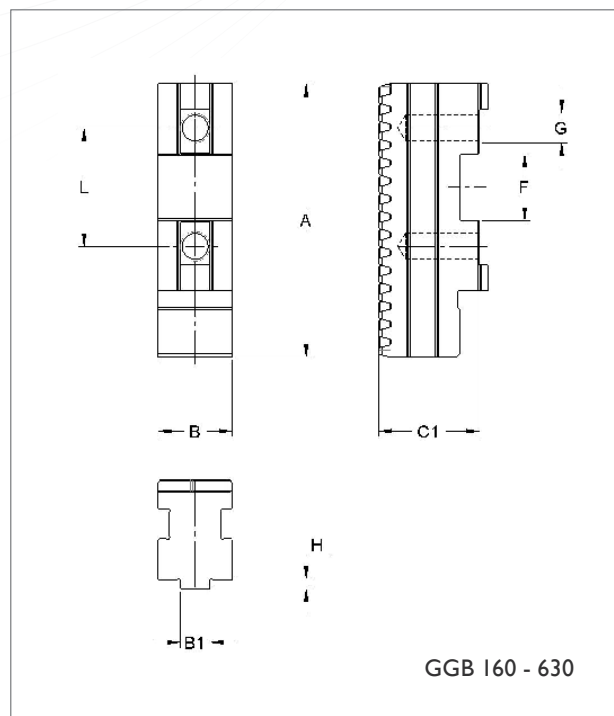
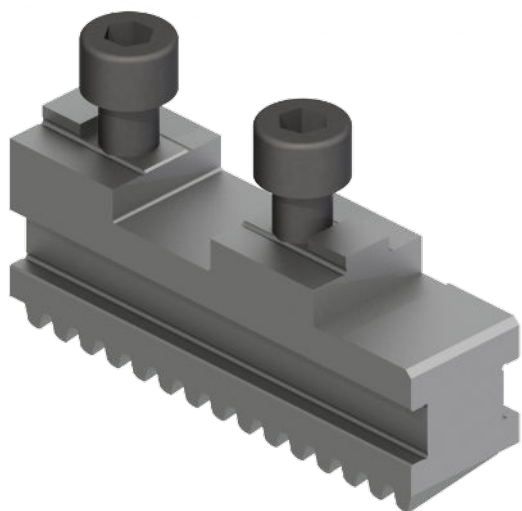
# BASE JAWS FGB



| FORKARDT chuck type                                                              | Type    | Nominal sizes |    | Ident.-No  | BI | CI   | F  | G       | L  | Weight<br>Kg/pcs |
|----------------------------------------------------------------------------------|---------|---------------|----|------------|----|------|----|---------|----|------------------|
|                                                                                  |         | A             | B  |            |    |      |    |         |    |                  |
| F+ 125, F 125                                                                    | FGB 125 | 47            | 14 | DI80557000 | -  | 19,5 | 5  | M6      | 20 | 0,08             |
| F+ 160, F 160<br>FNC 175<br>FNC+S 185                                            | FGB 160 | 74            | 20 | DI80567000 | 8  | 27   | 18 | M8x1    | 32 | 0,23             |
| F+ 200, F 200<br>FNC 200<br>FNC+S 215                                            | FGB 200 | 90            | 22 | DI80577000 | 10 | 32   | 20 | M8x1    | 40 | 0,38             |
| F+ 250, F 250<br>FNC 250<br>FNC+S 260<br>FNC 315                                 | FGB 250 | 110           | 26 | DI80588000 | 12 | 37   | 20 | M12x1,5 | 40 | 0,6              |
| F+ 315, F 315<br>FNC+S 315<br>FNC 400<br>FNC+S 400                               | FGB 315 | 125           | 32 | DI80596000 | 12 | 43   | 26 | M12x1,5 | 54 | 0,98             |
| F+ 400, F 400<br>F+ 500, F 500-L<br>FNC 500<br>FNC+S 500<br>FNC 630<br>FNC+S 630 | FGB 400 | 160           | 45 | DI80606000 | 18 | 51   | 30 | M16x1,5 | 60 | 2,1              |
| F+ 630, F 630                                                                    | FGB 630 | 230           | 65 | DI80619000 | 24 | 58   | 40 | M20     | 82 | 5,45             |

Ordering example: Base jaw FGB 250 Ident.-No. DI80588000

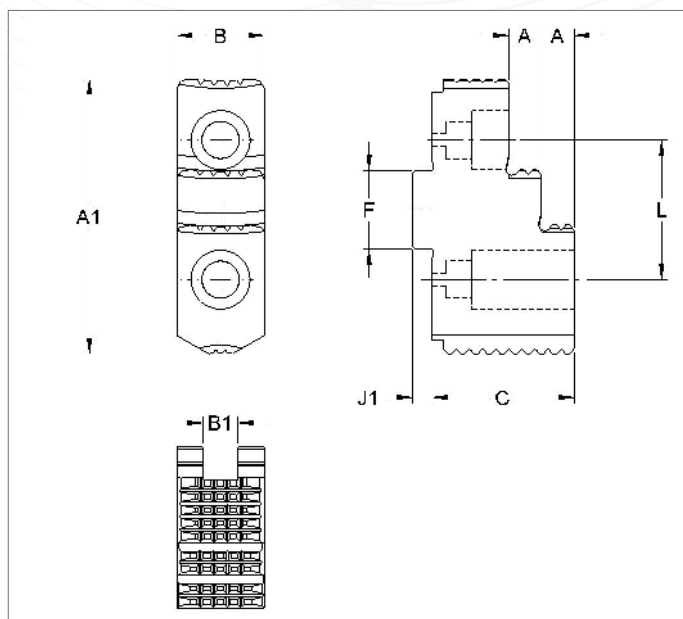
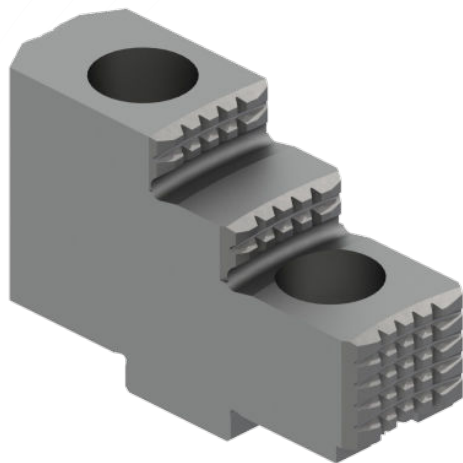
# BASE JAWS GGB



| FORKARDT<br>chuck type | Type    | Nominal sizes |    | Ident.-No  | B1 | C1   | F  | G   | L  | Weight<br>Kg / pcs |
|------------------------|---------|---------------|----|------------|----|------|----|-----|----|--------------------|
|                        |         | A             | B  |            |    |      |    |     |    |                    |
| FNC+G 185              | GGB 160 | 65            | 20 | D180567400 | 8  | 27,5 | 18 | M8  | 32 | 0,2                |
| FNC+G 215              | GGB 200 | 85            | 22 | D180577400 | 10 | 29,5 | 20 | M8  | 40 | 0,33               |
| FNC+G 260              | GGB 250 | 104           | 26 | D180588400 | 12 | 37   | 20 | M12 | 40 | 0,6                |
| FNC+G 315              | GGB 315 | 115           | 32 | D180596400 | 12 | 43   | 20 | M12 | 40 | 1,0                |
| FNC+G 400              | GGB 400 | 125           | 32 | D180606400 | 12 | 43   | 26 | M12 | 54 | 1,0                |
| FNC+G 500              | GGB 500 | 160           | 45 | D180609400 | 18 | 57   | 30 | M16 | 60 | 2,0                |
| FNC+G 630              | GGB 630 | 200           | 45 | D180619400 | 18 | 57   | 30 | M16 | 60 | 3,21               |

Ordering example: Base jaw GGB 250 Ident.-No. D180588400

# HARD TOP JAWS FHB

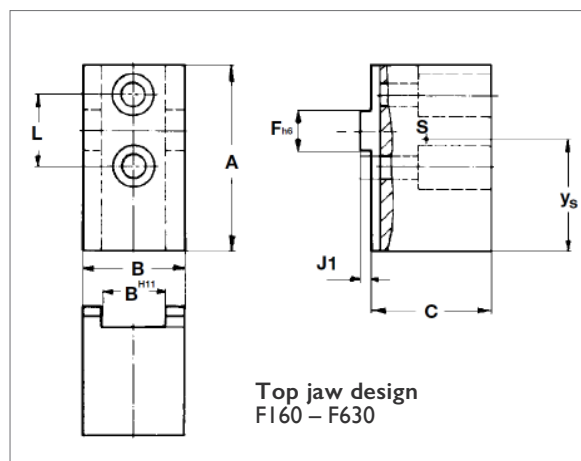
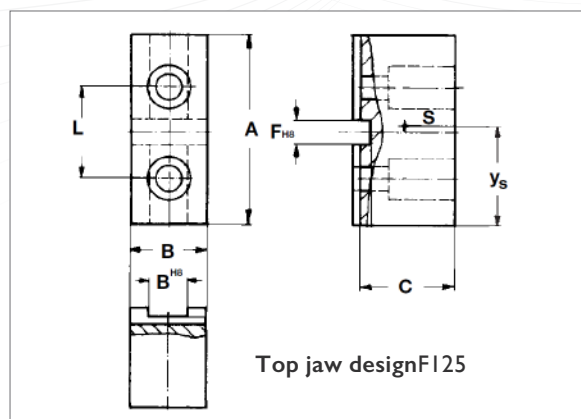
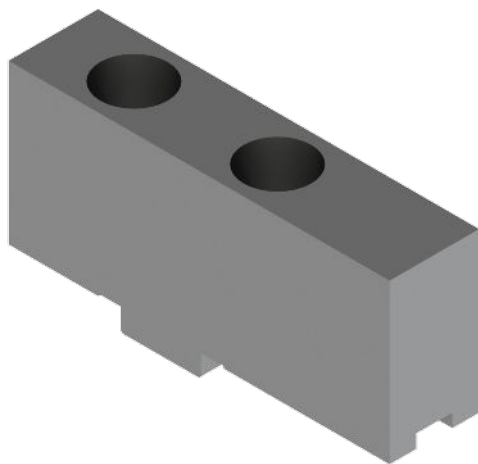


| FORKARDT<br>chuck type                                                         | Type    | Nominal sizes |    |      | Ident.-No   | A1    | B1<br>H11 | F h6 | J1 | L  | Weight<br>Kg / pcs |
|--------------------------------------------------------------------------------|---------|---------------|----|------|-------------|-------|-----------|------|----|----|--------------------|
|                                                                                |         | A             | B  | C    |             |       |           |      |    |    |                    |
| F+160, F 160<br>FNC 175<br>FNC+S 185                                           | FHB 160 | 7,5           | 20 | 32,5 | D1070016624 | 63,1  | 8         | 18   | 4  | 32 | 0,19               |
| F+200, F 200<br>FNC 200<br>FNC+S 215                                           | FHB 200 | 10            | 22 | 38   | D1070021624 | 72    | 10        | 20   | 5  | 40 | 0,28               |
| F+250, F 250<br>FNC 250<br>FNC+S 260<br>FNC 315                                | FHB 250 | 14            | 30 | 50   | D1070026524 | 90    | 12        | 20   | 5  | 40 | 0,65               |
| F+315, F 315<br>FNC+S 315<br>FNC 400<br>FNC+S 400                              | FHB 315 | 15            | 36 | 56   | D1070033524 | 105,3 | 12        | 26   | 6  | 54 | 1,11               |
| F+400, F 400<br>F+500, F 500-L<br>FNC 500<br>FNC+S 500<br>FNC 630<br>FNC+S 630 | FHB 400 | 20            | 45 | 75   | D1070038524 | 130   | 18        | 30   | 7  | 60 | 2,27               |
| F+630, F 630                                                                   | FHB 630 | 30            | 65 | 97   | D1070049224 | 185   | 24        | 40   | 8  | 82 | 6                  |

Ordering example: Top jaw FHB 250 Ident.-No. D1070026524

• Clamping jaws with other dimensions and/or material available on request

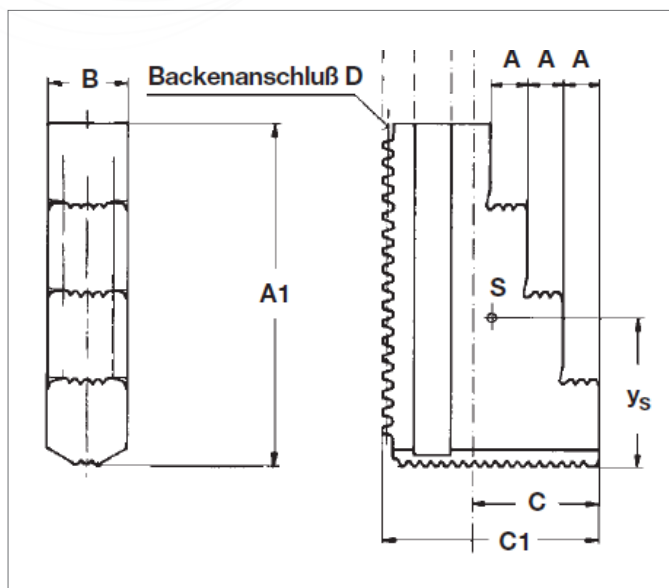
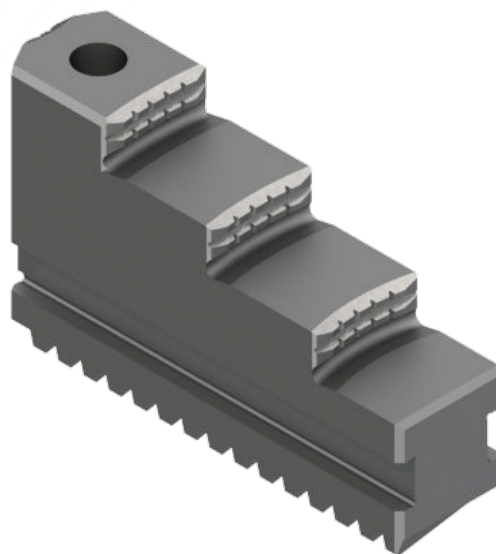
# SOFT TOP JAWS FWB



| FORKARDT chuck type                                                              | Type    | Nominal sizes |    |      | Ident.-No   | BI<br>H11 | F h6 | J1  | L  | Weight<br>Kg/pcs |
|----------------------------------------------------------------------------------|---------|---------------|----|------|-------------|-----------|------|-----|----|------------------|
|                                                                                  |         | A             | B  | C    |             |           |      |     |    |                  |
| F+ 125, F 125                                                                    | FWB 125 | 55            | 20 | 27,5 | D1070010508 | 14        | 5    | 2,5 | 20 | 0,2              |
| F+ 160, F 160<br>FNC 175<br>FNC+S 185                                            | FWB 160 | 85            | 20 | 35,5 | D1070016525 | 8         | 18   | 4   | 32 | 0,38             |
| F+ 200, F 200<br>FNC 200<br>FNC+S 215                                            | FWB 200 | 105           | 22 | 43   | D1070021525 | 10        | 20   | 4   | 40 | 0,66             |
| F+ 250, F 250<br>FNC 250<br>FNC+S 260<br>FNC 315                                 | FWB 250 | 125           | 30 | 50,5 | D1070026425 | 12        | 20   | 5   | 40 | 1,25             |
| F+ 315, F 315<br>FNC+S 315<br>FNC 400<br>FNC+S 400                               | FWB 315 | 145           | 40 | 54   | D1070033425 | 12        | 26   | 6   | 54 | 2,21             |
| F+ 400, F 400<br>F+ 500, F 500-L<br>FNC 500<br>FNC+S 500<br>FNC 630<br>FNC+S 630 | FWB 400 | 180           | 50 | 73   | D1070038425 | 18        | 30   | 7   | 60 | 4,56             |
| F+ 630, F 630                                                                    | FWB 630 | 260           | 65 | 110  | D1070049025 | 24        | 40   | 8   | 82 | 13,22            |

Ordering example: Top jaw FWB 250 Ident.-No. D1070026425

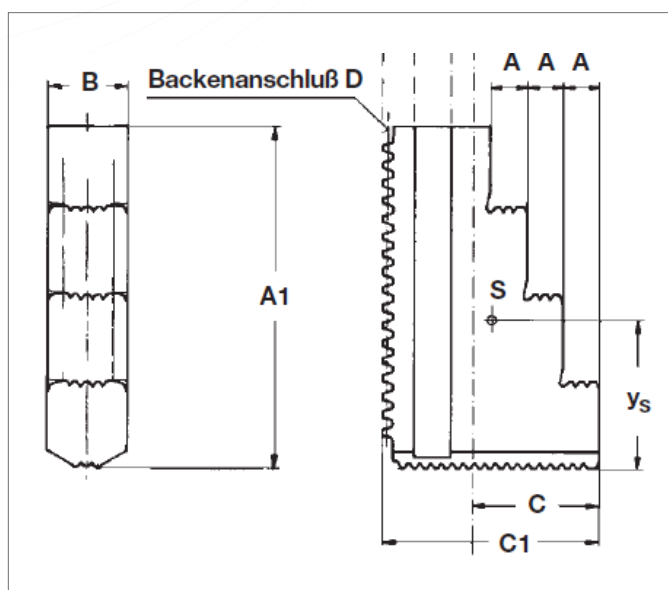
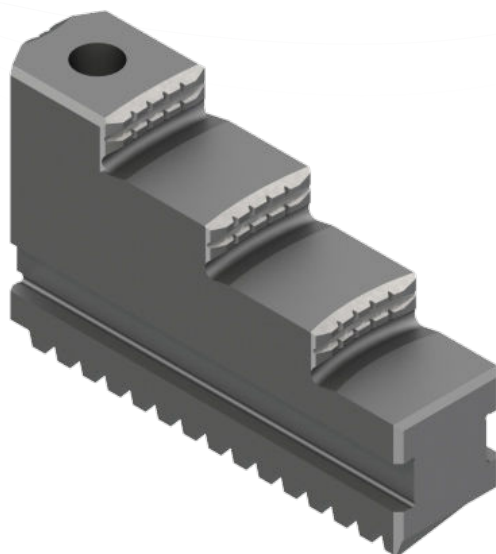
# ONE PIECE HARD STEPPED JAW FSTB



| FORKARDT chuck type                                                              | Type     | Nominal sizes |    |    | Ident.-No   | A1  | C1 | Weight<br>Kg/pcs |
|----------------------------------------------------------------------------------|----------|---------------|----|----|-------------|-----|----|------------------|
|                                                                                  |          | A             | B  | C  |             |     |    |                  |
| F+ 125, F 125                                                                    | FSTB 125 | -             | -  | -  | -           | -   | -  | -                |
| F+ 160, F 160<br>FNC 175<br>FNC+S 185                                            | FSTB 160 | 7,5           | 20 | 24 | DI070016633 | 79  | 45 | 0,35             |
| F+ 200, F 200<br>FNC 200<br>FNC+S 215                                            | FSTB 200 | 10            | 22 | 35 | DI070021633 | 94  | 60 | 0,63             |
| F+ 250, F 250<br>FNC 250<br>FNC+S 260<br>FNC 315                                 | FSTB 250 | 14            | 26 | 40 | DI070026533 | 114 | 70 | 1,1              |
| F+ 315, F 315<br>FNC+S 315<br>FNC 400<br>FNC+S 400                               | FSTB 315 | 15            | 32 | 56 | DI070033533 | 129 | 81 | 1,8              |
| F+ 400, F 400<br>F+ 500, F 500-L<br>FNC 500<br>FNC+S 500<br>FNC 630<br>FNC+S 630 | FSTB 400 | 20            | 45 | 52 | DI070038533 | 167 | 93 | 3,57             |

Ordering example: Hard stepped jaw FSTB250 Ident.-No. DI0726533

# ONE PIECE HARD STEPPED JAW GSTB

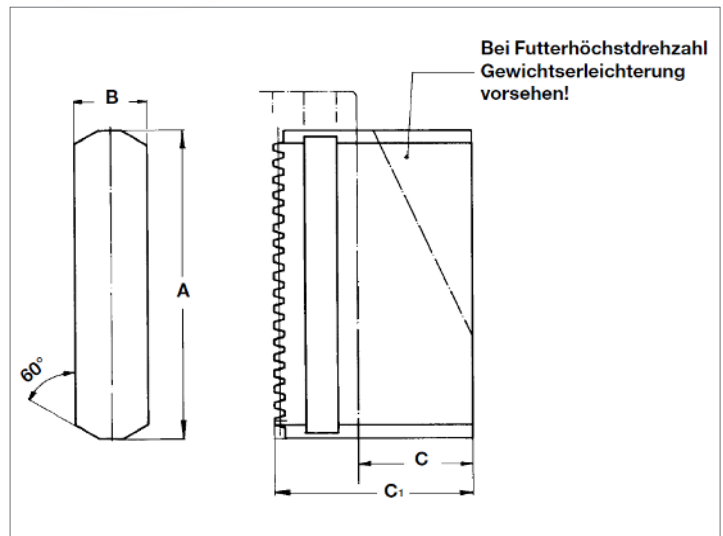
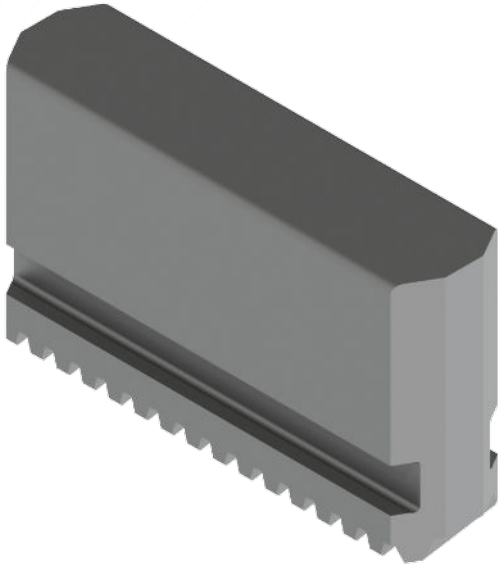


| FORKARDT<br>chuck type | Type         | Nominal sizes |    |    | Ident.-No   | AI    | CI   | Weight<br>Kg / pcs |
|------------------------|--------------|---------------|----|----|-------------|-------|------|--------------------|
|                        |              | A             | B  | C  |             |       |      |                    |
| FNC+G 185*             | GSTB 160 I   | 7             | 20 | 22 | D1070016432 | 58    | 43,5 | 0,23               |
| FNC+G 185*             | GSTB 160II   | 7             | 20 | 22 | D1070016433 | 58    | 43,5 | 0,23               |
| FNC+G 215              | GSTB 200     | 8             | 22 | 29 | D1070021433 | 84,9  | 54   | 0,53               |
| FNC+G 260              | GSTB 250     | 10            | 26 | 36 | D1070026433 | 107,5 | 65   | 0,93               |
| FNC+G 315              | GSTB 315     | 10            | 32 | 32 | D1070033433 | 116,3 | 66   | 1,16               |
| FNC+G 400              | GSTB 400     | 11            | 32 | 36 | D1070038433 | 136,4 | 70   | 1,53               |
| FNC+G 500 / 630        | GSTB 500–630 | 20            | 45 | 46 | D1070039433 | 175   | 93   | 4,66               |

Ordering example: Top jaw GSTB 250 Ident.-No. D1070026433

\* Complete coverage of the clamping area only possible with 2 sets of stepped block jaws I+II

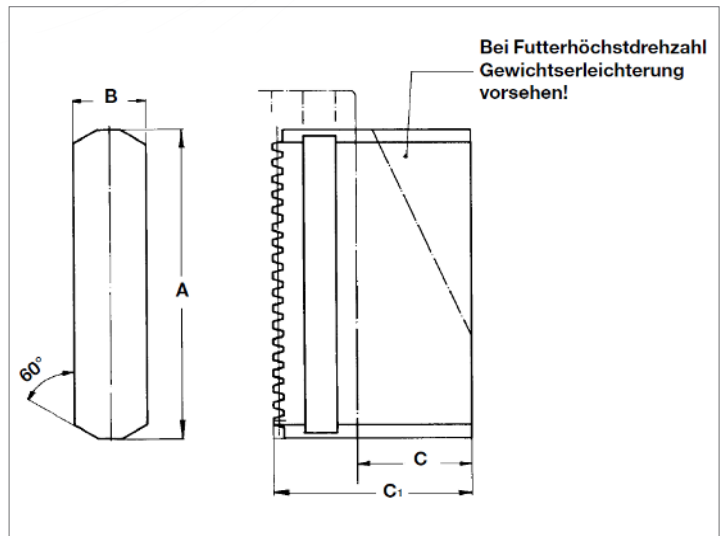
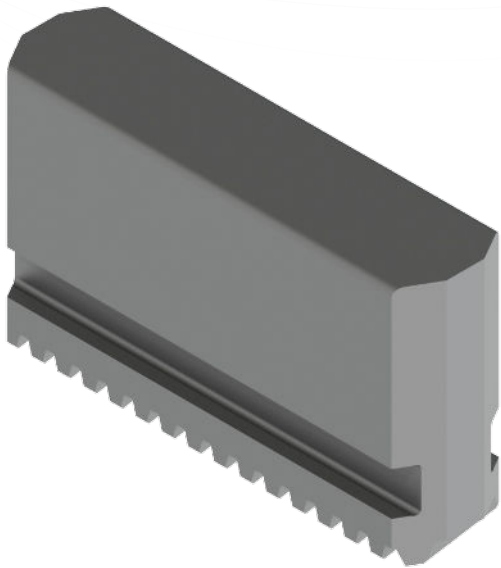
# SOFT MONOBLOC JAWS FMB



| FORKARDT chuck type                                                              | Type    | Nominal sizes |    |     | Ident.-No   | CI | Weight<br>Kg / pcs |
|----------------------------------------------------------------------------------|---------|---------------|----|-----|-------------|----|--------------------|
|                                                                                  |         | A             | B  | C   |             |    |                    |
| F+ 160, F 160<br>FNC 175<br>FNC+S 185                                            | FMB 160 | 79            | 20 | 24  | DI070016734 | 45 | 0,48               |
| F+ 200, F 200<br>FNC 200<br>FNC+S 215                                            | FMB 200 | 94            | 22 | 35  | DI070021734 | 60 | 0,87               |
| F+ 250, F 250<br>FNC 250<br>FNC+S 260<br>FNC 315                                 | FMB 250 | 115           | 26 | 40  | DI070026034 | 70 | 1,43               |
| F+ 315, F 315<br>FNC+S 315<br>FNC 400<br>FNC+S 400                               | FMB 315 | 140           | 32 | 46  | DI070033034 | 81 | 2,45               |
| F+ 400, F 400<br>F+ 500, F 500-L<br>FNC 500<br>FNC+S 500<br>FNC 630<br>FNC+S 630 | FMB 400 | 176           | 45 | 53  | DI070038034 | 93 | 4,97               |
| F+ 630, F 630                                                                    | FMB 630 | 230           | 65 | 130 | DI070039034 | -  | -                  |

Ordering example: Soft monoblock jaw FMB250 Ident No. DI070026034

# SOFT MONOBLOCK JAWS GMB

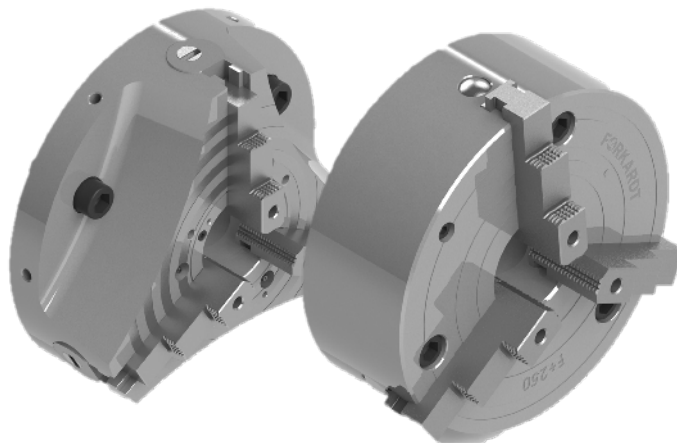
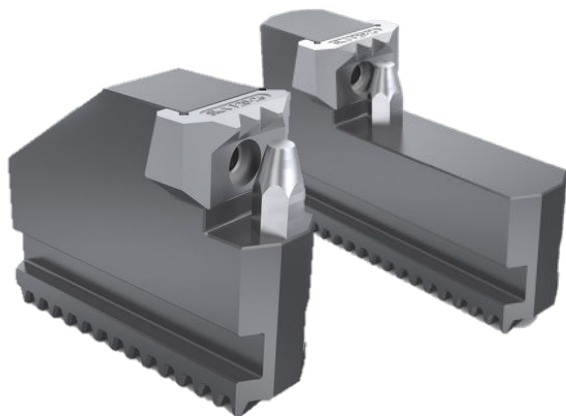


| FORKARDT<br>chuck type | Type    | Nominal sizes |    |    | Ident.-No   | CI   | Weight<br>Kg/pcs |
|------------------------|---------|---------------|----|----|-------------|------|------------------|
|                        |         | A             | B  | C  |             |      |                  |
| FNC+G 185              | GMB 160 | 65            | 20 | 35 | DI070016434 | 55,5 | 0,53             |
| FNC+G 215              | GMB 200 | 84            | 22 | 40 | DI070021434 | 65   | 0,9              |
| FNC+G 260              | GMB 250 | 99            | 26 | 55 | DI070026434 | 84   | 1,6              |
| FNC+G 315              | GMB 315 | 121           | 32 | 56 | DI070033434 | 90   | 2,53             |
| FNC+G 400              | GMB 400 | 148           | 32 | 66 | DI070038434 | 100  | 3,42             |
| FNC+G 500              | GMB 500 | 175           | 45 | 77 | DI070039434 | 124  | 7,13             |
| FNC+G 630              | GMB 630 | 230           | 45 | 87 | DI070037434 | 134  | 10,2             |

Ordering example: Top jaw GMB 250 Ident-No. DI070026434

# GRIPPER JAW SYSTEM KBKTNC

Gripper jaws with changeable inserts



- Maximum cutting volume due to maximum driving force
- Shorter cutting time with the same clamping force
- High efficiency due to exchangeable claw insert

- Practical, material-saving short clamping option
- Suitable for all FORKARDT wedge bars and quick change jaw chucks
- Adjustment of the clamping depth by exchangeable stops

| Jaw design                      | Material | Workpiece surface on the clamping side |           |                 |
|---------------------------------|----------|----------------------------------------|-----------|-----------------|
|                                 |          | vvv                                    | vv oder v | v               |
| Sizing jaw                      | Stahl    | 0,1                                    | 0,15      | - <sup>1)</sup> |
|                                 | Al       | 0,1                                    | 0,14      | -               |
|                                 | Ms       | 0,09                                   | 0,14      | -               |
|                                 | GG       | 0,08                                   | 0,12      | -               |
| Paving stone jaws <sup>1)</sup> | Stahl    | 0,12                                   | 0,2       | 0,32            |
|                                 | Al       | 0,11                                   | 0,19      | 0,3             |
|                                 | Ms       | 0,11                                   | 0,18      | 0,27            |
|                                 | GG       | 0,1                                    | 0,16      | 0,26            |
| Gripper jaw <sup>2)</sup>       | Stahl    | 0,25                                   | 0,35      | 0,5             |
|                                 | Al       | 0,24                                   | 0,33      | 0,48            |
|                                 | Ms       | 0,23                                   | 0,32      | 0,45            |
|                                 | GG       | 0,2                                    | 0,28      | 0,4             |

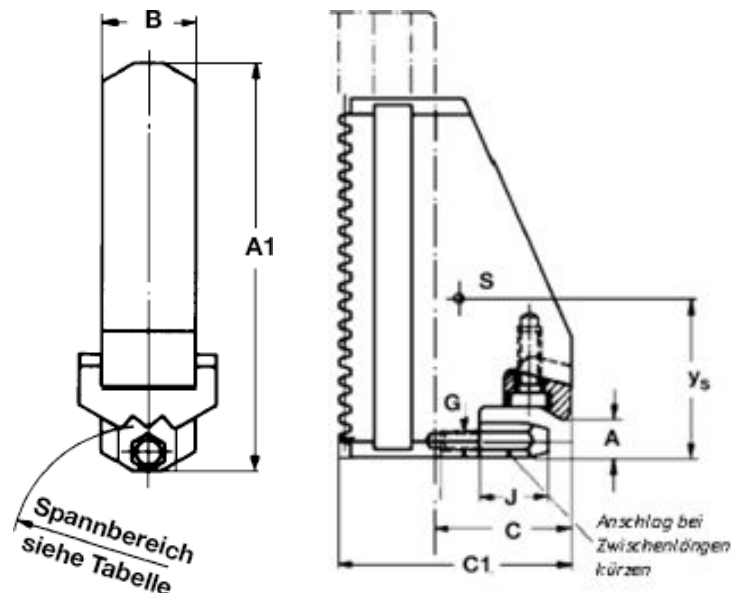
1) avoid, smooth jaws are only suitable for machined clamping surfaces.

2) Depending on the clamping force, indentations are created on the workpiece.

# GRIPPER JAW SYSTEM KBKTNC WITH CHANGEABLE HARD INSERTS SKA FOR OUTSIDE CLAMPING (ANGLED SERRATION)

The gripper jaws are variably assembled in their individual parts. They are therefore only marked with individual part ident. No. marked

Ordering example:  
Gripper jaw KBKTNC 48-26-40 Ident-No. D45476000  
\* Minimal deviations in the clamping ranges can occur



| FORKARDT<br>chuck type | Clamping-<br>range | Ident.-No.  | Nominal sizes |    |    |      |    |    |                   | Clamping insert |
|------------------------|--------------------|-------------|---------------|----|----|------|----|----|-------------------|-----------------|
|                        |                    |             | A             | B  | C  | AI   | CI | J  | Weight<br>Kg/pcs. |                 |
| F+ 160<br>F 160        | 25-53              | D45462000   | 8             | 20 | 24 | 64,5 | 45 | 12 | 0,35              | D45462002       |
|                        | 47-77              | D45463000   |               |    |    |      |    |    | 0,32              | D45463002       |
|                        | 68-123             | D45464000   |               |    |    |      |    |    | 0,35              |                 |
|                        | 102-156            | D45465000   |               |    |    |      |    |    | 0,35              |                 |
| FNC 175<br>FNC+S 185   | 29-93              | D1161832000 | 8             | 22 | 35 | 64,5 | 60 | 18 | 0,35              | D45462002       |
|                        | 82-160             | D45464000   | 31            |    |    | 79   |    |    | 0,32              |                 |
|                        | 106-174            | D45465000   | 48            |    |    | 94   |    |    | 0,61              |                 |
| F +200<br>F 200        | 32-74              | D45468000   | 10            | 22 | 35 | 74,5 | 60 | 18 | 0,58              | D45468002       |
|                        | 72-132             | D45469000   |               |    |    | 85   |    |    | 0,54              | D45469002       |
|                        | 82-150             | D45470000   |               |    |    | 94   |    |    | 0,61              |                 |
|                        | 124-192            | D45471000   |               |    |    | 94   |    |    | 0,61              |                 |
| FNC 200<br>FNC+S 215   | 41-122             | D161833000  | 10            | 22 | 35 | 85   | 60 | 18 | 0,54              | D45468002       |
|                        | 64-104             | D45469000   |               |    |    | 94   |    |    | 0,54              | D45469002       |
|                        | 108-188            | D45470000   |               |    |    | 94   |    |    | 0,61              |                 |
|                        | 130-211            | D45471000   |               |    |    | 94   |    |    | 0,61              |                 |

# GRIPPER JAW SYSTEM KBKTNC WITH CHANGEABLE INSERTS SKA FOR OUTSIDE CLAMPING (ANGLED SERRATION)

| FORKARDT<br>chuck type | Clamping-<br>range | Ident.-No. | Nominal sizes |    |    |       |     |    |                     | Clampin insert |    |    |           |           |    |    |           |           |      |  |  |
|------------------------|--------------------|------------|---------------|----|----|-------|-----|----|---------------------|----------------|----|----|-----------|-----------|----|----|-----------|-----------|------|--|--|
|                        |                    |            | A             | B  | C  | AI    | CI  | J  | Weight<br>Kg / pcs. |                |    |    |           |           |    |    |           |           |      |  |  |
| F+ 250<br>F 250        | 45-95              | D45474000  | 12            | 26 | 40 | 91    | 70  | 20 | 0,97                | D45474002      |    |    |           |           |    |    |           |           |      |  |  |
|                        | 83-120             | D45475000  |               |    |    |       |     |    | 0,9                 | D45476002      |    |    |           |           |    |    |           |           |      |  |  |
|                        | 107-191            | D45476000  | 48            |    |    | 115   |     |    |                     |                |    |    |           |           |    |    |           |           |      |  |  |
|                        | 155-238            | D45477000  | 72            |    |    | 0,106 |     |    |                     |                |    |    |           |           |    |    |           |           |      |  |  |
| FNC 250<br>FNC+S 260   | 63-159             | D45474000  | 12            |    |    | 26    |     |    | 40                  | 105            | 70 | 20 | 0,97      | D45474002 |    |    |           |           |      |  |  |
|                        | 94-172             | D45475000  |               |    |    |       |     |    |                     | 91             |    |    | D45475002 |           |    |    |           |           |      |  |  |
|                        | 124-228            | D45476000  | 48            |    |    |       |     |    |                     |                |    |    |           | 0,9       |    |    |           |           |      |  |  |
|                        | 205-265            | D45480000  | 96            |    |    |       |     |    |                     | 1,22           |    |    |           |           |    |    |           |           |      |  |  |
| FNC 315                | 40-94              | D161834000 | 12            |    |    |       |     |    |                     | 26             |    |    | 40        | 105       | 70 | 20 | 0,95      | D45474002 |      |  |  |
|                        | 80-146             | D45475000  |               |    |    |       |     |    |                     |                |    |    |           | 91        |    |    | D45475002 |           |      |  |  |
|                        | 134-218            | D45476000  | 48            |    |    |       |     |    |                     |                |    |    |           |           |    |    |           | 0,9       |      |  |  |
|                        | 180-319            | D45480000  | 95            |    |    |       |     |    |                     |                |    |    |           | 0,122     |    |    |           |           |      |  |  |
| F+ 315<br>F 315        | 50-130             | D45482000  | 16            | 32 | 46 |       | 130 | 81 |                     |                |    |    |           | 25        |    |    | 1,92      | D45482002 |      |  |  |
|                        | 95-168             | D45483000  |               |    |    |       | 170 |    |                     |                |    |    |           |           |    |    | 1,73      | D45483002 |      |  |  |
|                        | 167-284            | D45484000  | 79            |    |    |       |     |    |                     |                |    |    |           |           |    |    |           |           | 2,06 |  |  |
|                        | 250-364            | D45485000  | 116           |    |    |       | 145 |    |                     |                |    |    |           |           |    |    |           |           |      |  |  |
| FNC+S 315              | 67-151             | D161835000 | 16            |    |    | 32    | 46  |    | 145                 |                | 81 | 25 |           |           |    |    | 2         | D45482002 |      |  |  |
|                        | 120-169            | D45483000  |               |    |    |       |     |    | 130                 |                |    |    |           |           |    |    | 1,9       | D45483002 |      |  |  |
|                        | 177-292            | D45484000  | 78            |    |    |       |     |    |                     |                |    |    |           |           |    |    |           |           | 1,73 |  |  |
|                        | 257-328            | D45485000  | 118           |    |    |       |     |    | 170                 |                |    |    |           |           |    |    |           |           |      |  |  |
| FNC 400<br>FNC+S 400   | 69-224             | D161835000 | 16            |    |    |       |     |    | 32                  | 46             |    |    | 145       |           | 81 | 25 | 2         | D45482002 |      |  |  |
|                        | 119-255            | D45483000  |               |    |    |       |     |    |                     |                |    |    | 130       |           |    |    | 1,9       | D45483002 |      |  |  |
|                        | 222-379            | D45484000  | 78            |    |    |       |     |    |                     |                |    |    |           |           |    |    |           |           | 1,73 |  |  |
|                        | 298-402            | D45485000  | 118           |    |    |       |     |    |                     |                |    |    | 170       |           |    |    |           |           |      |  |  |

# GRIPPER JAW SYSTEM KBKTNC WITH CHANGEABLE HARD INSERTS SKA FOR OUTSIDE CLAMPING (ANGLED SERRATION)

| FORKARDT<br>chuck type | Clamping-<br>range | Ident.-No. | Nominal sizes |    |    |     |    |    |                   | Clamping insert |           |
|------------------------|--------------------|------------|---------------|----|----|-----|----|----|-------------------|-----------------|-----------|
|                        |                    |            | A             | B  | C  | AI  | CI | J  | Weight<br>Kg/pcs. |                 |           |
| F+ 400<br>F 400        | 70-160             | D45488000  | 20            | 45 | 52 | 176 | 93 | 30 | 4,2               | D45488002       |           |
|                        | 115-251            | D45489000  | 50            |    |    |     |    |    | D45489002         |                 |           |
|                        | 236-372            | D45490000  | 111           |    |    |     |    |    |                   | 3,78            |           |
|                        | 365-498            | D45491000  | 175           |    |    | 240 |    |    | 4,75              | D45488002       |           |
| F+ 500<br>F 500-L      | 70-160             | D45488000  | 20            |    |    | 176 |    |    | 4,2               | D45488002       |           |
|                        | 115-352            | D45489000  | 50            |    |    |     |    |    | 4,1               | D45489002       |           |
|                        | 236-474            | D45490000  | 111           |    |    |     |    |    | 3,78              |                 |           |
|                        | 365-550            | D45491000  | 175           |    |    | 240 |    |    | 4,75              | D45488002       |           |
| FNC 500<br>FNC+S 500   | 90-303             | D45488000  | 20            |    |    | 176 |    |    | 4,2               | D45488002       |           |
|                        | 264-488            | D45490000  | 111           |    |    |     |    |    | 3,78              | D45489002       |           |
|                        | 373-529            | D45491000  | 175           |    |    |     |    |    | 240               |                 | 4,75      |
| FNC 630<br>FNC+S 630   | 131-353            | D45488000  | 20            |    |    | 176 |    |    | 4,2               | D45488002       |           |
|                        | 191-416            | D45489000  | 50            |    |    |     |    |    |                   | 4,1             | D45489002 |
|                        | 313-538            | D45490000  | 111           |    |    |     |    |    |                   | 3,78            |           |
|                        | 440-665            | D45491000  | 175           |    |    |     |    |    | 240               | 4,75            | D45488002 |

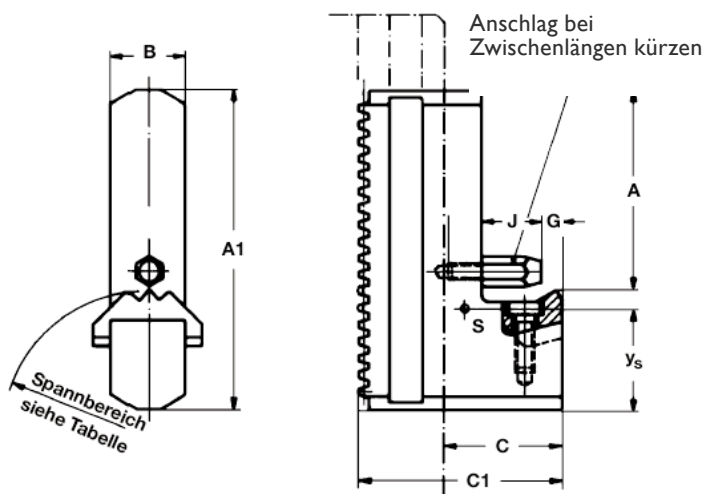
# GRIPPER JAW SYSTEM KBKTNC WITH CHANGEABLE HARD INSERTS SKA FOR OUTSIDE CLAMPING (STRAIGHT SERRATION)

| FORKARDT<br>chuck type | Clamping-<br>range | Ident.- No. | Nominal sizes |    |    |      |    |                     | Clamping insert |
|------------------------|--------------------|-------------|---------------|----|----|------|----|---------------------|-----------------|
|                        |                    |             | A             | B  | C  | AI   | CI | Weight<br>Kg / pcs. |                 |
| FNC+G 185              | 29-93              | D1161832100 | 8             | 20 | 24 | 65   | 35 | 0,35                | D45462002       |
|                        | 82-160             | D45464100   | 31            |    |    |      |    | 0,32                |                 |
|                        | 106-174            | D45465100   | 48            |    |    |      |    | 79                  |                 |
| FNC+G 215              | 41-122             | D1161833100 | 10            | 22 | 35 | 84   | 55 | 0,58                | D45468002       |
|                        | 64-104             | D45469100   |               |    |    | 74,5 |    | D45469002           |                 |
|                        | 108-188            | D45470100   | 38            |    |    | 0,54 |    |                     |                 |
|                        | 130-211            | D45471100   | 59            |    |    | 94   |    |                     | 0,61            |
| FNC+G 260              | 63-159             | D45474100   | 12            | 26 | 40 | 91   | 55 | 0,97                | D45474002       |
|                        | 94-172             | D45475100   |               |    |    |      |    | 48                  | 0,91            |
|                        | 124-228            | D45476100   | 96            |    |    |      |    | 138                 | 1,22            |
|                        | 205-265            | D45480100   |               |    |    |      |    |                     |                 |
| FNC+G 315              | 67-151             | D161835100  | 16            | 32 | 46 | 121  | 81 | 2                   | D45482002       |
|                        | 120-169            | D45483100   |               |    |    |      |    | 78                  | 1,9             |
|                        | 177-292            | D45484100   | 118           |    |    |      |    | 1,73                |                 |
|                        | 257-328            | D45485100   |               |    |    | 170  |    | 2,06                | D45482002       |
| FNC+G 400              | 69-224             | D161835100  | 16            | 32 | 46 | 121  | 81 | 2                   | D45482002       |
|                        | 119-255            | D45483100   |               |    |    |      |    | 78                  | 1,9             |
|                        | 222-379            | D45484100   | 118           |    |    |      |    | 1,73                |                 |
|                        | 298-402            | D45485100   |               |    |    | 170  |    | 2,06                | D45482002       |
| FNC+G 500              | 90-303             | D45488100   | 20            | 45 | 52 | 175  | 93 | 4,2                 | D45488002       |
|                        | 264-488            | D45490100   | 111           |    |    |      |    | 3,78                | D45489002       |
|                        | 373-529            | D45491100   | 175           |    |    | 240  |    | 4,75                |                 |
| FNC+G 630              | 131-353            | D45488100   | 20            | 45 | 52 | 176  | 93 | 4,2                 | D45488002       |
|                        | 191-416            | D45489100   | 50            |    |    |      |    | 4,1                 | D45489002       |
|                        | 313-358            | D45490100   | 111           |    |    |      |    | 3,78                |                 |
|                        | 440-665            | D45491100   | 175           |    |    | 240  |    | 4,75                | D45488002       |

# GRIPPER JAW SYSTEM KBKTNC WITH CHANGEABLE HARD INSERTS SKI FOR INSIDE CLAMPING

The individual parts of the roughing are variably assembled in their individual parts. They are therefore only marked with the individual part ID no. marked

Ordering example:  
Gripper jaw KBKTNC 48-26-40 Ident-No. D45478000  
Minimal deviations in the clamping ranges may occur.



| FORKARDT<br>chuck type | Clamping-<br>range | Ident.-No. | Nominal sizes |    |    |      |    |    |                   | Clamping insert |
|------------------------|--------------------|------------|---------------|----|----|------|----|----|-------------------|-----------------|
|                        |                    |            | A             | B  | C  | AI   | CI | J  | Weight<br>Kg/pcs. |                 |
| F+ 160<br>F 160        | 119-174            | D45467000  | 8             | 20 | 24 | 64,5 | 45 | 12 | 0,33              | D45467002       |
| FNC 175<br>FNC+S 185   | 133-212            | D45467000  | 8             |    |    |      |    |    | 0,33              | D45467002       |
| F+ 200<br>F 200        | 79-148             | D45472000  | 38            | 22 | 35 | 74,5 | 60 | 18 | 0,52              | D45473002       |
|                        |                    | 135-204    | D45473000     |    |    |      |    |    | 10                |                 |
| FNC 200<br>FNC+S 215   | 106-186            | D45472000  | 38            |    |    |      |    |    | 0,52              |                 |
|                        | 161-242            | D45473000  | 10            |    |    |      |    |    | 0,56              |                 |
| F+ 250<br>F 250        | 97-181             | D45478000  | 48            | 26 | 40 | 91   | 70 | 20 | 0,88              | D45478002       |
|                        |                    | 169-253    | D45479000     |    |    |      |    |    | 12                | 0,95            |
| FNC 250<br>FNC+S 260   | 126-222            | D45478000  | 48            |    |    |      |    |    | 0,88              | D45479002       |
|                        | 198-294            | D45479000  | 12            |    |    |      |    |    | 0,95              |                 |
| FNC 315                | 107-216            | D45478000  | 48            |    |    |      |    |    | 0,88              | D45478002       |
|                        | 178-298            | D45479000  | 12            |    |    |      |    |    | 0,95              | D45479002       |
| FNC 315                | 226-324            | D45481000  |               |    |    |      |    |    |                   |                 |

# GRIPPER JAW SYSTEM KBKTNC WITH CHANGEABLE HARD INSERTS SKI FOR INSIDE CLAMPING (ANGLED SERRATION)

| FORKARDT<br>chuck type | Clamping-<br>range | Ident.-No. | Nominal sizes |    |    |     |    |    |                   | Clamping insert |
|------------------------|--------------------|------------|---------------|----|----|-----|----|----|-------------------|-----------------|
|                        |                    |            | A             | B  | C  | AI  | CI | J  | WEight<br>Kg/pcs. |                 |
| F+ 315<br>F 315        | 118-233            | D45486000  | 78            | 32 | 45 | 130 | 81 | 25 | 1,7               | D45487002       |
|                        | 242-357            | D45487000  | 16            |    |    |     |    |    | 2,12              |                 |
| FNC+S 315              | 126-248            | D45486000  | 78            |    |    |     |    |    | 1,7               |                 |
|                        | 250-364            | D45487000  | 16            |    |    |     |    |    | 2,12              |                 |
| FNC 400<br>FNC+S 400   | 171-328            | D45486000  | 78            |    |    |     |    |    | 1,7               |                 |
|                        | 295-452            | D45487000  | 16            |    |    |     |    |    | 2,12              |                 |
| F+ 400<br>F 400        | 145-281            | D45492000  | 111           | 45 | 52 | 176 | 93 | 30 | 3,7               | D45492002       |
|                        | 264-404            | D45493000  | 50            |    |    |     |    |    | 4,05              | D45493002       |
|                        | 324-464            | D45494000  | 20            |    |    |     |    |    | 4,1               |                 |
| FNC 500<br>FNC+S 500   | 174-309            | D45492000  | 111           |    |    |     |    |    | 3,7               | D45492002       |
|                        | 294-519            | D45493000  | 50            |    |    |     |    |    | 4,05              | D45493002       |
|                        | 354-555            | D45494000  | 20            |    |    |     |    |    | 4,1               |                 |
| FNC 630<br>FNC+S 630   | 224-448            | D45520000  | 111           |    |    |     |    |    | 3,7               | D45493002       |
|                        | 344-570            | D45493000  | 50            |    |    |     |    |    | 4,05              |                 |
|                        | 405-630            | D45494000  | 20            |    |    |     |    |    | 4,1               |                 |

# GRIPPER JAW SYSTEM KBKTNC WITH CHANGEABLE HARD INSERTS SKI FOR INSIDE CLAMPING (STRAIGHT SERRATION)

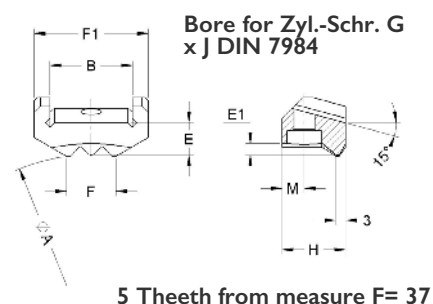
| FORKARDT<br>chuck type | Clamping-<br>range | Ident.- No. | Nominal sizes |    |    |      |    |                     | Clamping insert |
|------------------------|--------------------|-------------|---------------|----|----|------|----|---------------------|-----------------|
|                        |                    |             | A             | B  | C  | AI   | CI | Weight<br>Kg / pcs. |                 |
| FNC+G 185              | 87-138             | D45466100   | 31            | 20 | 24 | 64,5 | 45 | 0,3                 | D45466002       |
|                        | 133-212            | D45467100   | 8             |    |    |      |    | 0,33                | D45467002       |
| FNC+G 215              | 106-186            | D45472100   | 38            | 22 | 35 | 74,5 | 60 | 0,52                | D45473002       |
|                        | 161-242            | D45473100   | 10            |    |    |      |    | 0,56                |                 |
| FNC+G 260              | 126-222            | D45478100   | 48            | 26 | 40 | 91   | 70 | 0,88                | D45479002       |
|                        | 198-294            | D45479100   | 12            |    |    |      |    | 0,95                |                 |
| FNC+G 315              | 118-248            | D45486100   | 78            | 32 | 45 | 121  | 81 | 1,7                 | D45487002       |
|                        | 250-364            | D45487100   | 16            |    |    |      |    | 2,12                |                 |
| FNC+G 400              | 171-328            | D45486100   | 78            | 32 | 45 | 121  | 81 | 1,7                 | D45487002       |
|                        | 295-452            | D45487100   | 16            |    |    |      |    | 2,12                |                 |
| FNC+G 500              | 174-309            | D45492100   | 111           | 45 | 52 | 175  | 77 | 3,7                 | D45492002       |
|                        | 294-519            | D45493100   | 50            |    |    |      |    | 4,05                | D45493002       |
|                        | 354-555            | D45494100   | 20            |    |    |      |    | 4,1                 |                 |
| FNC+G 630              | 224-448            | D45492100   | 111           | 45 | 52 | 175  | 87 | 4,4                 | D45492002       |
|                        | 344-570            | D45493100   | 50            |    |    |      |    | 4,7                 | D45493002       |
|                        | 405-630            | D45494100   | 20            |    |    |      |    | 4,8                 |                 |

# HARD GRIPPER JAWS SKA/SKI

| Use for clamping range | Nominal size |    | Ident-No. | E   | E I | F    | FI | H  | M   | G x J    |
|------------------------|--------------|----|-----------|-----|-----|------|----|----|-----|----------|
|                        | A            | B  |           |     |     |      |    |    |     |          |
| 25-53                  | 30           | 20 | D45462002 | 8,5 | 3   | 12,7 | 30 | 17 | 6   | M5 x 16  |
| 40-175                 | 60           |    | D45463002 |     |     |      |    |    |     |          |
| 32-80                  | 45           | 22 | D45468002 | 9   |     | 13   | 32 | 18 | 6,5 |          |
| 60-220                 | 90           |    | D45469002 |     |     |      |    |    |     |          |
| 45-100                 | 60           | 26 | D45474002 | 10  | 3,5 | 15   | 36 | 20 | 7   | M6 x 20  |
| 75-320                 | 120          |    | D45475002 |     |     | 15,5 |    |    |     |          |
| 50-130                 | 70           | 32 | D45482002 | 11  |     | 19   | 42 | 24 | 9   | M8 x 20  |
| 95-410                 | 140          |    | D45483002 |     |     | 19,5 |    |    |     |          |
| 70-160                 | 100          | 45 | D45488002 | 15  | 4   | 37   | 55 | 28 | 11  | M10 x 25 |
| 130-650                | 200          |    | D45489002 |     |     | 38   |    |    |     |          |

Ordering example: Gripper insert Type SKA 60-26 Ident-No.D45474002

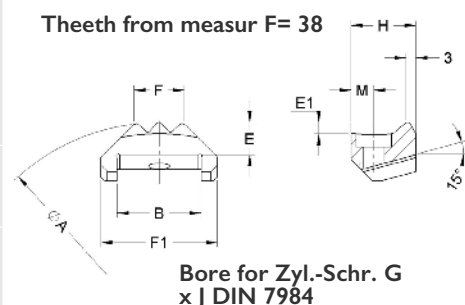
## SKA for outside clamping



| Use for clamping range | Nominal size |    | Ident-No. | E   | E I | F    | FI | H  | M   | G x J    |
|------------------------|--------------|----|-----------|-----|-----|------|----|----|-----|----------|
|                        | A            | B  |           |     |     |      |    |    |     |          |
| 75-135                 | 90           | 20 | D45466002 | 8,5 | 3   | 13   | 30 | 17 | 6   | M5 x 16  |
| 100-180                | 140          |    | D45467002 |     |     |      |    |    |     |          |
| 85-160                 | 100          | 22 | D45472002 | 9   |     |      | 32 | 18 | 6,5 |          |
| 120-220                | 160          |    | D45473002 |     |     |      |    |    |     |          |
| 100-200                | 130          | 26 | D45478002 | 10  | 3,5 | 15,5 | 36 | 20 | 7   | M6 x 20  |
| 140-320                | 200          |    | D45479002 |     |     |      |    |    |     |          |
| 120-300                | 160          | 32 | D45486002 | 11  |     | 19,5 | 42 | 24 | 9   | M8 x 20  |
| 200-410                | 300          |    | D45487002 |     |     |      |    |    |     |          |
| 160-330                | 220          | 45 | D45492002 | 15  | 4   | 38   | 55 | 28 | 11  | M10 x 25 |
| 250-650                | 360          |    | D45493002 |     |     | 39   |    |    |     |          |

Ordering example: Gripper insert Type SKI 130-26 Ident-No.D45478002

## SKI for inside clamping

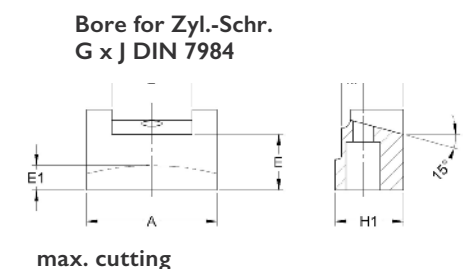


## Soft clamping inserts WSE

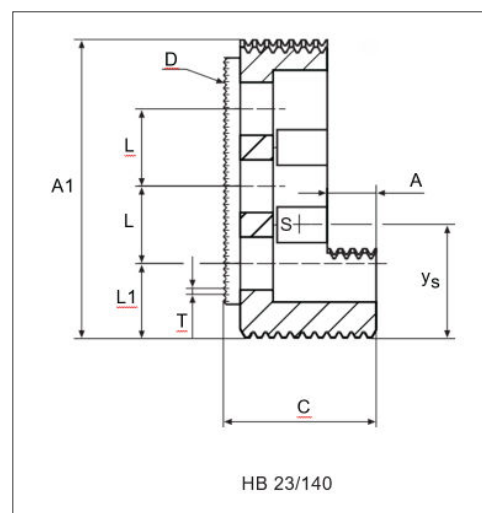
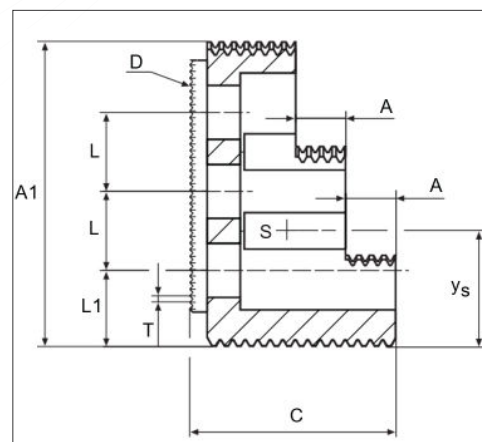
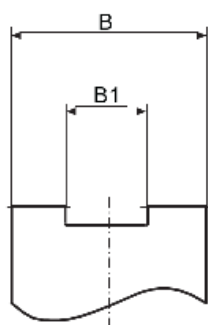
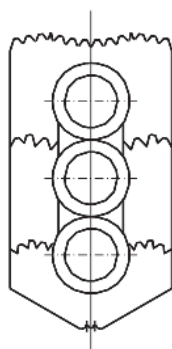
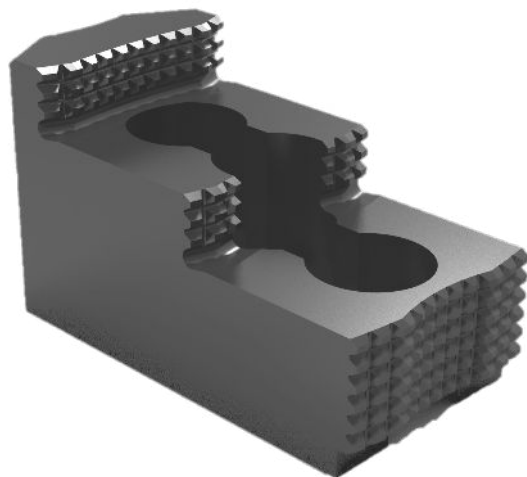
| Nominal size |    | Ident-No.   | E  | E I | H  | HI | M  | G x J    |
|--------------|----|-------------|----|-----|----|----|----|----------|
| A            | B  |             |    |     |    |    |    |          |
| 35           | 20 | D1153793000 | 15 | 8   | 17 | 18 | 17 | M5 x 16  |
| 50           |    | D1153794000 |    |     |    |    |    |          |
| 38           | 22 | D1153795000 | 16 | 8,5 | 18 | 20 | 17 |          |
| 60           |    | D1153796000 |    |     |    |    |    |          |
| 42           | 26 | D153797000  | 18 | 10  | 20 | 22 | 17 | M6 x 20  |
| 70           |    | D1153798000 |    |     |    |    |    |          |
| 48           | 32 | D1153799000 | 20 | 11  | 24 | 26 | 17 | M8 x 20  |
| 80           |    | D153800000  |    |     |    |    |    |          |
| 60           | 45 | D153801000  | 26 | 13  | 28 | 30 | 17 | M10 x 25 |
| 100          |    | D1153802000 |    |     |    |    |    |          |

Ordering example: Soft clamping insert Type WSE 60-22 Ident-No. D1153796000

## WSE für inside- and outside clamping

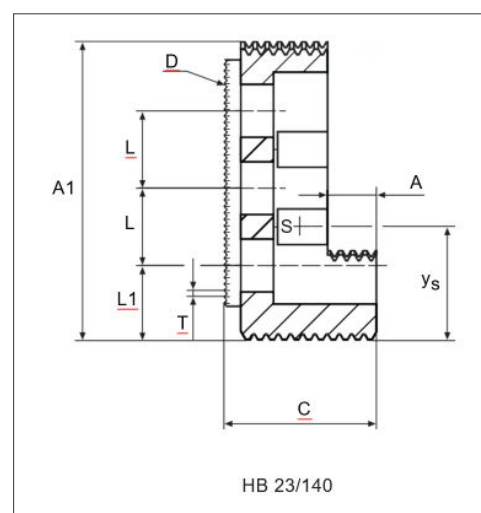
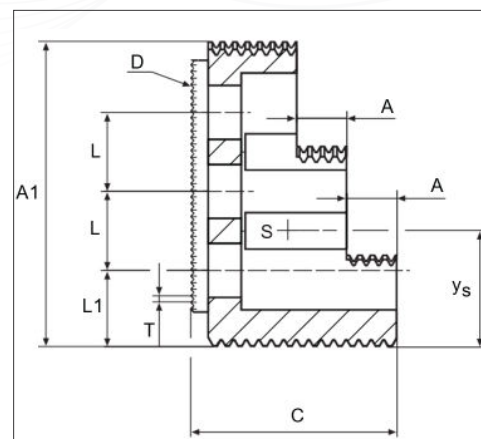
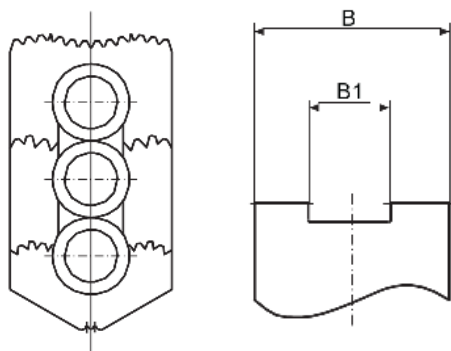
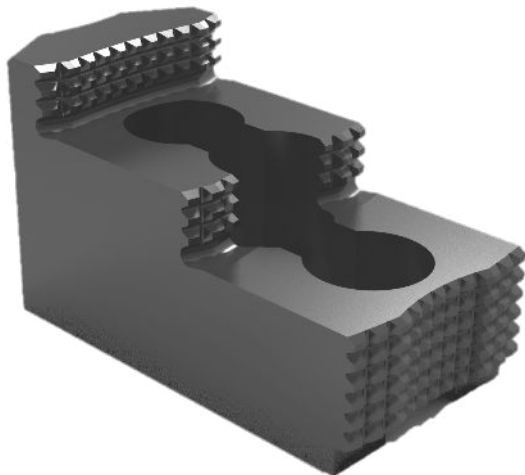


# HARD TOJ JAWS HB



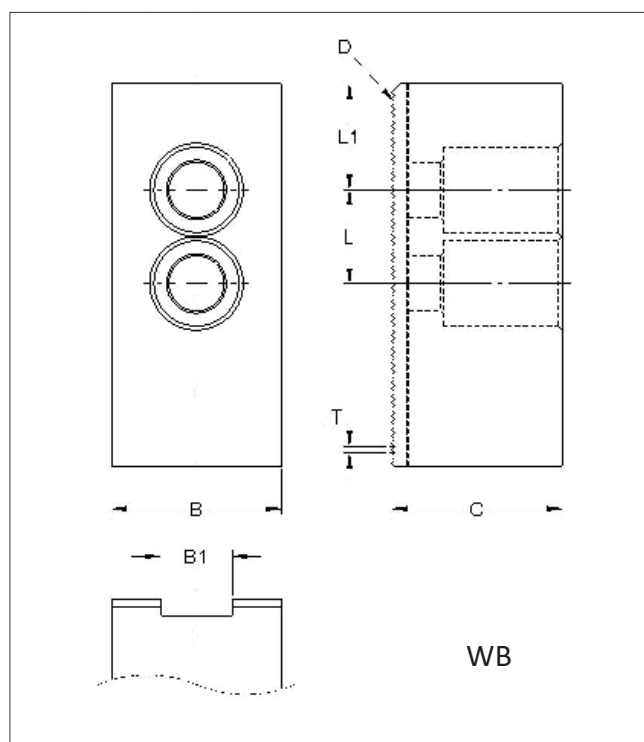
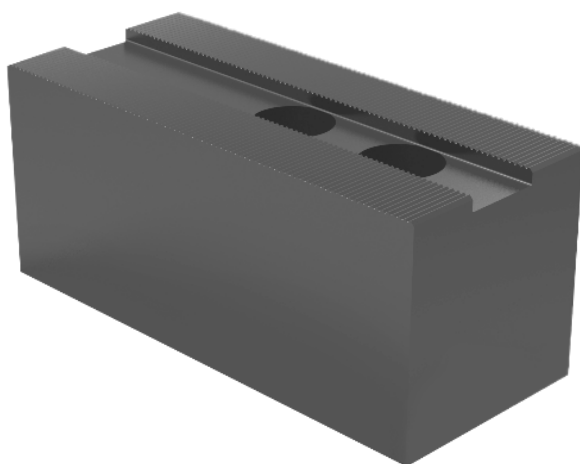
| Type                 | A  | B  | C  | D    | Ident.-No.  | A <sub>1</sub> | B <sub>1</sub> | T           | Weight |
|----------------------|----|----|----|------|-------------|----------------|----------------|-------------|--------|
| HB 65 35 44 SII T10  | 10 | 35 | 44 | S II | D38762014   | 64,7           | 17             | 1/16" x 90° | 0,39   |
| HB 73 40 49 SII T12  | 12 | 40 | 49 | S II | DI071961000 | 72,6           | 17             | 1/16" x 90° | 0,47   |
| HB 85 40 49 SII T12  | 12 | 40 | 49 | S II | DI071416000 | 84,3           | 17             | 1/16" x 90° | 0,56   |
| HB 104 50 58 S12 T14 | 14 | 50 | 58 | S 12 | DI071915000 | 103,5          | 21             | 1/16" x 90° | 1,12   |
| HB 140 60 75 S23 T18 | 18 | 60 | 75 | S 23 | D45702000   | 139,7          | 25,5           | 3/32" x 90° | 2,52   |
| HB 140 60 65 S23 T26 | 26 | 60 | 65 | S 23 | DI071922000 | 139,7          | 25,5           | 3/32" x 90° | 2,15   |

# HARD TOP JAW HBMS



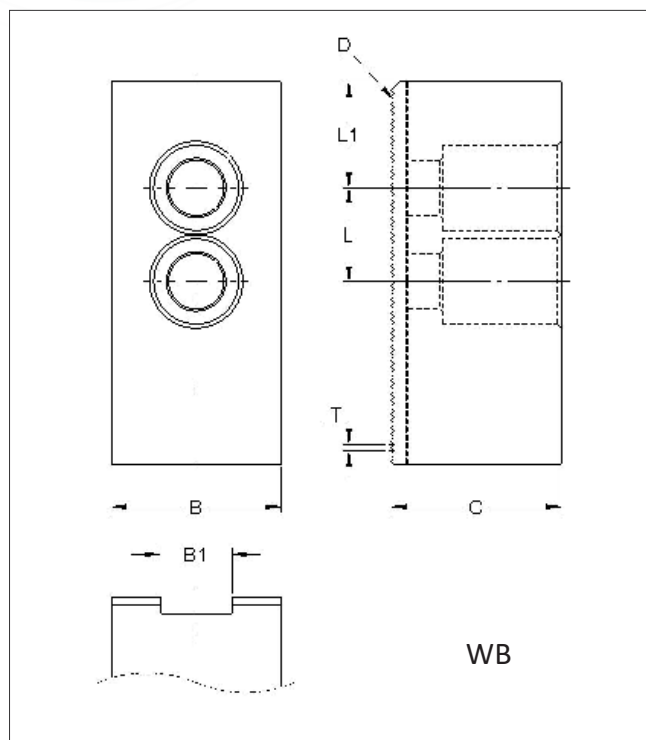
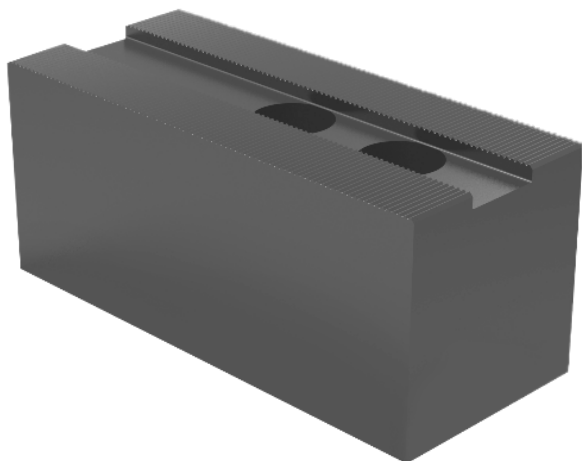
| Type                  | A  | B  | C  | D     | Ident-No.. | A <sub>1</sub> | B <sub>1</sub> | T         | Weight |
|-----------------------|----|----|----|-------|------------|----------------|----------------|-----------|--------|
| HB 67 28 36 MS12 TI2  | 12 | 31 | 36 | MS 12 | D166190000 | 67             | 12             | 1,5 x 60° | 0,31   |
| HB 87 35 51 MS14 TI2  | 12 | 35 | 51 | MS 14 | D166191000 | 87             | 14             | 1,5 x 60° | 0,58   |
| HB 101 40 54 MS16 TI3 | 13 | 40 | 54 | MS 16 | D166192000 | 101            | 16             | 1,5 x 60° | 0,93   |
| HB 106 50 62 MS21 TI5 | 15 | 50 | 62 | MS 21 | D166193000 | 106            | 21             | 1,5 x 60° | 1,46   |

# SOFT TOP JAWS WB



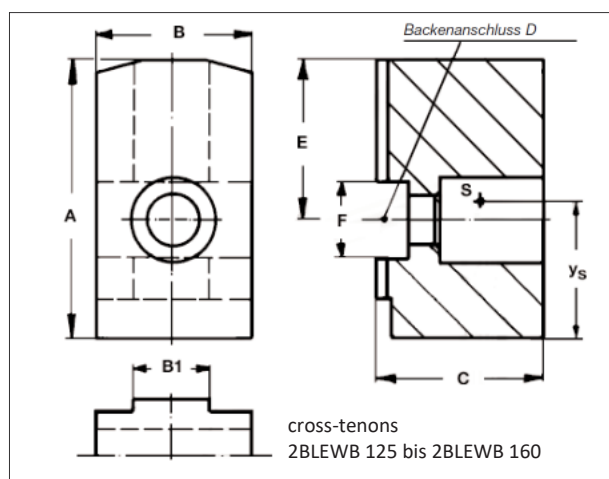
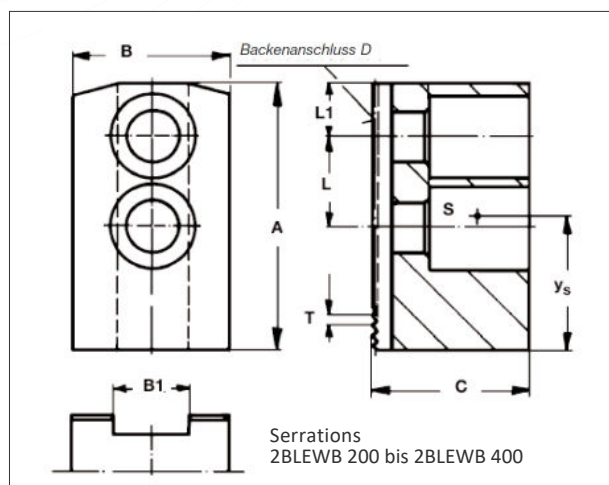
| Type              | A   | B  | C  | D    | Ident.-No. | B <sub>I</sub> | L  | T          | Weight |
|-------------------|-----|----|----|------|------------|----------------|----|------------|--------|
| WB 70 40 40 S11   | 70  | 40 | 40 | S 11 | D49302000  | 17             | 24 | 1/16"x 90° | 0,68   |
| WBS 80 40 40 S11  | 90  | 40 | 60 | S 11 | D49831001  | 17             | 24 | 1/16"x 90° | 1,37   |
| WB 120 50 50 S12  | 120 | 50 | 50 | S 12 | D49834001  | 21             | 28 | 1/16"x 90° | 1,9    |
| WBS 120 50 80 S12 | 120 | 50 | 80 | S 12 | D49834002  | 21             | 28 | 1/16"x 90° | 3,13   |
| WBL 140 60 60 S23 | 140 | 60 | 60 | S23  | D49306000  | 25,5           | 35 | 3/32"x 90° | 3,12   |

# SOFT TOP JAWS WBMS



| Type              | A   | B  | C  | D     | Ident-No.  | B <sub>1</sub> | L  | T         | Weight |
|-------------------|-----|----|----|-------|------------|----------------|----|-----------|--------|
| WB 72 31 32 MS12  | 72  | 31 | 32 | MS 12 | D166195000 | 12             | 20 | 1,5 x 60° | 0,37   |
| WB 95 35 40 MS14  | 95  | 35 | 40 | MS 14 | D166196000 | 14             | 25 | 1,5 x 60° | 0,9    |
| WB 110 40 60 MS16 | 110 | 40 | 60 | MS 16 | D166197000 | 16             | 30 | 1,5 x 60° | 1,73   |
| WB 130 50 50 MS21 | 130 | 50 | 50 | MS 21 | D166198000 | 21             | 30 | 1,5 x 60° | 2,2    |

# SOFT TOP JAWS 2BLEWB



| Type      | A   | B  | C  | D     | Ident.-No.  | B <sub>1</sub> | T           | Srew DIN 912 | Weight |
|-----------|-----|----|----|-------|-------------|----------------|-------------|--------------|--------|
| 2BLEWB125 | 60  | 40 | 48 | K-DIN | DI071251111 | 14             | -           | M12x30       | 0,6    |
| 2BLEWB160 | 76  | 60 | 60 | K-DIN | DI071252407 | 18             | -           | M16x40       | 0,68   |
| 2BLEWB200 | 95  | 80 | 80 | S 12  | DI071253307 | 21             | 1/16" x 90° | M16x35       | 2,95   |
| 2BLEWB250 | 110 | 80 | 80 | S 13  | DI071254207 | 25,5           | 1/16" x 90° | M20x40       | 3,25   |
| 2BLEWB315 | 125 | 80 | 80 | S 13  | DI071255106 | 25,5           | 1/16" x 90° | M20x41       | 5,2    |

# SPECIAL SOLUTIONS FOR SPECIAL APPLICATIONS

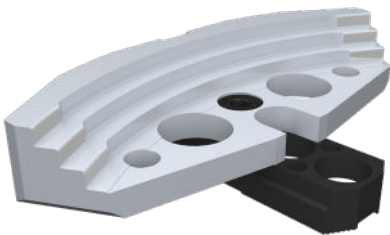
Wherever complex workpieces are to be mounted on the machine, clamping jaws with special geometries or properties are required.

So that your company does not have to procure a special chuck for every application, our designers think about how to get your workpiece onto a standard chuck. No matter whether it is already in house or has to be procured first. This saves you time and money. And that's what counts in modern manufacturing..



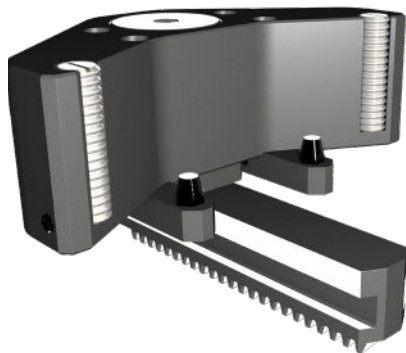
## **Pull-down jaw**

Counteract the bulging of normal chucks



## **Step pendulum jaws**

The field of application is rim production. Here, different inch sizes are clamped in one clamping jaw without retooling.



## **Pendulum jaws**

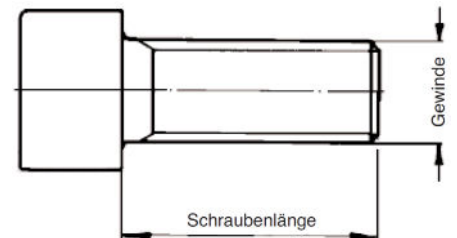
with grip inserts for comprehensive clamping of sensitive workpieces

Ask our technical consultants to solve your problems.

# JAW MOUNTING SCREWS FG, FNG

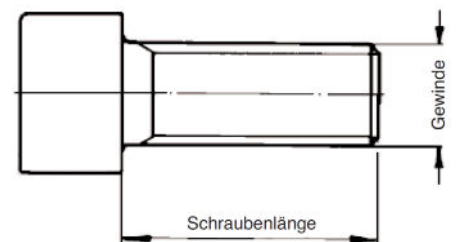
## FG for base jaws FGB

| Jaw mounting screws FG suitable to base jaws FGB |             |                  |         |              |
|--------------------------------------------------|-------------|------------------|---------|--------------|
| Type                                             | Ident-No.   | for base jaw     | Thread  | Screw length |
| FG 125                                           | DI64662028  | FGB 125          | M6      | 10           |
| FG 160                                           | DI64663028  | FGB 160, FGB 200 | M8x1    | 22           |
| FG 250                                           | DI64665028  | FGB 250          | M12x1,5 | 30           |
| FG 315                                           | DI64666028  | FGB 315          | M12x1,5 | 35           |
| FG 400                                           | DI64667028  | FGB 400, FGB 500 | M16x1,5 | 40           |
| FG 630                                           | DI070049037 | FGB 630          | M20     | 45           |



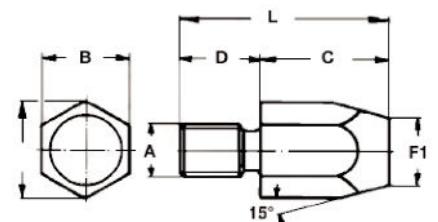
## FNG for nut slots

| Jaw mounting screws FNG suitable to nut slots |            |                          |        |              |
|-----------------------------------------------|------------|--------------------------|--------|--------------|
| Type                                          | Ident-No.  | for nut slot             | Thread | Screw length |
| FNG 230                                       | 70IB008030 | FN 230                   | M8     | 20           |
| FNG 293                                       | 70IB010330 | FN 293, NSTS 17          | M10    | 25           |
| FNG 231                                       | 70IB012630 | FN 231, NSTS 17, NSTU 17 | M12    | 30           |
| FNG 232                                       | 70IB016330 | FN 232, NSTB 21, NSTU 21 | M16    | 35           |
| FNG 233                                       | 70IB020330 | FN 233, NSTU 25,5        | M20    | 40           |
| FNG 187                                       | 70IB024330 | FN 187                   | M24    | 50           |



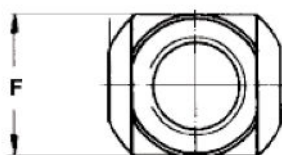
## Strokes ANS

| Anschläge ANS für Krallenbacken und Spannbacken mit harten Einsätzen |              |    |    |   |           |            |                |    |                      |
|----------------------------------------------------------------------|--------------|----|----|---|-----------|------------|----------------|----|----------------------|
| Type                                                                 | Nominal size |    |    |   | Ident-No. | Dimensions |                |    | suitable to jaws     |
|                                                                      | A            | B  | C  | D |           | F          | F <sub>I</sub> | L  |                      |
| ANS M4                                                               | 6            | 23 | 7  |   | D45462003 | 6,9        | 4              | 19 | KBKTNC               |
| ANS M5                                                               | 8            | 18 | 9  |   | D45468003 | 9,2        | 5              | 27 | KBA, KBI, KB, KBKTNC |
| ANS M6                                                               | 10           | 20 | 11 |   | D45474003 | 11,5       | 6              | 31 | KBA, KB, KBKTNC      |
| ANS M8                                                               | 13           | 25 | 13 |   | D45482003 | 15,0       | 9              | 38 | KBKTNC               |
| ANS M10                                                              | 17           | 30 | 16 |   | D45488003 | 19,6       | 13             | 46 | KBKTNC               |

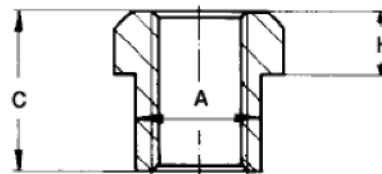


Ordering example: 6 screws FNG 231 Ident-No. 70IB012630  
3 strokes ANS M6 Ident-No. D45474003

# T-NUT SLOTS FN, NSTB, NSTS, NSTU, NSMS



Nutensteine,  
Normalausführung FN



| Type   | Nominal size |     |    | Ident-No.   | H  | Weight<br>Kg / pcs. | usable for<br>jaw type | suitable cap screw.<br>DIN912 |
|--------|--------------|-----|----|-------------|----|---------------------|------------------------|-------------------------------|
|        | A            | B   | C  |             |    |                     |                        |                               |
| FN 231 | 17           | M12 | 23 | DI071376000 | 9  | 0,04                | HB11, WB11, HB11/110   | M12x30                        |
| FN 232 | 21           | M16 | 27 | DI071378000 | 11 | 0,06                | HB12, WB12             | M16x35                        |
| FN 233 | 25,5         | M20 | 29 | DI071380000 | 11 | 0,1                 | HB13, WB13, HB23, WB23 | M20x40                        |
| FN 187 | 30           | M24 | 41 | DI071390000 | 15 | 0,19                | HBS0, WBS0 *)          | M24x50                        |

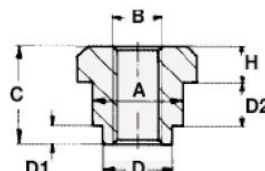
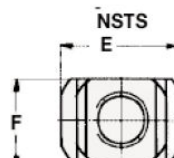
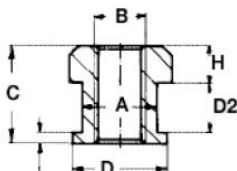
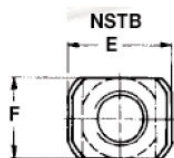
T-nuts with cap screws are used to fasten pointed-toothed top jaws to the base jaws. Our top jaws are generally equipped with the standard design FN ....

At least 2 T-nuts of this design are required for each top jaw.

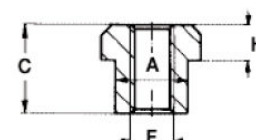
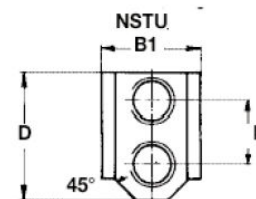
Depending on the particular situation, it is advisable to use stepped sliding blocks of the NSTB or NSTS design or the unsplit NSTU design.



Nutensteine in Sonderausführung



Nutenstein, ungeteilt



| Type | Nominal size |     |      |      | Ident-No.   | BI   | DI | D2 | E    | F    | H    | L  | Weight<br>kg/pcs. | Usable for jaw type            | Suitable<br>cap screw<br>DIN912 |
|------|--------------|-----|------|------|-------------|------|----|----|------|------|------|----|-------------------|--------------------------------|---------------------------------|
|      | A            | B   | C    | D    |             |      |    |    |      |      |      |    |                   |                                |                                 |
| NSTB | 17           | M12 | 23   | 21   | D40006000   | -    | 2  | 12 | 22,5 | 19   | 9    | -  | 0,05              | HB12S0, WB12S0                 | M12x30                          |
| NSTB | 21           | M16 | 27   | 25,5 | D48565000   | -    | 2  | 14 | 28,5 | 23,5 | 11   | -  | 0,09              | HB13S0, WB13S0, HB23S0, WB23S0 | M16x35                          |
| NSTS | 17           | M10 | 23   | 14   | DI071394000 | -    | 4  | 10 | 22,5 | 19   | 9    | -  | 0,04              | WBS0                           | M10x25                          |
| NSTS | 21           | M12 | 27   | 17   | D45531000   | -    | 4  | 12 | 28,5 | 21,2 | 10   | -  | 0,08              | HB11, WB11                     | M12x30                          |
| NSTS | 25,5         | M16 | 28   | 21   | D41959000   | -    | 4  | 13 | 36   | 25   | 11   | -  | 0,1               | HB12, WB12                     | M16x35                          |
| NSTU | 17           | M12 | 23   | 34   | D46681000   | 22,5 | -  | -  | -    | -    | 9    | 19 | 0,08              | WBS0                           | M12x30                          |
| NSTU | 17           | M12 | 23   | 42   | DI071398000 | 22,5 | -  | -  | -    | -    | 9    | 22 | 0,1               | WB11, WB11/90, WB11/70         | M12x30                          |
| NSTU | 21           | M16 | 27   | 52   | DI071397000 | 28,5 | -  | -  | -    | -    | 11   | 28 | 0,17              | WB12                           | M16x35                          |
| NSTU | 25,5         | M20 | 29   | 63   | DI071396000 | 36   | -  | -  | -    | -    | 11   | 35 | 0,27              | WB13, WB23                     | M20x40                          |
| NSMS | 10           | M8  | 18   | 26   | DI68894087  | 15   | -  | -  | -    | -    | 5,5  | 14 | -                 | HBMS10, WBMS10                 | M10x25                          |
| NSMS | 12           | M10 | 18,5 | 36   | DI65797005  | 17,5 | -  | -  | -    | -    | 7,5  | 20 | -                 | HBMS12, WBMS12                 | M10x25                          |
| NSMS | 14           | M12 | 20,5 | 46,5 | DI65784005  | 20,5 | -  | -  | -    | -    | 8,5  | 25 | -                 | HBMS14, WBMS14                 | M12x25                          |
| NSMS | 16           | M12 | 21,5 | 51   | DI65819005  | 22,5 | -  | -  | -    | -    | 8,5  | 30 | -                 | HBMS16, WBMS16                 | M12x30                          |
| NSMS | 21           | M16 | 28   | 55,5 | DI65802005  | 30   | -  | -  | -    | -    | 11,5 | 30 | -                 | HBMS21, WBMS21                 | M16x35                          |

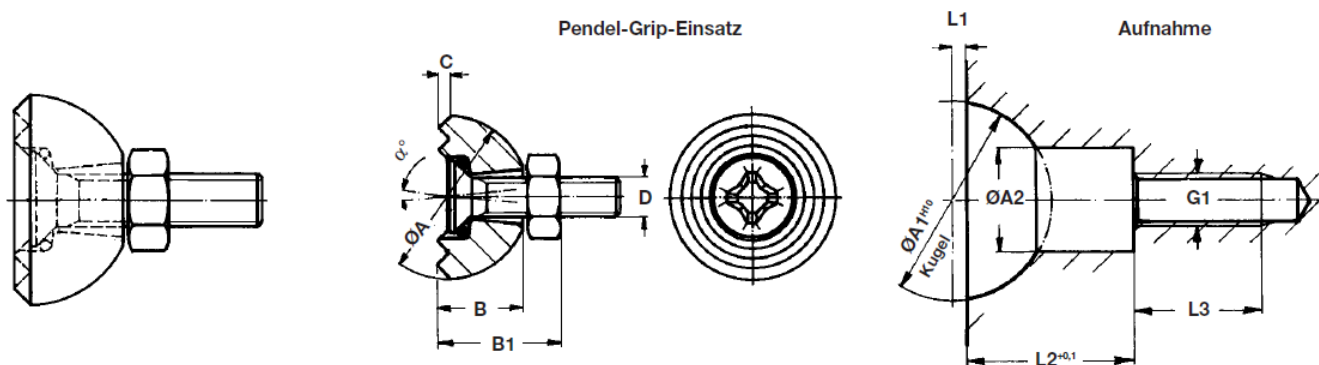
Ordering example: 6 pcs slot nur FN 232-21-M16-27 Ident-Nr. DI071378000  
3 pcs undivided slot nut NSTU 21-M16-27-52 Ident-Nr. DI071397000

# PENDULUM GRIP INSERTS PEG



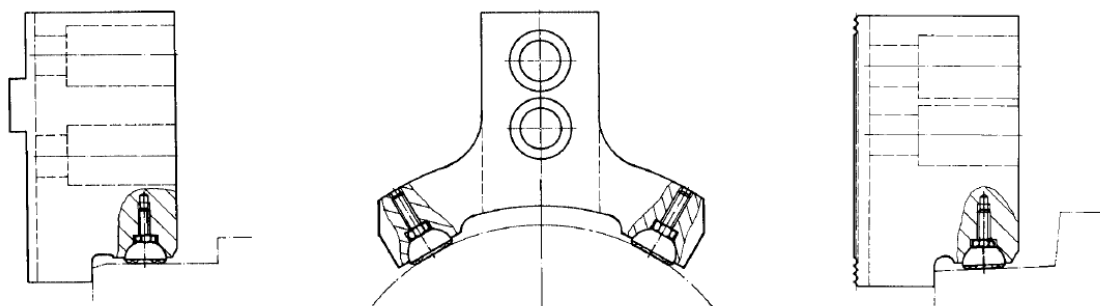
Soft clamping jaws or jaw blanks can be equipped with pendulum grip elements and thus obtain the properties of hard clamping jaws. The wear-resistant profile of the Pendel-Grip inserts provides a tight fit of the workpiece to be clamped and withstands the highest pressure loads. The specific pressure is increased by the ring-shaped cutting edges, which concentrate the clamping force of the chuck on the workpiece and thus ensure a high holding force, especially for workpieces with a hard surface.

Surface irregularities are compensated by the pendulum capacity of the inserts. Pendulum grip inserts are not only used for soft top jaws, but also for clamping or clamping devices. They are available in various dimensions. They are fastened by means of Phillips screws with stop nuts. The mounting for a pendulum grip insert can be made with a special form countersink (for dimensions A1 and A2). The core hole G 1 (to depth L2 + L3) must be predrilled to accommodate the guide pin from the form countersink. Shape countersinks are available on special order.



| Type | Nominal size |      |     |    | Ident-No.  | Dimensions |                             | Connection dimensions of the fixture |    |    |     |      |    | Shape sinker |                  |
|------|--------------|------|-----|----|------------|------------|-----------------------------|--------------------------------------|----|----|-----|------|----|--------------|------------------|
|      | A            | B    | C   | D  |            | B1         | Swivel angle $\alpha^\circ$ | A1                                   | A2 | G1 | L1  | L2   | L3 | Size         | Tool holder      |
| PEG  | 12           | 5,3  | 1,0 | M3 | DI50035000 | 8,0        | 8                           | 12                                   | 7  | M3 | 1,5 | 5,9  | 6  | 12           | $\varnothing 10$ |
| PEG  | 16           | 7,2  | 1,0 | M4 | DI50036000 | 10,8       | 8                           | 16                                   | 9  | M4 | 1,5 | 8,5  | 8  | 16           | MK 1             |
| PEG  | 20           | 9,3  | 1,2 | M5 | DI50037000 | 13,8       | 8                           | 20                                   | 10 | M5 | 2,0 | 10,8 | 9  | 20           | MK 2             |
| PEG  | 25           | 11,7 | 1,5 | M6 | DI50038000 | 17,2       | 8                           | 25                                   | 12 | M6 | 2,5 | 13,5 | 11 | 25           | MK 3             |

Ordering example: 8 pcs. PEG 16-7,2-1,0-M4 Ident-No. DI50036000

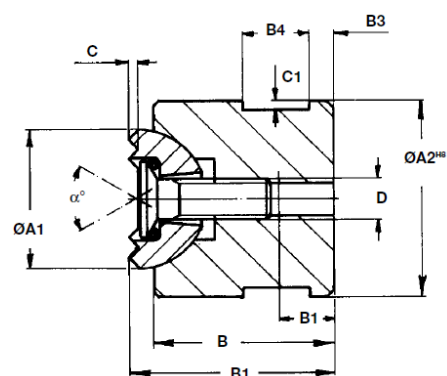
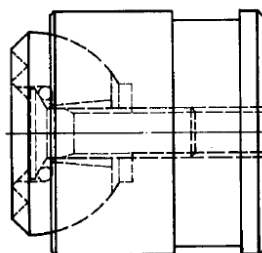
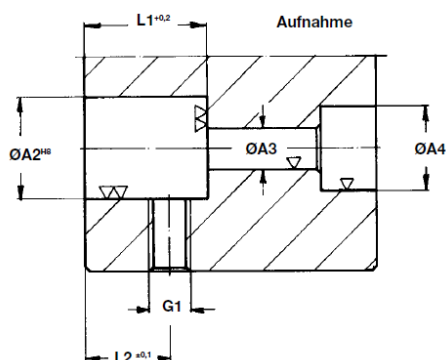


# PENDULUM GRIP INSERTS PEGZA



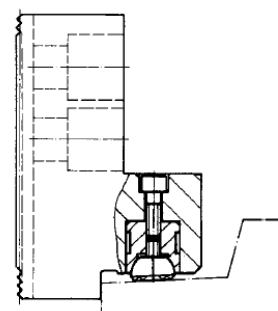
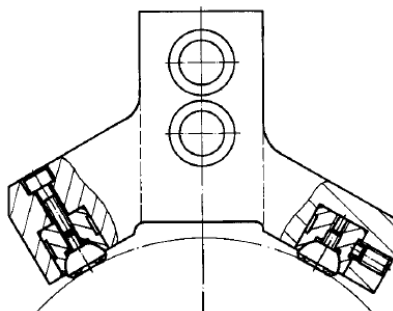
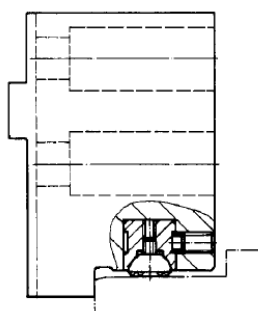
If the clamping jaws are sufficiently dimensioned, the pendulum grip inserts can be provided with a cylindrical mount.

They can be fastened with appropriate cap screws (from the rear) or with shaft screws or grub screws (laterally) according to DIN 915.



| Type  | Nominal size |    |     |    | Ident-No.  | Dimensions                  |    |      |     |    |    |    | Connection dimensions of the fixture |     |    |     |    |    |
|-------|--------------|----|-----|----|------------|-----------------------------|----|------|-----|----|----|----|--------------------------------------|-----|----|-----|----|----|
|       | A            | B  | C   | D  |            | Swivel angle $\alpha^\circ$ | A1 | B1   | B2  | B3 | B4 | C1 | A2                                   | A3  | A4 | G1  | L1 | L2 |
| PEGZA | 15           | 14 | 1,0 | M3 | DI50883000 | 8                           | 12 | 16,1 | 5,0 | 3  | 6  | 1  | 15                                   | 3,4 | 6  | M8  | 14 | 8  |
| PEGZA | 20           | 19 | 1,0 | M4 | DI50884000 | 8                           | 16 | 21,3 | 6,0 | 3  | 6  | 1  | 20                                   | 4,5 | 8  | M8  | 19 | 13 |
| PEGZA | 24           | 22 | 1,2 | M5 | DI50885000 | 8                           | 20 | 25,0 | 7,5 | 3  | 8  | 1  | 24                                   | 5,5 | 10 | M10 | 22 | 15 |
| PEGZA | 30           | 26 | 1,5 | M6 | DI50886000 | 8                           | 25 | 29,7 | 8,0 | 3  | 8  | 1  | 30                                   | 6,6 | 11 | M10 | 26 | 19 |

Bestellbeispiel: 6 Stück PEGZA 20-19-1,0-M4 Ident-Nr. DI50884000



# CARBIDE INSERTS TYPE „ANGLE-LOK“



## Range of use of the inserts

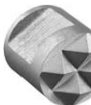
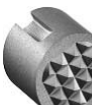
- Designed for heavy and normal cutting applications
- Ideal for castings, forgings and bar stock
- High wear resistance
- Direct mounting to pre-machined pockets
- Allows clamping points on the top of the jaws

| PC-I27-4SC                                                                                                 | PC-I27-4SCS                                                                                                | PC-I27-I0SC                                                                                          | PC-I27-4SC                                                                                                                                       | PC-I27-8SC                                                                                          |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 4 Tips / 14,2 mm wide                                                                                      | 4 Tips / 10 mm wide                                                                                        | 10 Tips / 14,2 mm wide                                                                               | 4 Tips / 19 mm wide                                                                                                                              | 8 Tips / 14,2 mm wide                                                                               |
|                           |                           |                     |                                                               |                  |
| <ul style="list-style-type: none"> <li>• Heavy duty machining</li> <li>• Maximum toothing depth</li> </ul> | <ul style="list-style-type: none"> <li>• Heavy duty machining</li> <li>• Maximum toothing depth</li> </ul> | <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Maximum toothing depth</li> </ul> | <ul style="list-style-type: none"> <li>• Heavy duty machining</li> <li>• Maximum toothing depth</li> <li>• For use with larger chucks</li> </ul> | <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Medium toothing depth</li> </ul> |

## Special machining „ANGLE LOK“

| PC-I30-2SCS (2 Tooth- straight / 10 mm wide)                                                                                                                                                                                                                                                                                                                         | PC-I30-4SC (4 Tooth- straight / 14,2 mm wide)                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Not adjustable</li> <li>• Medium toothing depth</li> <li>• Clamping of narrow parts</li> </ul>                                                                                                                |  <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Not adjustable</li> <li>• Medium toothing depth</li> <li>• Clamping of narrow parts</li> </ul>                                                                                                                |
| PC-I32-2SCS (2 Tooth rounded, straight 10 mm wide)                                                                                                                                                                                                                                                                                                                   | PC-I32-4SCS (4 Tooth rounded, straight 14,2 mm wide)                                                                                                                                                                                                                                                                                                                 |
|  <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Not adjustable</li> <li>• Medium toothing depth</li> <li>• For use with compensating chucks</li> <li>• For shaft tension between centers</li> <li>• Reduces clamping deformation due to retraction</li> </ul> |  <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Not adjustable</li> <li>• Medium toothing depth</li> <li>• For use with compensating chucks</li> <li>• For shaft tension between centers</li> <li>• Reduces clamping deformation due to retraction</li> </ul> |
| PC-I45-5SC (5 Tooth 45° straight / 14,2 mm wide)                                                                                                                                                                                                                                                                                                                     | PC-I10 (rounded, 14,2 mm wide)                                                                                                                                                                                                                                                                                                                                       |
|  <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Not adjustable</li> <li>• Medium toothing depth</li> <li>• Clamping of narrow parts</li> <li>• Instruction of spindle rotation required</li> </ul>                                                            |  <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Not adjustable</li> <li>• For use with compensating chucks</li> <li>• For shaft tension between centers</li> <li>• Reduces clamping deformation due to retraction</li> <li>• No toothing depth</li> </ul>     |

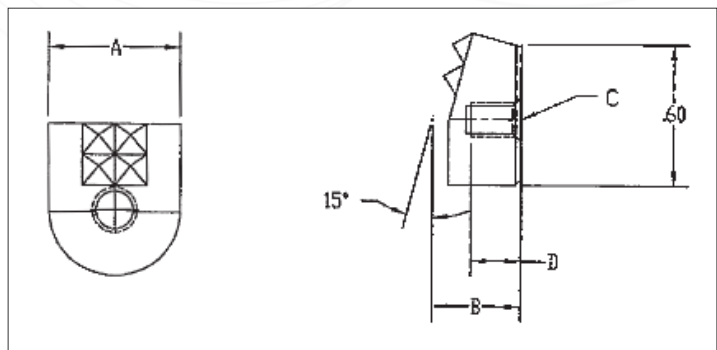
## Universal round

| PC-045-4SC                                                                                                                                                                                                        | PC-070-4SC                                                                                                                                                                                                                         | PC-070-I2SC                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 Tips / 8 mm Ø                                                                                                                                                                                                   | 4 Tips / 12,7 mm Ø                                                                                                                                                                                                                 | 12 Tips / 12,7 mm Ø                                                                                                                                                                                                                 |
|  <ul style="list-style-type: none"> <li>• Light machining</li> <li>• Small chuck diameter</li> <li>• Not adjustable</li> </ul> |  <ul style="list-style-type: none"> <li>• Heavy machining</li> <li>• Adjustable and non-adjustable</li> <li>• Maximum toothing depth</li> </ul> |  <ul style="list-style-type: none"> <li>• Normal cutting</li> <li>• Adjustable and non-adjustable</li> <li>• Maximum toothing depth</li> </ul> |

**!** Sale in sets at 10 pcs (incl. Mounting screws)

# CARBIDE INSERTS TYPE „ANGLE-LOK“ DIMENSIONS

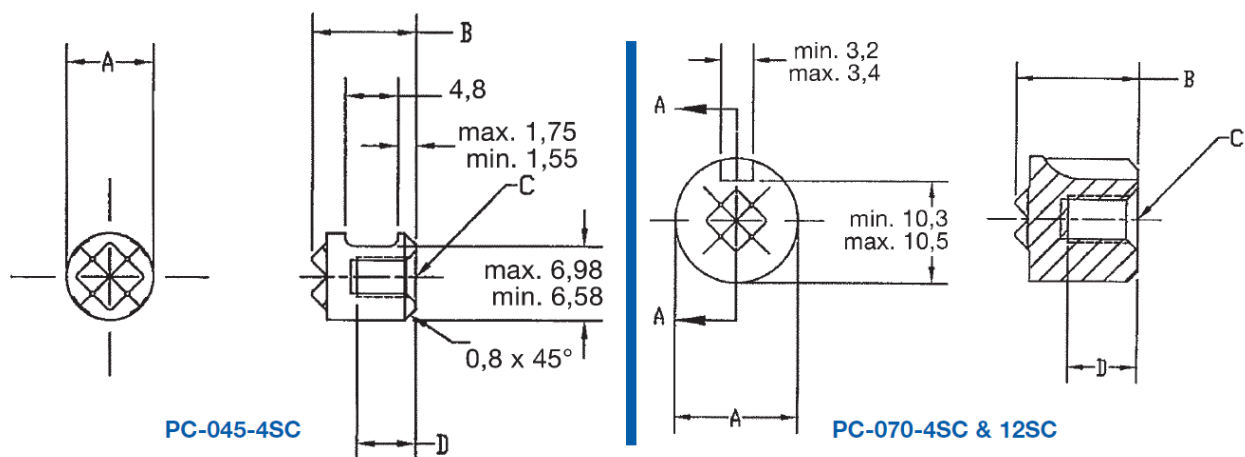
Solid carbide inserts, available in many different designs and tothing models, with threaded hole for the fastening.



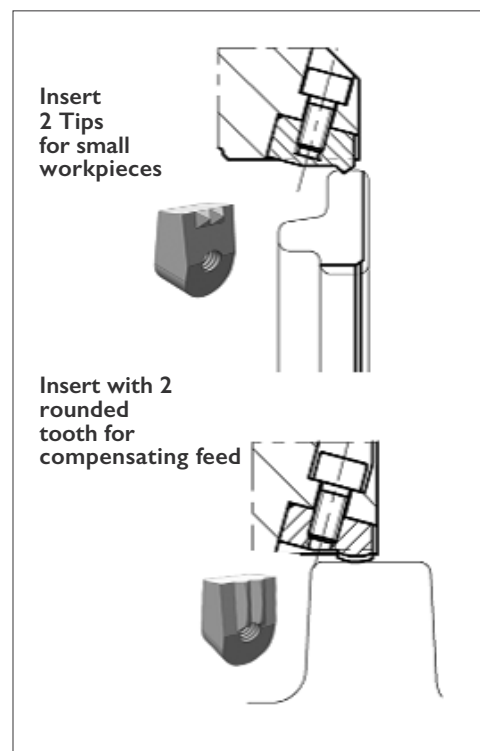
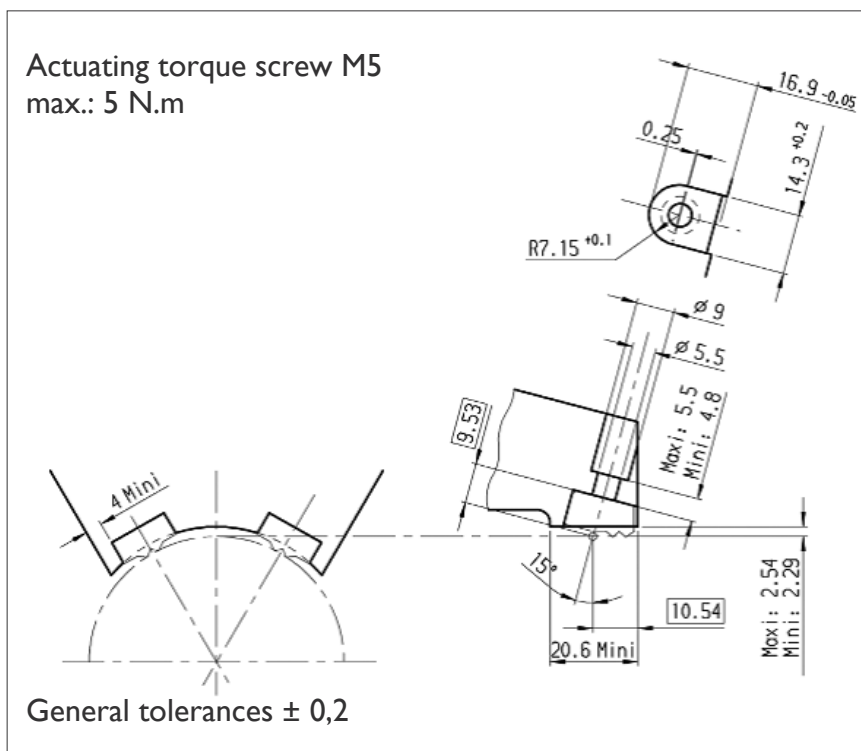
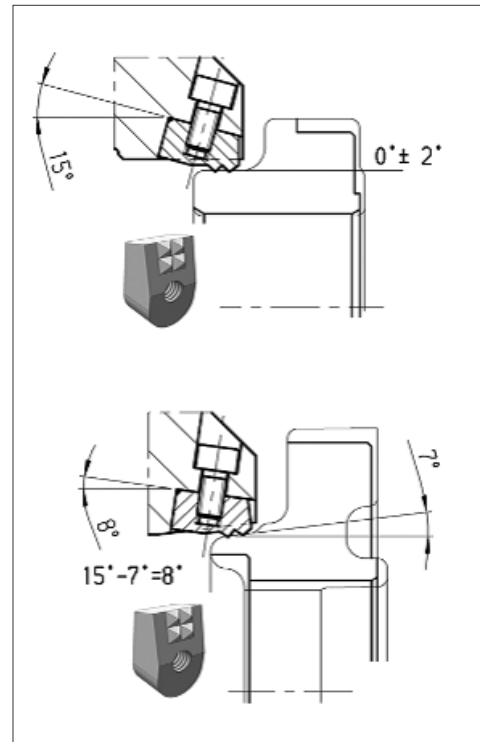
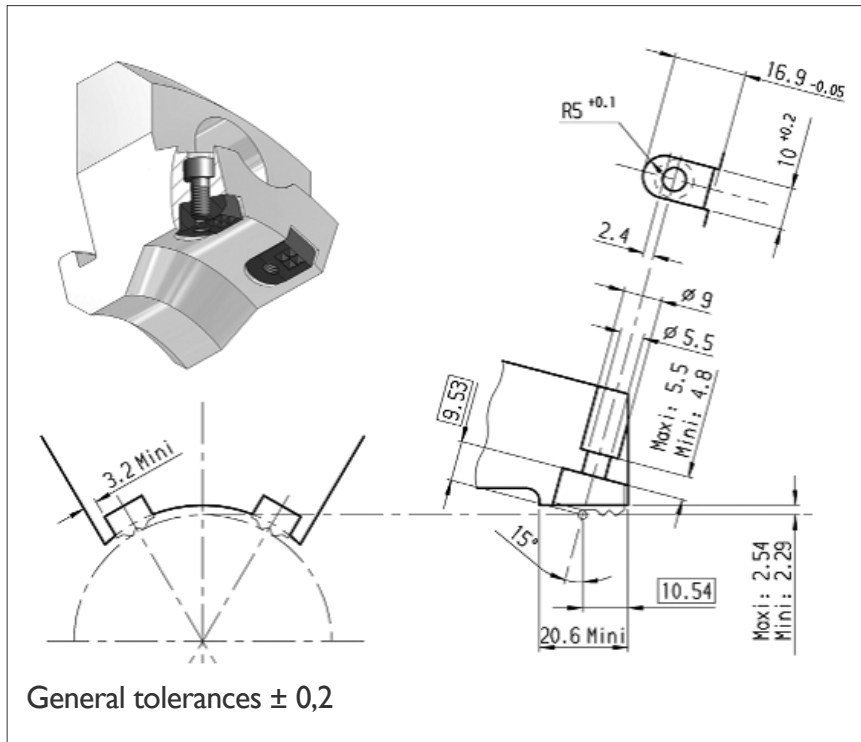
| Description | Ident-No.  | A Diameter / Wide mm | B high mm | D Depth threaded hole mm |
|-------------|------------|----------------------|-----------|--------------------------|
| PC-I27-4SC  | DI739I4000 | 14,2 breit           | 9,5       | 5,6                      |
| PC-I27-4SCS | DI739I5000 | 10,0 breit           | 9,5       | 5,6                      |
| PC-I27-I0SC | DI739I6000 | 14,2 breit           | 9,5       | 6,4                      |
| PC-I28-4SC  | DI739I8000 | 19,0 breit           | 12,7      | 6,4                      |
| PC-I27-8SC  | DI739I7000 | 14,2 breit           | 9,5       | 6,4                      |
| PC-I30-2SCS | DI739I9000 | 10,0 breit           | 9,5       | 6,4                      |
| PC-I30-4SC  | DI73920000 | 14,2 breit           | 9,5       | 6,4                      |
| PC-I32-2SCS | DI7392I000 | 10,0 breit           | 9,5       | 6,4                      |
| PC-I32-4SC  | DI73922000 | 14,2 breit           | 9,5       | 6,4                      |
| PC-I45-5SC  | DI73923000 | 14,2 breit           | 9,5       | 6,4                      |
| PC-I10      | DI739I3000 | 14,2 breit           | 9,5       | 6,4                      |
| PC-045-4SC  | DI739I0000 | 8,0 Ø                | 9,5       | 5,0                      |
| PC-070-4SC  | DI739I1000 | 12,7 Ø               | 12,7      | 5,0                      |
| PC-070-I2SC | DI739I2000 | 12,7 Ø               | 12,7      | 6,4                      |

Available in sets of 10 (incl. mounting screws)

Solid round carbide inserts available in various diameters, heights and spline models with threaded hole for mounting.



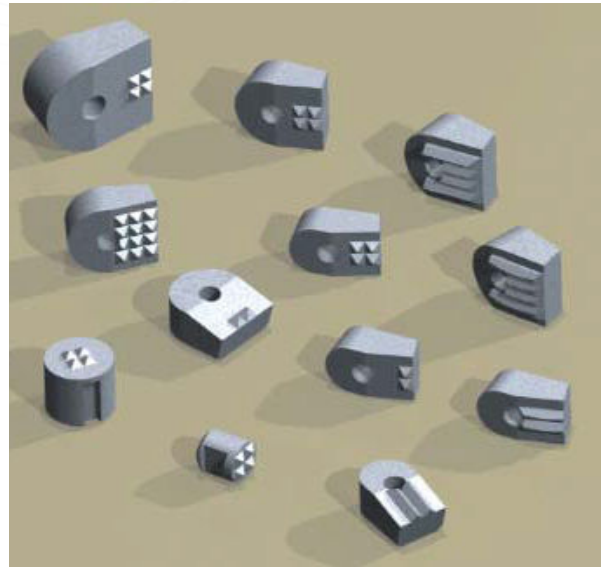
# CARBIDE INSERTS TYPE „ANGLE-LOK“ APPLICATION EXAMPLES



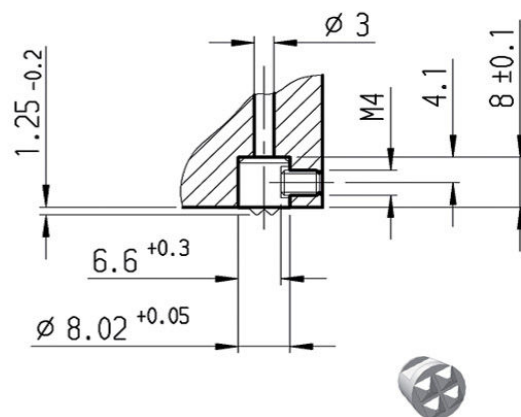
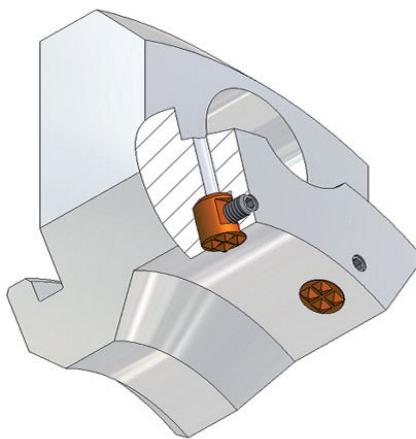
# CARBIDE INSERTS TYPE „ANGLE-LOK“

## Advantages:

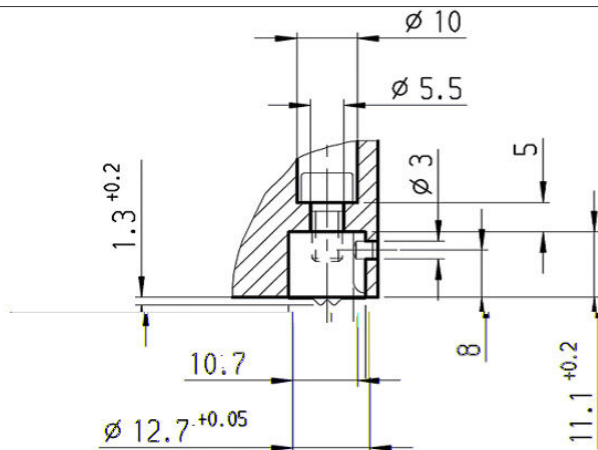
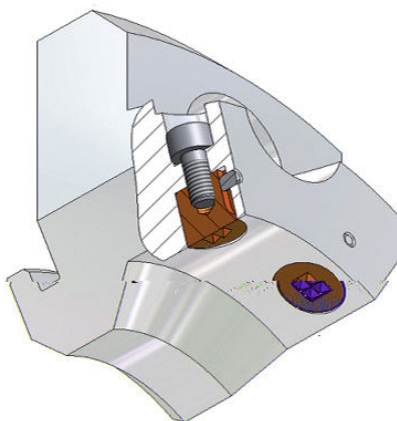
- Easy and quick mounting on jaw holder (not hardened itself)
- Increased torque thanks to better guidance of the tips in the workpiece
- Longer service life of the carbide inserts
- Production cost reduction of the special jaws
- Economical: replacement of used inserts only



## Housing dimensions for installing the inserts



Actuating torque screw M4 max.: 4 N.m



Actuating torque screw M5 max.: 7 N.m



Cylindrical  
insert  
4 tips



cylindrical  
insert  
12 tips



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