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# Prüfdorne Test arbors



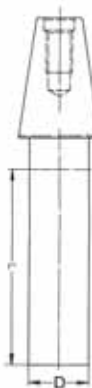
## DIN 69871 (SK)\* DIN 69871 (SK)\*

| Größe /<br>Size | L<br>mm | D<br>mm | Art.-Nr. /<br>Order no. |
|-----------------|---------|---------|-------------------------|
| SK 30           | 275     | 32      | ▶ 09-PD-SK30            |
| SK 40           | 269     | 40      | ▶ 09-PD-SK40            |
| SK 50           | 267     | 50      | ▶ 09-PD-SK50            |



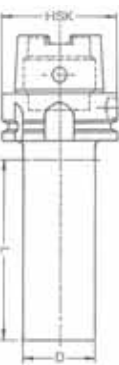
## DIN 2080\* DIN 2080\*

| Größe /<br>Size | L<br>mm | D<br>mm | Art.-Nr. /<br>Order no. |
|-----------------|---------|---------|-------------------------|
| SK 30           | 275     | 32      | ▶ 09-PD-ISO30           |
| SK 40           | 275     | 40      | ▶ 09-PD-ISO40           |
| SK 50           | 275     | 50      | ▶ 09-PD-ISO50           |



## MAS BT\* MAS BT\*

| Größe /<br>Size | L<br>mm | D<br>mm | Art.-Nr. /<br>Order no. |
|-----------------|---------|---------|-------------------------|
| BT 30           | 275     | 32      | ▶ 09-PD-BT30            |
| BT 40           | 269     | 40      | ▶ 09-PD-BT40            |
| BT 50           | 274     | 40      | ▶ 09-PD-BT50            |



## DIN 69893 (HSK)\* DIN 69893 (HSK)\*

| Größe /<br>Size | L<br>mm | D<br>mm | Art.-Nr. /<br>Order no. |
|-----------------|---------|---------|-------------------------|
| HSK 32          | 170     | 25      | ▶ 09-PD-HSK32           |
| HSK 40          | 170     | 25      | ▶ 09-PD-HSK40           |
| HSK 50          | 200     | 32      | ▶ 09-PD-HSK50           |
| HSK 63          | 300     | 40      | ▶ 09-PD-HSK63           |
| HSK 80          | 300     | 40      | ▶ 09-PD-HSK80           |
| HSK 100         | 280     | 50      | ▶ 09-PD-HSK100          |

\* - Lieferung im Holzetui, kalibriert  
- Rundlaufgenauigkeit: 0,003 mm  
- Zylindrizität: 0,003 mm

\* - supplied in wooden case, calibrated  
- concentricity: 0,003 mm  
- cylindricity: 0,003 mm

# Prüfdorne Test arbors



## DIN 229 (MK)\*\* DIN 229 (MT)\*\*

| Größe /<br>Size | L<br>mm | D<br>mm | Art.-Nr. /<br>Order no. |
|-----------------|---------|---------|-------------------------|
| MK 3            | 250     | 25      | ▶ 09-PD-MK3             |
| MK 4            | 300     | 32      | ▶ 09-PD-MK4             |
| MK 5            | 300     | 40      | ▶ 09-PD-MK5             |
| MK 6            | 300     | 50      | ▶ 09-PD-MK6             |



## Zylindrisch\*\* Cylindrical\*\*

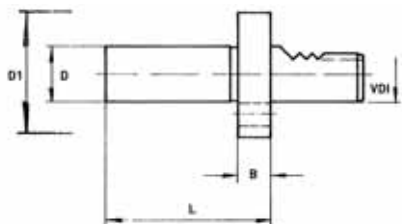
| Größe /<br>Size | L<br>mm | Art.-Nr. /<br>Order no. |
|-----------------|---------|-------------------------|
| Zyl. / Cyl. 32  | 300     | ▶ 09-PD-ZYL32           |
| Zyl. / Cyl. 35  | 400     | ▶ 09-PD-ZYL35           |
| Zyl. / Cyl. 40  | 500     | ▶ 09-PD-ZYL40           |
| Zyl. / Cyl. 50  | 600     | ▶ 09-PD-ZYL50           |



## DIN 69880 (VDI)\*\* DIN 69880 (VDI)\*\*



| VDI | D<br>mm | D1<br>mm | L<br>mm | B<br>mm | Art.-Nr. /<br>Order no. |
|-----|---------|----------|---------|---------|-------------------------|
| 16  | 30      | 40       | 120     | 15      | ● 83-PD-16-30           |
| 20  | 40      | 50       | 150     | 15      | ● 83-PD-20-40           |
| 25  | 40      | 58       | 150     | 15      | ● 83-PD-25-40           |
| 30  | 40      | 68       | 200     | 15      | ● 83-PD-30-40           |
| 40  | 40      | 83       | 200     | 15      | ● 83-PD-40-40           |
| 50  | 40      | 98       | 200     | 15      | ● 83-PD-50-40           |



\*\* - Holzetui und Kalibrierschein auf Anfrage

\*\* - wooden case and calibration certificate upon request

## Nulleinsteller Zero adjusters



### Nulleinsteller mit integrierter Messuhr Zero adjusters with integrated dial indicator

- zur Erfassung des Werkstücknullpunktes
- mit Messuhr Ø 40 mm
- mit Magnetfuß
- for determination of the work piece's zero point
- with dial indicator Ø 40 mm
- with magnetic base

| Abmessungen /<br>Dimension<br>mm | Ablesung /<br>Reading<br>mm | Art.-Nr. /<br>Order no.                     |
|----------------------------------|-----------------------------|---|
| 61 x 54 x 52                     | 2 x 0,01                    | <input checked="" type="checkbox"/> 42-X50M |

### Nulleinsteller mit externer Messuhr Zero adjusters with external dial indicator

- zur Erfassung des Werkstücknullpunktes
- mit Messuhr Ø 40 mm
- for determination of the work piece's zero point
- with dial indicator Ø 40 mm



| Magnetfuß /<br>Magnetic base | Abmessungen /<br>Dimension<br>mm | Ablesung /<br>Reading<br>mm | Art.-Nr. /<br>Order no.                       |
|------------------------------|----------------------------------|-----------------------------|---|
| ohne / <i>without</i>        | 58 x 50                          | 3 x 0,01                    | <input checked="" type="checkbox"/> 42-00502  |
| mit / <i>with</i>            | 58 x 50                          | 3 x 0,01                    | <input checked="" type="checkbox"/> 42-00502M |

## Kantentaster, mechanisch Edge finders, mechanical



### Im Aluminiumkoffer / In aluminium case

| Abmessungen /<br>Dimension<br>mm       | Art.-Nr. /<br>Order no. |
|--|-------------------------|
| 93 x 10 x 10                           | 42-1010-A               |
| 92 x 10 x 10 x 4 (abgesetzt / stepped) | 42-10104-A              |

### In Plastikhülse / In plastic case

| Abmessungen /<br>Dimension<br>mm       | Art.-Nr. /<br>Order no. |
|--|-------------------------|
| 93 x 10 x 10                           | 42-1010-N               |
| 92 x 10 x 10 x 4 (abgesetzt / stepped) | 42-10104-N              |

### Ersatzfedern / Set of spare springs

|                                    | Art.-Nr. /<br>Order no. |
|------------------------------------|-------------------------|
| Satz à 10 Stück / Set of 10 pieces | 42-1010F                |

Leere Boxen siehe Seite 204  
Empty boxes see page 204

## Kantentaster, elektronisch Edge finders, electronical

- LED-Anzeige
- gehärtet und präzisionsgeschliffen
- Rundlauf 0,01 mm
- LED display
- hardened and precision ground
- concentricity 0,01 mm

### In Plastikhülse / In plastic case



| Abmessungen /<br>Dimension<br>mm | Art.-Nr. /<br>Order no. |
|----------------------------------|-------------------------|
| 115,5 x 20 x 10                  | 01-129055-N             |

# Messuhren Dial indicators



## Messuhren, Standard Dial indicators, standard

- nach DIN 878
  - Aufnahme Ø 8H6
  - edelsteingelagert, für Langlebigkeit und Genauigkeit
  - Metallgehäuse mit Toleranzmarkern
- according to DIN 878
  - shank Ø 8H6
  - jeweled bearing for durability and stability
  - metal housing with tolerance markers

| Messbereich /<br>Range<br>mm | Ablesung /<br>Reading<br>mm | Gehäuse Ø /<br>Housing Ø<br>mm | Art.-Nr. /<br>Order no. |
|------------------------------|-----------------------------|--------------------------------|-------------------------|
| 3                            | 0,01                        | 40                             | * 58-MU-3/0,01          |
| 5                            | 0,01                        | 40                             | * 58-MU-5/0,01          |
| 10                           | 0,01                        | 40                             | ● 58-MU-10/0,01KAL*     |

\* inkl. Kalibrierschein / with calibration certificate

## Messuhr, wasser- und öldicht Dial indicator, liquid resistant



- nach Werksnorm
  - Aufnahme Ø 8H6
  - Wasser- und öldicht
  - Metallgehäuse
- according to manufacturer standard
  - shank Ø 8H6
  - liquid resistant
  - metal housing

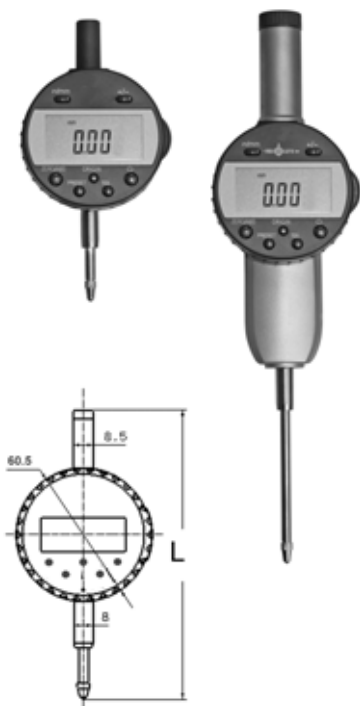
| Messbereich /<br>Range<br>mm | Ablesung /<br>Reading<br>mm | Gehäuse Ø /<br>Housing Ø<br>mm | Art.-Nr. /<br>Order no. |
|------------------------------|-----------------------------|--------------------------------|-------------------------|
| 10                           | 0,01                        | 60                             | ● 58-MU-10/0,01WP       |



# Messuhren Dial indicators

Typ 1 / Type 1

Typ 2 / Type 2



## Messuhren, digital Dial indicators, digital

- mit Digitalanzeige (LCD)
- inkl. 3V Batterie
- Aufnahme Ø 8H6
- mit Datenausgang RS232 (RB6)
- with digital display (LCD)
- incl. 3V battery
- shank Ø 8H6
- with data output RS232 (RB6)

| Messbereich / Range mm | Ablesung / Reading mm | Genauigkeit / Accuracy mm | Gehäuse Ø / Housing Ø mm | L mm | Typ / Type | Art.-Nr. / Order no. |
|------------------------|-----------------------|---------------------------|--------------------------|------|------------|----------------------|
| 12,7                   | 0,01                  | 0,01                      | 60,5                     | 126  | 1          | 58-DMU-12,7/0,01     |
| 12,7                   | 0,01                  | 0,01                      | 60,5                     | 126  | 1          | 58-DMU-12,7/0,01KAL* |
| 25                     | 0,01                  | 0,01                      | 60,5                     | 131  | 1          | 58-DMU-25/0,01       |
| 50                     | 0,01                  | 0,015                     | 60,5                     | 244  | 2          | 58-DMU-50/0,01       |
| 12,7                   | 0,001                 | 0,002                     | 60,5                     | 216  | 1          | 58-DMU-12,7/0,001    |

\* inkl. Kalibrierschein / with calibration certificate

## Fühlhebelmessgerät Dial test indicator

- nach DIN 2270
- stoßgeschützt
- Messeinsatz Ø 2 mm (Hartmetall)
- mit Schwalbenschwanzführung
- für Einspannschaft Ø 6 mm und Ø 8 mm
- according to DIN 2270
- shock proof
- carbide tipped probe Ø 2 mm
- with dovetail guide
- incl. clamping shaft for Ø 6 mm and Ø 8 mm



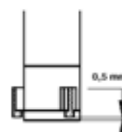
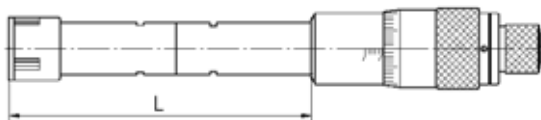
| Messbereich / Range mm | Ablesung / Reading mm | Gehäuse Ø / Housing Ø mm | Messeinsatzlänge / Probe length mm | Art.-Nr. / Order no. |
|------------------------|-----------------------|--------------------------|------------------------------------|----------------------|
| 0,8                    | 0,01                  | 38                       | 11,6                               | 58-FHM-0,08/0,01     |

## Innen-Messschraubensätze Internal micrometer sets

### Innen-Messschraubensätze Internal micrometer sets



- zur Messung von Sacklochbohrungen
- inkl. Skala und Feineinstellung
- mit Einstellring und Verlängerung
- for measuring of blind holes
- incl. scale and fine adjustment
- with setting gauge and extension



| Messbereich /<br>Range<br>mm | Einstellringe /<br>Setting gauges<br>mm | Verlängerungen /<br>Extensions<br>mm | Anzahl Mess-<br>schrauben /<br>Amount of<br>micrometers | Ablesung /<br>Reading<br>mm | Genauigkeit /<br>Accuracy<br>mm | L<br>mm   | Art.-Nr. /<br>Order no. |
|------------------------------|---|--------------------------------------|---|-----------------------------|---------------------------------|-----------|-------------------------|
| 6 - 12                       | 6 + 8 + 10                              | 100 x Ø 5,7                          | 3   | 0,001                       | 0,004                           | 55        | ▶ 58-IMS-S12            |
| 12 - 20                      | 16                                      | 150 x Ø 11,7                         | 2   | 0,005                       | 0,005                           | 81        | ▶ 58-IMS-S20            |
| 20 - 50                      | 25 + 40                                 | 150 x Ø 11,7<br>150 x Ø 23,4         | 4   | 0,005                       | 0,005                           | 91<br>101 | ▶ 58-IMS-S50            |
| 50 - 100                     | 62 + 87                                 | 150 x Ø 23,4                         | 4   | 0,005                       | 0,005                           | 115       | ▶ 58-IMS-S100           |

## Gelenkstativ, magnetisch Magnetic stands



### Magnetisches Gelenkstativ, mechanische Ausführung Magnetic stand, mechanical type

- mit Feineinstellung
- für Messuhren mit Aufnahme Ø 8 mm
- mit An- / Ausschalter
- with fine adjustment
- for dials with shank Ø 8 mm
- with on- / off-switch

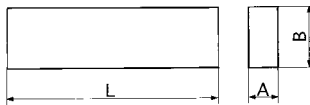
| Magnetkraft /<br>Magnetic force<br>kg | Magnetfuß /<br>Base<br>mm | Armlänge /<br>Stem length<br>mm | Art.-Nr. /<br>Order no. |
|---------------------------------------|---------------------------|---------------------------------|-------------------------|
| 60                                    | 59 x 50 x 55              | 345                             | ▶ 58-MST-345            |



# Parallelunterlagen Parallels

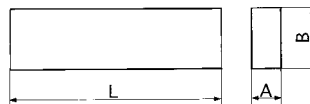
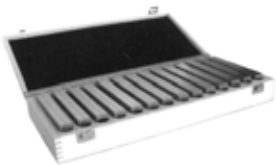
Material: Legierter Werkzeugstahl  
53 - 57 HRC  
Toleranzen: A = 0,01 mm  
B = 0,005 mm

Material: Alloyed tool steel  
53 - 57 HRC  
Tolerance: A = 0,01 mm  
B = 0,005 mm



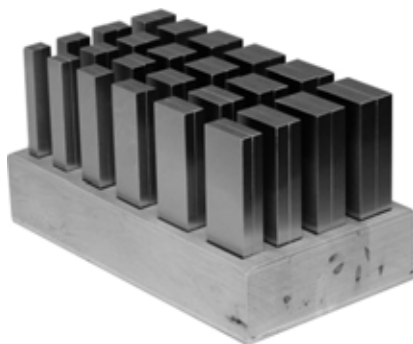
## Im Holzkasten In wooden case

| L<br>mm | A<br>mm | B<br>mm                       | Menge /<br>Quantity | Paare /<br>Pairs | Art.-Nr. /<br>Order no. |
|---------|---------|-------------------------------|---------------------|------------------|-------------------------|
| 100     | 4       | 10/14/18/22/26<br>30/34/38/42 | je 2 /<br>2 each    | 9                | 13-MLRD-100/4           |
| 120     | 8       | 12/17/22/25<br>28/32/36/38    | je 2 /<br>2 each    | 8                | 13-MLRD-120/8           |
| 160     | 4       | 10/14/18/22/26<br>30/34/38/42 | je 2 /<br>2 each    | 9                | 13-MLRD-160/4           |
| 160     | 8       | 12/17/22/25<br>28/32/36/38    | je 2 /<br>2 each    | 8                | 13-MLRD-160/8           |
| 200     | 8       | 17/22/26/28<br>32/36/38/42    | je 2 /<br>2 each    | 8                | 13-MLRD-200/8           |



## Im Holzkasten In wooden case

| L<br>mm | A<br>mm | B<br>mm   | Menge /<br>Quantity | Paare /<br>Pairs | Art.-Nr. /<br>Order no. |
|---------|---------|---|---------------------|------------------|-------------------------|
| 120     | 10      | 14/16/18/20/22/<br>24/26/28/<br>30/32/35/40       | je 2 /<br>2 each    | 12               | 13-PUS-120/10           |
| 150     | 10      | 14/16/18/20/22/24/<br>26/28/30/32/<br>35/40/45/50 | je 2 /<br>2 each    | 14               | 13-PUS-150/10           |



## Im Holzständer, 56-62 HRC In wooden tray, 56-62 HRC

| L<br>mm | B x A<br>mm   | Menge / Paare /<br>Quantity Pairs | Art.-Nr. /<br>Order no. |              |
|---------|---|-----------------------------------|-------------------------|--------------|
| 100*    | 5x2/10x2/15x2/20x2/6x3/11x3/16x3/21x3/<br>7x4/12x4/17x4/22x4/8x5/13x5/18x5/23x5/<br>9x6/14x6/19x6/24x6  | je 2 /<br>2 each                  | 20                      | 13-PUS-100HL |
| 125     | 11x8/16x8/21x8/26x8/31x8/36x8/13x10/<br>18x10/23x10/28x10/33x10/38x10/15x12/<br>20x12/25x12/30x12/35x12/40x12/17x14/<br>22x14/27x14/32x14/37x14/42x14 | je 2 /<br>2 each                  | 24                      | 13-PUS-125HL |
| 150     | 11x8/16x8/21x8/26x8/31x8/36x8/<br>13x10/18x10/23x10/28x10/33x10/38x10/<br>15x12/20x12/25x12/30x12/35x12/40x12/<br>17x14/22x14/27x14/32x14/37x14/42x14 | je 2 /<br>2 each                  | 24                      | 13-PUS-150HL |

\* in Holzkasten  
\* in wooden case

# Endmaßsätze im Holzkasten

## Gauge block sets in wooden case

- nach DIN EN ISO 3650

- according to DIN EN ISO 3650

### Stahl / Steel

- aus gehärtetem Spezialstahl

- made of hardened special steel



Stahl / Steel

| Menge /<br>Quantity | Größe /<br>Size<br>mm | Schritte /<br>Steps<br>mm | Stücke /<br>Pieces | Güte /<br>Grade | Art.-Nr. /<br>Order no.            |   |                |
|---------------------|-----------------------|---------------------------|--------------------|-----------------|------------------------------------|---|----------------|
| 32                  | 1,005                 | -                         | 1                  | 0               | ● 13-EMS-32/0                      |   |                |
|                     | 1,01 - 1,09           | 0,01                      | 9                  |                 |                                    |   |                |
|                     | 1,1 - 1,9             | 0,1                       | 9                  |                 |                                    |   |                |
|                     | 1 - 9                 | 1                         | 9                  |                 |                                    |   |                |
|                     | 10 - 30               | 10                        | 3                  |                 |                                    |   |                |
|                     | 50                    | -                         | 1                  | 1               | ● 13-EMS-32/1<br>▶ 13-EMS-32/1KAL* |   |                |
| 47                  | 1,005                 | -                         | 1                  |                 |                                    | 0 | ● 13-EMS-47/0  |
|                     | 1,01 - 1,2            | 0,01                      | 20                 |                 |                                    |   |                |
|                     | 1,3 - 1,9             | 0,1                       | 7                  |                 |                                    |   |                |
|                     | 1 - 9                 | 1                         | 9                  |                 |                                    |   |                |
|                     | 10 - 100              | 10                        | 10                 | 1               | ● 13-EMS-47/1<br>▶ 13-EMS-47/1KAL* |   |                |
| 87                  | 1,001 - 1,009         | 0,001                     | 9                  |                 |                                    | 0 | ● 13-EMS-87/0  |
|                     | 1,01 - 1,49           | 0,01                      | 49                 |                 |                                    |   |                |
|                     | 0,5 - 9,5             | 0,5                       | 19                 |                 |                                    |   |                |
|                     | 10 - 100              | 10                        | 10                 |                 |                                    |   |                |
|                     |                       |                           |                    | 1               | ● 13-EMS-87/1<br>▶ 13-EMS-87/1KAL* |   |                |
| 103                 | 1,0005                | -                         | 1                  |                 |                                    | 0 | ● 13-EMS-103/0 |
|                     | 1,01 - 1,49           | 0,001                     | 49                 |                 |                                    |   |                |
|                     | 0,5 - 24,5            | 0,5                       | 49                 |                 |                                    |   |                |
|                     | 25 - 100              | 25                        | 4                  |                 |                                    |   |                |

\* inkl. Kalibrierschein / with calibration certificate

### Hartmetall / Carbide



Hartmetall / Carbide

|    |                |       |    |   |                 |   |                |
|----|----------------|-------|----|---|-----------------|---|----------------|
| 32 | 1,005          | -     | 1  | 0 | ▶ 13-EMHM-32/0  |   |                |
|    | 1,01 - 1,09    | 0,01  | 9  |   |                 |   |                |
|    | 1,1 - 1,9      | 0,1   | 9  |   |                 |   |                |
|    | 1 - 9          | 1     | 9  |   |                 |   |                |
|    | 10, 20, 30, 50 | 10    | 4  |   |                 |   |                |
|    |                |       |    | 1 | ▶ 13-EMHM-32/1  |   |                |
| 47 | 1,005          | -     | 1  |   |                 | 0 | ▶ 13-EMHM-47/0 |
|    | 1,01 - 1,2     | 0,01  | 20 |   |                 |   |                |
|    | 1,3 - 1,9      | 0,1   | 7  |   |                 |   |                |
|    | 1 - 9          | 1     | 9  |   |                 |   |                |
|    | 10 - 100       | 10    | 10 | 1 | ▶ 13-EMHM-47/1  |   |                |
| 87 | 1,001 - 1,009  | 0,001 | 9  |   |                 | 0 | ▶ 13-EMHM-87/0 |
|    | 1,01 - 1,49    | 0,01  | 49 |   |                 |   |                |
|    | 0,5 - 9,5      | 0,5   | 19 |   |                 |   |                |
|    | 10 - 100       | 10    | 10 |   |                 |   |                |
|    |                |       |    | 1 | ▶ 13-EMHM-487/1 |   |                |

### Keramik / Ceramic

- antimagnetisch

- antimagnetic

- doppelt so hart wie Stahl

- twice as hard as steel



Keramik / Ceramic

|    |             |      |    |   |               |   |               |
|----|-------------|------|----|---|---------------|---|---------------|
| 32 | 1,005       | -    | 1  | 0 | ▶ 13-EMK-32/0 |   |               |
|    | 1,01 - 1,09 | 0,01 | 9  |   |               |   |               |
|    | 1,1 - 1,9   | 0,1  | 9  |   |               |   |               |
|    | 1 - 9       | 1    | 9  |   |               |   |               |
|    | 10 - 30, 50 | 10   | 4  |   |               |   |               |
|    |             |      |    | 1 | ▶ 13-EMK-32/1 |   |               |
| 47 | 1,005       | -    | 1  |   |               | 0 | ▶ 13-EMK-47/0 |
|    | 1,01 - 1,2  | 0,01 | 20 |   |               |   |               |
|    | 1,3 - 1,9   | 0,1  | 7  |   |               |   |               |
|    | 1 - 9       | 1    | 9  |   |               |   |               |
|    | 10 - 100    | 10   | 10 | 1 | ▶ 13-EMK-47/1 |   |               |

# Messstift-Sätze

## Pin gauge sets

### Messstift-Sätze

#### Pin gauge sets

- Genauigkeit +/- 0,002 mm

- accuracy +/- 0,002 mm



Typ 1 / Type 1



Typ 2 / Type 2

| Messbereich /<br>Range<br>mm | Steigung /<br>Stepping<br>mm | Anzahl d. Stifte /<br>Number of pins | Typ /<br>Type | Art.-Nr. /<br>Order no. |
|------------------------------|------------------------------|--------------------------------------|---------------|-------------------------|
| 0,20 - 0,50                  | 0,01                         | 31                                   | 1             | ▶ 58-PSS-0,5            |
| 0,50 - 1,00                  | 0,01                         | 51                                   | 2             | ▶ 58-PSS-1,0            |
| 1,01 - 2,00                  | 0,01                         | 100                                  | 2             | ▶ 58-PSS-2,0            |
| 2,01 - 3,00                  | 0,01                         | 100                                  | 2             | ▶ 58-PSS-3,0            |
| 3,01 - 4,00                  | 0,01                         | 100                                  | 2             | ▶ 58-PSS-4,0            |
| 4,01 - 5,00                  | 0,01                         | 100                                  | 2             | ▶ 58-PSS-5,0            |
| 5,01 - 6,00                  | 0,01                         | 100                                  | 2             | ▶ 58-PSS-6,0            |
| 6,01 - 7,00                  | 0,01                         | 100                                  | 2             | ▶ 58-PSS-7,0            |
| 7,01 - 8,00                  | 0,01                         | 100                                  | 2             | ▶ 58-PSS-8,0            |
| 8,01 - 9,00                  | 0,01                         | 100                                  | 2             | ▶ 58-PSS-9,0            |
| 9,01 - 10,00                 | 0,01                         | 100                                  | 2             | ▶ 58-PSS-10,0           |

# Grenz- und Gewindelehrdorne und Ringe Plain and thread plug gauges and rings

## Grenzlehrdorne Plain plug gauges

- Maße nach DIN 2245
- Gehärteter Lehenstahl

- dimensions according to DIN 2245
- hardened gauge steel



## kalibrierte Ausführung calibrated version

| Größe / Size<br>Ø<br>mm | Art.-Nr. /<br>Order no. |
|-------------------------|-------------------------|
| 2                       | 58-ESD-2                |
| 3                       | 58-ESD-3                |
| 4                       | 58-ESD-4                |
| 5                       | 58-ESD-5                |
| 6                       | 58-ESD-6                |
| 7                       | 58-ESD-7                |
| 8                       | 58-ESD-8                |
| 9                       | 58-ESD-9                |
| 10                      | 58-ESD-10               |
| 11                      | 58-ESD-11               |
| 12                      | 58-ESD-12               |
| 13                      | 58-ESD-13               |
| 14                      | 58-ESD-14               |
| 15                      | 58-ESD-15               |
| 16                      | 58-ESD-16               |
| 17                      | 58-ESD-17               |
| 18                      | 58-ESD-18               |
| 19                      | 58-ESD-19               |
| 20                      | 58-ESD-20               |
| 21                      | 58-ESD-21               |
| 22                      | 58-ESD-22               |
| 23                      | 58-ESD-23               |
| 24                      | 58-ESD-24               |
| 25                      | 58-ESD-25               |
| 26                      | 58-ESD-26               |
| 28                      | 58-ESD-28               |
| 30                      | 58-ESD-30               |
| 32                      | 58-ESD-32               |

| Größe / Size<br>Ø<br>mm | Art.-Nr. /<br>Order no. |
|-------------------------|-------------------------|
| 33                      | 58-ESD-33               |
| 34                      | 58-ESD-34               |
| 35                      | 58-ESD-35               |
| 36                      | 58-ESD-36               |
| 37                      | 58-ESD-37               |
| 38                      | 58-ESD-38               |
| 40                      | 58-ESD-40               |
| 42                      | 58-ESD-42               |
| 44                      | 58-ESD-44               |
| 45                      | 58-ESD-45               |
| 46                      | 58-ESD-46               |
| 47                      | 58-ESD-47               |
| 48                      | 58-ESD-48               |
| 50                      | 58-ESD-50               |
| 52                      | 58-ESD-52               |
| 55                      | 58-ESD-55               |
| 60                      | 58-ESD-60               |
| 62                      | 58-ESD-62               |
| 65                      | 58-ESD-65               |
| 68                      | 58-ESD-68               |
| 70                      | 58-ESD-70               |
| 72                      | 58-ESD-72               |
| 75                      | 58-ESD-75               |
| 80                      | 58-ESD-80               |
| 85                      | 58-ESD-85               |
| 90                      | 58-ESD-90               |
| 95                      | 58-ESD-95               |
| 98                      | 58-ESD-98               |
| 100                     | 58-ESD-100              |

| Größe / Size<br>Ø<br>mm | Art.-Nr. /<br>Order no. |
|-------------------------|-------------------------|
| 2                       | 58-ESD-2KAL             |
| 3                       | 58-ESD-3KAL             |
| 4                       | 58-ESD-4KAL             |
| 5                       | 58-ESD-5KAL             |
| 6                       | 58-ESD-6KAL             |
| 7                       | 58-ESD-7KAL             |
| 8                       | 58-ESD-8KAL             |
| 9                       | 58-ESD-9KAL             |
| 10                      | 58-ESD-10KAL            |
| 11                      | 58-ESD-11KAL            |
| 12                      | 58-ESD-12KAL            |
| 13                      | 58-ESD-13KAL            |
| 14                      | 58-ESD-14KAL            |
| 15                      | 58-ESD-15KAL            |
| 16                      | 58-ESD-16KAL            |
| 17                      | 58-ESD-17KAL            |
| 18                      | 58-ESD-18KAL            |
| 19                      | 58-ESD-19KAL            |
| 20                      | 58-ESD-20KAL            |
| 22                      | 58-ESD-22KAL            |
| 23                      | 58-ESD-23KAL            |
| 24                      | 58-ESD-24KAL            |
| 25                      | 58-ESD-25KAL            |
| 26                      | 58-ESD-26KAL            |
| 28                      | 58-ESD-28KAL            |
| 30                      | 58-ESD-30KAL            |
| 32                      | 58-ESD-32KAL            |
| 35                      | 58-ESD-35KAL            |
| 40                      | 58-ESD-40KAL            |
| 45                      | 58-ESD-45KAL            |
| 50                      | 58-ESD-50KAL            |
| 60                      | 58-ESD-60KAL            |

## Grenzlehrdornsatz Set of plain plug gauges



| Größe / Size<br>Ø mm  | Art.-Nr. /<br>Order no. |
|-----------------------|-------------------------|
| 3, 4, 5, 6, 8, 10, 12 | 58-ESD-SATZ             |

- Lagerstandard / in stock
- ▶ innerhalb weniger Tage / within a few days
- auf Anfrage / on request
- \* auslaufende Größe / as stock lasts



# Grenz- und Gewindelehrdorne und Ringe

## Plain and thread plug gauges and rings



### Grenzlehrringe

#### Plain setting ring gauges

- nach DIN 2250C
- Genauigkeit DIN 286, JS 3
- gehärteter Lehenstahl

- according to DIN 2250C
- accuracy DIN 286, JS 3
- hardened gauge steel

### kalibrierte Ausführung

#### calibrated version

| Größe / Size<br>Ø<br>mm | Art.-Nr. /<br>Order no. |
|-------------------------|-------------------------|
| 3                       | 58-ESR-3                |
| 4                       | 58-ESR-4                |
| 5                       | 58-ESR-5                |
| 6                       | 58-ESR-6                |
| 7                       | 58-ESR-7                |
| 8                       | 58-ESR-8                |
| 9                       | 58-ESR-9                |
| 10                      | 58-ESR-10               |
| 11                      | 58-ESR-11               |
| 12                      | 58-ESR-12               |
| 13                      | 58-ESR-13               |
| 14                      | 58-ESR-14               |
| 15                      | 58-ESR-15               |
| 16                      | 58-ESR-16               |
| 17                      | 58-ESR-17               |
| 18                      | 58-ESR-18               |
| 19                      | 58-ESR-19               |
| 20                      | 58-ESR-20               |
| 21                      | 58-ESR-21               |
| 22                      | 58-ESR-22               |
| 23                      | 58-ESR-23               |
| 24                      | 58-ESR-24               |
| 25                      | 58-ESR-25               |
| 26                      | 58-ESR-26               |
| 28                      | 58-ESR-28               |

| Größe / Size<br>Ø<br>mm | Art.-Nr. /<br>Order no. |
|-------------------------|-------------------------|
| 30                      | 58-ESR-30               |
| 32                      | 58-ESR-32               |
| 34                      | 58-ESR-34               |
| 35                      | 58-ESR-35               |
| 36                      | 58-ESR-36               |
| 37                      | 58-ESR-37               |
| 38                      | 58-ESR-38               |
| 40                      | 58-ESR-40               |
| 42                      | 58-ESR-42               |
| 44                      | 58-ESR-44               |
| 45                      | 58-ESR-45               |
| 46                      | 58-ESR-46               |
| 47                      | 58-ESR-47               |
| 48                      | 58-ESR-48               |
| 50                      | 58-ESR-50               |
| 55                      | 58-ESR-55               |
| 60                      | 58-ESR-60               |
| 65                      | 58-ESR-65               |
| 70                      | 58-ESR-70               |
| 75                      | 58-ESR-75               |
| 80                      | 58-ESR-80               |
| 85                      | 58-ESR-85               |
| 90                      | 58-ESR-90               |
| 95                      | 58-ESR-95               |
| 100                     | 58-ESR-100              |

| Größe / Size<br>Ø<br>mm | Art.-Nr. /<br>Order no. |
|-------------------------|-------------------------|
| 3                       | 58-ESR-3KAL             |
| 4                       | 58-ESR-4KAL             |
| 5                       | 58-ESR-5KAL             |
| 6                       | 58-ESR-6KAL             |
| 7                       | 58-ESR-7KAL             |
| 8                       | 58-ESR-8KAL             |
| 10                      | 58-ESR-10KAL            |
| 11                      | 58-ESR-12KAL            |
| 14                      | 58-ESR-14KAL            |
| 15                      | 58-ESR-15KAL            |
| 16                      | 58-ESR-16KAL            |
| 18                      | 58-ESR-18KAL            |
| 19                      | 58-ESR-19KAL            |
| 20                      | 58-ESR-20KAL            |
| 22                      | 58-ESR-22KAL            |
| 24                      | 58-ESR-24KAL            |
| 25                      | 58-ESR-25KAL            |
| 26                      | 58-ESR-26KAL            |
| 28                      | 58-ESR-28KAL            |
| 30                      | 58-ESR-30KAL            |
| 32                      | 58-ESR-32KAL            |
| 34                      | 58-ESR-34KAL            |
| 35                      | 58-ESR-35KAL            |
| 36                      | 58-ESR-36KAL            |
| 38                      | 58-ESR-38KAL            |
| 40                      | 58-ESR-40KAL            |
| 42                      | 58-ESR-42KAL            |
| 45                      | 58-ESR-45KAL            |
| 46                      | 58-ESR-46KAL            |
| 47                      | 58-ESR-47KAL            |
| 48                      | 58-ESR-48KAL            |
| 50                      | 58-ESR-50KAL            |
| 55                      | 58-ESR-55KAL            |
| 60                      | 58-ESR-60KAL            |
| 65                      | 58-ESR-65KAL            |
| 70                      | 58-ESR-70KAL            |
| 75                      | 58-ESR-75KAL            |
| 80                      | 58-ESR-80KAL            |
| 85                      | 58-ESR-85KAL            |
| 90                      | 58-ESR-90KAL            |
| 95                      | 58-ESR-95KAL            |
| 100                     | 58-ESR-100KAL           |



# Grenz- und Gewindelehndorne und Ringe Plain and thread plug gauges and rings

## Gewindelehndorne, „Gut“ und „Ausschuss“ Thread plug gauges, „GO“ and „NO GO“



- nach DIN 13
  - gehärteter Lehrenstahl
  - Toleranz 6H
  - mit Gut- und Ausschusseite
- according to DIN 13
  - hardened gauge steel
  - tolerance 6H
  - with GO and NO GO tips

### kalibrierte Ausführung calibrated version

| Größe / Size | Art.-Nr. / Order no. |
|--------------|----------------------|
| M2           | 58-GLD-M2            |
| M2,5         | 58-GLD-M2,5          |
| M3           | 58-GLD-M3            |
| M4           | 58-GLD-M4            |
| M5           | 58-GLD-M5            |
| M6           | 58-GLD-M6            |
| M7           | 58-GLD-M7            |
| M8           | 58-GLD-M8            |
| M9           | 58-GLD-M9            |
| M10          | 58-GLD-M10           |
| M11          | 58-GLD-M11           |
| M12          | 58-GLD-M12           |
| M14          | 58-GLD-M14           |
| M16          | 58-GLD-M16           |
| M18          | 58-GLD-M18           |
| M20          | 58-GLD-M20           |
| M22          | 58-GLD-M22           |
| M24          | 58-GLD-M24           |
| M30          | 58-GLD-M30           |
| M33          | 58-GLD-M33           |
| M36          | 58-GLD-M36           |
| M42          | 58-GLD-M42           |
| M45          | 58-GLD-M45           |
| M48          | 58-GLD-M48           |
| M60          | 58-GLD-M60           |

| Größe / Size<br>Ø<br>mm | Art.-Nr. / Order no. |
|-------------------------|----------------------|
| M3                      | 58-GLD-M3KAL         |
| M4                      | 58-GLD-M4KAL         |
| M5                      | 58-GLD-M5KAL         |
| M6                      | 58-GLD-M6KAL         |
| M8                      | 58-GLD-M8KAL         |
| M10                     | 58-GLD-M10KAL        |
| M12                     | 58-GLD-M12KAL        |
| M14                     | 58-GLD-M14KAL        |
| M16                     | 58-GLD-M16KAL        |
| M18                     | 58-GLD-M18KAL        |
| M20                     | 58-GLD-M20KAL        |



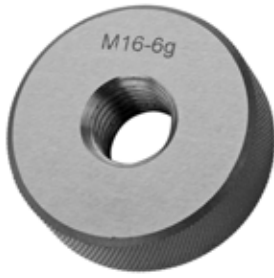
## Gewindelehndornsatz, „Gut“ und „Ausschuss“ Set of thread plug gauges, „GO“ and „NO GO“

| Größe / Size                 | Art.-Nr. / Order no. |
|------------------------------|----------------------|
| M3, M4, M5, M6, M8, M10, M12 | 58-GLD-SATZ          |

- Lagerstandard / in stock
- ▶ innerhalb weniger Tage / within a few days
- auf Anfrage / on request
- \* auslaufende Größe / as stock lasts



# Grenz- und Gewindelehrdorne und Ringe Plain and thread plug gauges and rings



## Gewindelehrringe, „GUT“ Thread ring gauges, „GO“

- nach DIN 13
- gehärteter Lehenstahl
- Toleranz 6g
- according to DIN 13
- hardened gauge steel
- tolerance 6g

### kalibrierte Ausführung calibrated version

| Größe / Size | Art.-Nr. / Order no. |
|--------------|----------------------|
| M2           | 58-GLR-M2G           |
| M2,5         | 58-GLR-M2,5G         |
| M3           | 58-GLR-M3G           |
| M4           | 58-GLR-M4G           |
| M5           | 58-GLR-M5G           |
| M6           | 58-GLR-M6G           |
| M8           | 58-GLR-M8G           |
| M10          | 58-GLR-M10G          |
| M12          | 58-GLR-M12G          |
| M14          | 58-GLR-M14G          |
| M16          | 58-GLR-M16G          |
| M18          | 58-GLR-M18G          |
| M20          | 58-GLR-M20G          |
| M24          | 58-GLR-M24G          |
| M30          | 58-GLR-M30G          |
| M36          | 58-GLR-M36G          |
| M48          | 58-GLR-M48G          |

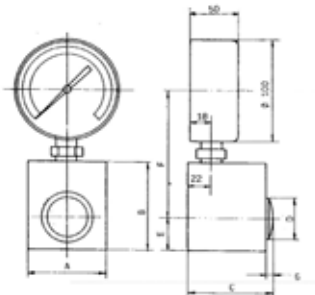
| Größe / Size<br>Ø<br>mm | Art.-Nr. / Order no. |
|-------------------------|----------------------|
| M3                      | 58-GLR-M3GKAL        |
| M4                      | 58-GLR-M4GKAL        |
| M5                      | 58-GLR-M5GKAL        |
| M6                      | 58-GLR-M6GKAL        |
| M8                      | 58-GLR-M8GKAL        |
| M10                     | 58-GLR-M10GKAL       |
| M12                     | 58-GLR-M12GKAL       |
| M14                     | 58-GLR-M14GKAL       |
| M16                     | 58-GLR-M16GKAL       |
| M18                     | 58-GLR-M18GKAL       |
| M20                     | 58-GLR-M20GKAL       |

## Spannkraftmessgeräte Clamping force meters



## Spannkraftmessgeräte für Schraubstöcke Clamping force meters for vices

- zur Überprüfung der Spannkraft an Schraub- und Spannstöcken
- Messbereich: 0,6 kN - 100 kN
- Messgenauigkeit: ± 1% des Skaleneuwerts
- to determine the power of clamping devices
- measuring range: 0,6 kN - 100 kN
- precision: ± 1% of the end scale value



| Spannkraft / Gripping force kN | A mm | B mm | C mm | D mm | E mm | F mm | kg  | Art.-Nr. / Order no. |
|--------------------------------|------|------|------|------|------|------|-----|----------------------|
| 0,6-6,0                        | 45   | 50   | 45   | 12   | 14   | 108  | 1,2 | 14-SKS-S6            |
| 1,0-10,0                       | 45   | 50   | 45   | 12   | 14   | 108  | 1,2 | 14-SKS-S10           |
| 1,6-16,0                       | 50   | 60   | 50   | 16   | 20   | 112  | 1,6 | 14-SKS-S16           |
| 2,5-25,0                       | 55   | 65   | 55   | 20   | 20   | 117  | 1,7 | 14-SKS-S25           |
| 4,0-40,0                       | 55   | 69   | 55   | 25   | 23   | 114  | 2,0 | 14-SKS-S40           |
| 6,0-60,0                       | 65   | 72   | 65   | 30   | 25   | 119  | 2,7 | 14-SKS-S60           |
| 10,0-100,0                     | 75   | 85   | 85   | 40   | 32   | 125  | 4,6 | 14-SKS-S100          |



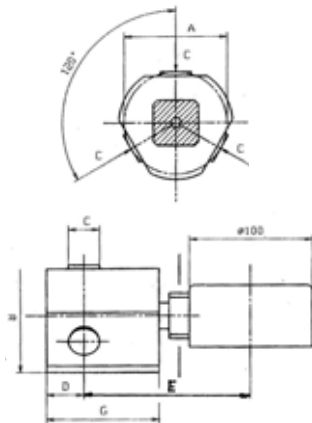
## Spannkraftmessgeräte Clamping force meters



### Spannkraftmessgeräte für Dreibackenfutter Clamping force meters for three-jaw chucks

- Messgenauigkeit:  $\pm 1,5\%$  des Skalenendwerts
- Messbereich: 0,6 kN - 400 kN
- Krafteinleitung durch 3 Kolben
- precision  $\pm 1,5\%$  of the end scale value
- measuring range: 0,6 - 400 kN
- transmission of force by 3 pistons

| Spannkraft /<br>Gripping force<br>kN | Spannkr. p. Backe /<br>Grip. force p. jaw<br>kN | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | kg  | Art.-Nr. /<br>Order no. |
|--------------------------------------|---|---------|---------|---------|---------|---------|---------|-----|-------------------------|
| 0,6-6                                | 3 x 2   | 40      | 40      | 10      | 12      | 105     | 45      | 0,8 | 00-SKD3-6               |
| 1-10                                 | 3 x 3,33  | 40      | 40      | 10      | 12      | 105     | 45      | 0,8 | 00-SKD3-10              |
| 3-30                                 | 3 x 10  | 40      | 45      | 13      | 15      | 110     | 50      | 1,2 | 00-SKD3-30              |
| 6-60                                 | 3 x 20  | 55      | 60      | 20      | 20      | 110     | 60      | 1,9 | 00-SKD3-60              |
| 9-90                                 | 3 x 30  | 65      | 70      | 22      | 23      | 120     | 65      | 2,5 | 00-SKD3-90              |
| 12-120                               | 3 x 40  | 65      | 70      | 25      | 26      | 120     | 65      | 2,5 | 00-SKD3-120             |
| 15-150                               | 3 x 50  | 85      | 90      | 30      | 32      | 118     | 70      | 4,0 | 00-SKD3-150             |
| 18-180                               | 3 x 60  | 85      | 90      | 30      | 32      | 118     | 70      | 4,0 | 00-SKD3-180             |
| 21-210                               | 3 x 70  | 95      | 100     | 35      | 37      | 123     | 80      | 5,5 | 00-SKD3-210             |
| 24-240                               | 3 x 80  | 95      | 100     | 35      | 37      | 123     | 85      | 8,0 | 00-SKD3-240             |
| 30-300                               | 3 x 100   | 120     | 125     | 35      | 40      | 125     | 85      | 8,0 | 00-SKD3-300             |
| 40-400                               | 3 x 133,3                                       | 120     | 125     | 35      | 40      | 125     | 85      | 8,0 | 00-SKD3-400             |



Prüfprotokolle erhältlich auf Anfrage  
Test certificates upon request

Spannkraftmessgeräte für Zwei- und Vierbackenfutter auf Anfrage  
Clamping force meter for two- and four-jaw chucks upon request

## Anzugskraftmessgeräte Tightening force meters

### Anzugskraftmessgeräte für Werkzeugspindeln Tightening force meters for spindles

- Lieferung im Holzetui inkl. Kalibrierschein
- delivered in wooden case with calibration certificate



| Aufnahme /<br>Mounting | Art.-Nr. /<br>Order no. |
|------------------------|-------------------------|
| SK30 / DIN 69871       | 14-SKWA-SK30            |
| SK40 / DIN 69871       | 14-SKWA-SK40            |
| SK50 / DIN 69871       | 14-SKWA-SK50            |
| HSK 32                 | 14-SKWA-HSK32           |
| HSK 40                 | 14-SKWA-HSK40           |
| HSK 50                 | 14-SKWA-HSK50           |
| HSK 63                 | 14-SKWA-HSK63           |
| HSK 80                 | 14-SKWA-HSK80           |
| HSK 100                | 14-SKWA-HSK100          |

Anzugskraftmessgeräte für DIN 2080 und MAS BT auf Anfrage  
Tightening force meters for DIN 2080 and MAS BT upon request



# Aufspannsätze und Fräserkassetten

## Clamping sets and milling cutter sets

### Aufspannsätze

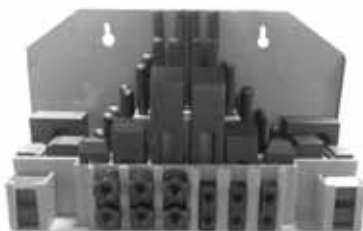
#### Clamping sets

Basissortimente mit den am häufigsten benötigten Spannelementen. Zum schnellen Aufspannen von Werkstücken oder Vorrichtungen auf T-Nutentischen.

Sets of frequently used clamping elements. For fast mounting of work pieces or fixtures on T-groove tables.

Lieferumfang:  
6 Nutensteine, 6 Bundmuttern  
4 Verbindungsmuttern, 6 gestufte  
Spannblockpaare (12 Stk.),  
6 Spannpratzen, 24 Gewindebolzen

Scope of supply:  
6 T-slot nuts, 6 flange nuts, 4 coupling  
nuts, 6 stepped block pairs (12 pcs.),  
6 clamps, 24 studs



#### 58-tlg., im Display, verwendbar als Wandhalter

#### 58 pcs., in display, usable for wall mounting

| Anzugsgewinde /<br>Tightening thread | T-Nutensteine /<br>T-nuts | Art.-Nr. /<br>Order no. |
|--------------------------------------|---------------------------|-------------------------|
| M8                                   | 10 mm                     | 11-ASS-M8               |
| M10                                  | 12 mm                     | 11-ASS-M10              |
| M12                                  | 14 mm                     | 11-ASS-M12              |
| M14                                  | 16 mm                     | 11-ASS-M14              |
| M16                                  | 18 mm                     | 11-ASS-M16              |



#### 58-tlg., im Kunststoffkoffer

#### 58 pcs., in plastic case

| Anzugsgewinde /<br>Tightening thread | T-Nutensteine /<br>T-nuts | Art.-Nr. /<br>Order no. |
|--------------------------------------|---------------------------|-------------------------|
| M8                                   | 10 mm                     | 11-PKS-M8               |
| M10                                  | 12 mm                     | 11-PKS-M10              |
| M12                                  | 14 mm                     | 11-PKS-M12              |
| M14                                  | 16 mm                     | 11-PKS-M14              |
| M16                                  | 18 mm                     | 11-PKS-M16              |



#### 58-tlg., im Holzständer

#### 58 pcs., in wooden tray

| Anzugsgewinde /<br>Tightening thread | T-Nutensteine /<br>T-nuts | Art.-Nr. /<br>Order no. |
|--------------------------------------|---------------------------|-------------------------|
| M6                                   | 8 mm                      | 11-PKS-M6               |
| M20                                  | 22 mm                     | 11-PKS-M20              |
| M24                                  | 28 mm                     | 11-PKS-M24              |

#### Titan-Fräserkassette, im Kunststoffkoffer

#### TiN-coated milling cutters, in plastic case

Ausführung nach DIN 327 (2-schneidig)  
bzw. nach DIN 844B (4-schneidig) je  
nach Durchmesser, 20-tlg. Satz. 2 - 5  
fache Standzeit durch TiN-Beschichtung.

According to DIN 327 (2 flutes) or  
DIN 844B (4 flutes) depending on the  
relevant diameter, 20 mills per set.  
With TiN-coating for increased service  
life.



| Je Ø in DIN 327 und DIN 844B /<br>One drill each in DIN 327 and DIN 844B | Art.-Nr. /<br>Order no. |
|--|-------------------------|
| 3 / 4 / 5 / 6 / 8 / 10 / 12 / 14 / 18 / 20 mm                            | 11-TFK-3-20             |

14  
14.2

Aufspannsätze und Fräserkassetten / Clamping sets and milling cutter sets



Lagerstandard / in stock  
innerhalb weniger Tage / within a few days  
auf Anfrage / on request  
auslaufende Größe / as stock lasts