



- Cutting tools/Tool holders

# Metric Milling Tools & Tooling Adapters

TOOLS ARE OUR PASSION  MADE IN GERMANY



# INHALTSVERZEICHNIS

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# Fräswerkzeuge / Wendeschneidplatten

Cutting tools / inserts

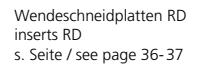
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Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

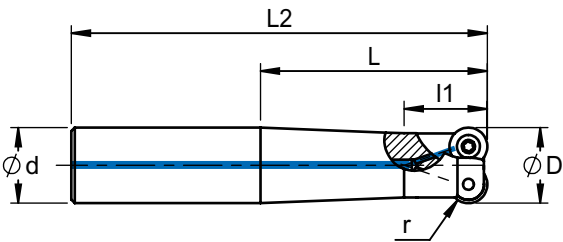
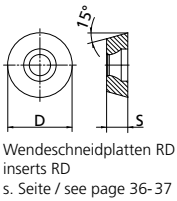


## shank type cutter, R2,5 RD\_\_

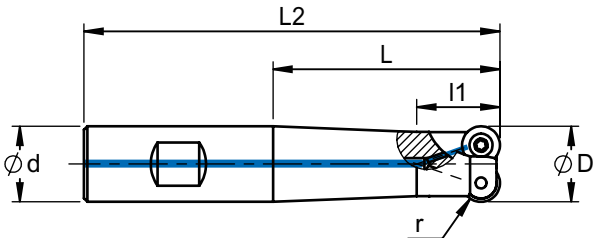


Schaftfräser, R3,5 RD\_\_

shank type cutter, R3,5 RD\_\_



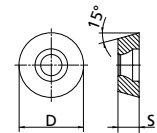
| D  | Bestell-Nr.<br>order number | L   | l1 | L2  | d  | d3 | z | WSP<br>DxS | r   |   |         |        |
|----|-----------------------------|-----|----|-----|----|----|---|------------|-----|---|---------|--------|
| 12 | 2 12 948                    | 30  | -  | 75  | 10 | -  | 2 | 7x1,99     | 3,5 | x | 993 02K | 994 15 |
| 12 | 2 12 947                    | 30  | -  | 75  | 12 | -  | 2 | 7x1,99     | 3,5 | x | 993 02K | 994 15 |
| 12 | 2 12 942                    | 40  | 16 | 88  | 16 | -  | 2 | 7x1,99     | 3,5 | x | 993 02K | 994 15 |
| 12 | 2 12 941                    | 60  | 16 | 108 | 16 | -  | 2 | 7x1,99     | 3,5 | x | 993 02K | 994 15 |
| 12 | 2 12 940                    | 80  | 16 | 128 | 16 | -  | 2 | 7x1,99     | 3,5 | x | 993 02K | 994 15 |
| 15 | 2 15 938                    | 40  | 20 | 88  | 16 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |
| 15 | 2 15 937                    | 60  | 20 | 108 | 16 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |
| 15 | 2 15 936                    | 80  | 22 | 130 | 20 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |
| 15 | 2 15 935                    | 100 | 22 | 150 | 20 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |
| 15 | 2 15 934                    | 120 | 22 | 176 | 25 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |



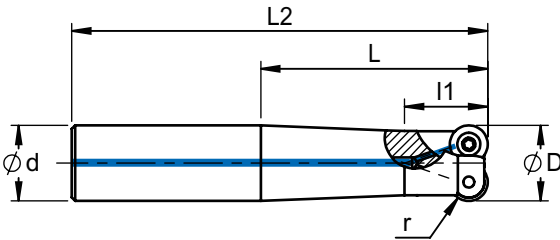
| D  | Bestell-Nr.<br>order number | L   | l1 | L2  | d  | d3 | z | WSP<br>DxS | r   |   |         |        |
|----|-----------------------------|-----|----|-----|----|----|---|------------|-----|---|---------|--------|
| 12 | 2 12 946                    | 40  | 16 | 88  | 16 | -  | 2 | 7x1,99     | 3,5 | x | 993 02K | 994 15 |
| 12 | 2 12 945                    | 60  | 16 | 108 | 16 | -  | 2 | 7x1,99     | 3,5 | x | 993 02K | 994 15 |
| 12 | 2 12 944                    | 80  | 16 | 128 | 16 | -  | 2 | 7x1,99     | 3,5 | x | 993 02K | 994 15 |
| 15 | 2 15 961                    | 40  | 20 | 88  | 16 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |
| 15 | 2 15 960                    | 60  | 20 | 108 | 16 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |
| 15 | 2 15 959                    | 80  | 22 | 130 | 20 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |
| 15 | 2 15 958                    | 100 | 22 | 150 | 20 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |
| 15 | 2 15 957                    | 120 | 22 | 176 | 25 | -  | 2 | 7x2,38     | 3,5 | x | 993 02  | 994 15 |

# Schaftfräser, R5 RD\_\_

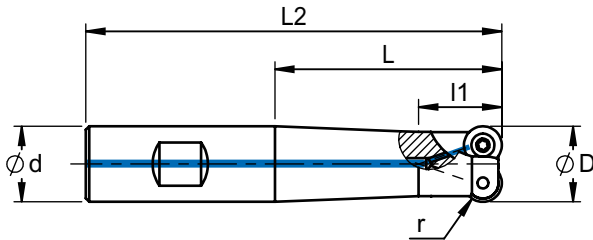
shank type cutter, R5 RD\_\_



Wendeschneidplatten RD  
inserts RD  
s. Seite / see page 36-37

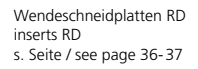


| D  | Bestell-Nr.<br>order number | L   | l1 | L2  | d  | d3 | z | WSP<br>DxS | r |   |        |        |
|----|-----------------------------|-----|----|-----|----|----|---|------------|---|---|--------|--------|
| 20 | 2 20 933                    | 40  | 20 | 90  | 20 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
| 20 | 2 20 932                    | 60  | 22 | 110 | 20 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
| 20 | 2 20 931                    | 80  | 25 | 136 | 25 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
| 20 | 2 20 930                    | 100 | 25 | 156 | 25 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
| 20 | 2 20 929                    | 120 | 25 | 176 | 25 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
|    |                             |     |    |     |    |    |   |            |   |   |        |        |
|    |                             |     |    |     |    |    |   |            |   |   |        |        |
|    |                             |     |    |     |    |    |   |            |   |   |        |        |



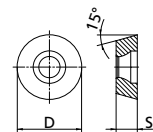
| D  | Bestell-Nr.<br>order number | L   | l1 | L2  | d  | d3 | z | WSP<br>DxS | r |   |        |        |
|----|-----------------------------|-----|----|-----|----|----|---|------------|---|---|--------|--------|
| 20 | 2 20 956                    | 40  | 20 | 90  | 20 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
| 20 | 2 20 955                    | 60  | 22 | 110 | 20 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
| 20 | 2 20 954                    | 80  | 25 | 136 | 25 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
| 20 | 2 20 953                    | 100 | 25 | 156 | 25 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
| 20 | 2 20 952                    | 120 | 25 | 176 | 25 | -  | 2 | 10x3,18    | 5 | x | 993 04 | 994 15 |
|    |                             |     |    |     |    |    |   |            |   |   |        |        |
|    |                             |     |    |     |    |    |   |            |   |   |        |        |
|    |                             |     |    |     |    |    |   |            |   |   |        |        |

modular screw in cutter R2,5 RD\_\_

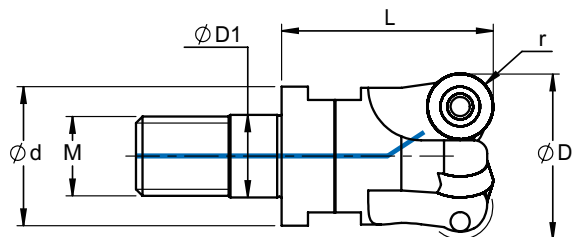


8 nineck

modular screw in cutter R3,5 RD\_\_



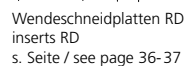
s. Seite / see page 36-37



| D  | Bestell-Nr.<br>order number | L  | D1   | d    | Z | M  | WSP<br>DxS | r   |  |  |         |        |
|----|-----------------------------|----|------|------|---|----|------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|--------|
| 12 | 2 12 820                    | 28 | 6,5  | 10   | 2 | 6  | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02K | 994 07 |
| 12 | 2 12 RD07T1M7               | 23 | 7,5  | 11,5 | 2 | 7  | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02K | 994 07 |
| 12 | 2 13 RD07T1M7               | 23 | 7,5  | 11,5 | 2 | 7  | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02K | 994 07 |
| 12 | 2 13 RD07T1M8               | 23 | 8,5  | 13,5 | 2 | 8  | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02K | 994 07 |
| 12 | 2 12 970                    | 28 | 8,5  | 13,5 | 2 | 8  | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02K | 994 07 |
| 15 | 3 15 968                    | 28 | 8,5  | 13,5 | 3 | 8  | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02  | 994 07 |
| 20 | 4 20 967                    | 28 | 10,5 | 18   | 4 | 10 | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02  | 994 07 |
| 25 | 5 25 966                    | 28 | 12,5 | 21   | 5 | 12 | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02  | 994 07 |
| 30 | 6 30 965                    | 28 | 17   | 29   | 6 | 16 | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02  | 994 07 |
| 35 | 7 35 964                    | 28 | 17   | 29   | 7 | 16 | 7x1,99     | 3,5 | x                                                                                   |                                                                                     | 993 02  | 994 07 |

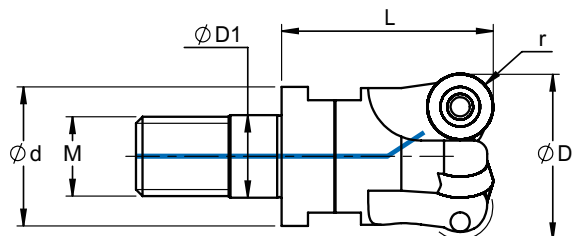
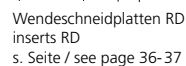
|    |                |    |      |      |   |    |        |     |   |        |        |
|----|----------------|----|------|------|---|----|--------|-----|---|--------|--------|
| 15 | 2 15 969       | 28 | 8,5  | 13,5 | 2 | 8  | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 15 | 2 15 969-23    | 23 | 8,5  | 13,5 | 2 | 8  | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 15 | 3 15 943       | 28 | 8,5  | 13,5 | 3 | 8  | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 15 | 3 15 943-23    | 23 | 8,5  | 13,5 | 3 | 8  | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 16 | 2 16 850       | 28 | 8,5  | 13,5 | 2 | 8  | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 16 | 3 16 RD0702M10 | 23 | 10,5 | 15,4 | 3 | 10 | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 20 | 4 20 851       | 28 | 10,5 | 18   | 4 | 10 | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 25 | 5 25 852       | 28 | 12,5 | 21   | 5 | 12 | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 30 | 5 30 846       | 28 | 17   | 29   | 6 | 16 | 7x2,38 | 3,5 | x | 993 02 | 994 07 |
| 35 | 7 35 847       | 28 | 17   | 29   | 7 | 16 | 7x2,38 | 3,5 | x | 993 02 | 994 07 |

## modular screw in cutter R4 RD\_\_



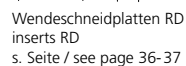
10 rineck

## modular screw in cutter R5 RD\_\_



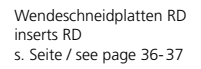
| D  | Bestell-Nr.<br>order number | L  | D1   | d  | Z | M  | WSP<br>DxS | r |  |  |  |        |
|----|-----------------------------|----|------|----|---|----|------------|---|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------|
| 20 | 2 20 987                    | 28 | 10,5 | 18 | 2 | 10 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 20 | 2 20 987-30                 | 30 | 10,5 | 18 | 2 | 10 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 25 | 2 25 986                    | 32 | 12,5 | 21 | 2 | 12 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 24 | 3 24 985                    | 32 | 12,5 | 21 | 3 | 12 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 25 | 3 25 985                    | 32 | 12,5 | 21 | 3 | 12 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 25 | 3 25 985-35                 | 35 | 12,5 | 21 | 3 | 12 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 30 | 4 30 984                    | 32 | 12,5 | 21 | 4 | 12 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 30 | 4 30 983                    | 42 | 17   | 29 | 4 | 16 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 32 | 4 32 983                    | 42 | 17   | 29 | 4 | 16 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 35 | 4 35 RD10M16                | 43 | 17   | 29 | 4 | 16 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 35 | 5 35 982                    | 42 | 17   | 29 | 5 | 16 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 42 | 5 42 RD10M16                | 42 | 17   | 29 | 5 | 16 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 42 | 6 42 981                    | 42 | 17   | 29 | 6 | 16 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |
| 42 | 6 42 981-37                 | 42 | 17   | 37 | 6 | 16 | 10x3,18    | 5 | x                                                                                   |                                                                                     | 993 04                                                                              | 994 15 |

modular screw in cutter R6 RD\_\_



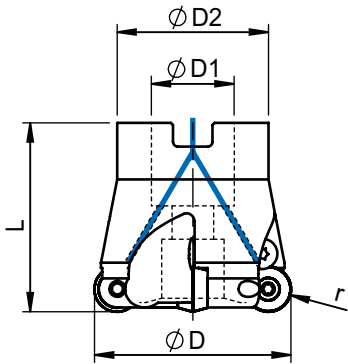
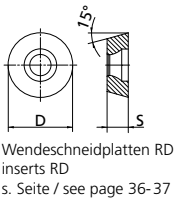


modular screw in cutter R8 RD\_\_



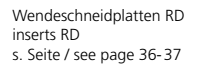
Aufsteckfräser R4-R5-R6-R8 RD\_\_

shell cutter R4-R5-R6-R8 RD\_\_

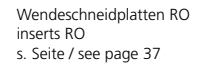


| D   | Bestell-Nr.<br>order number | L  | D1 | D2  | Z  | WSP<br>DxS | r |   |        |        |        |        |
|-----|-----------------------------|----|----|-----|----|------------|---|---|--------|--------|--------|--------|
| 42  | 7 42RD08A16                 | 42 | 16 | 35  | 7  | 8x2,78     | 4 | x | -      | -      | 993 12 | 994 08 |
| 52  | 8 52RD08A22                 | 42 | 22 | 40  | 8  | 8x2,78     | 4 | x | -      | -      | 993 12 | 994 08 |
| 42  | 6 42 RD10A16                | 42 | 16 | 35  | 6  | 10x3,18    | 5 | x | -      | -      | 993 04 | 994 15 |
| 52  | 6 52 RD10A22                | 50 | 22 | 40  | 6  | 10x3,18    | 5 | x | -      | -      | 993 04 | 994 15 |
| 52  | 7 52 998                    | 50 | 22 | 40  | 7  | 10x3,18    | 5 | x | -      | -      | 993 04 | 994 15 |
| 66  | 7 66 RD10A27                | 50 | 27 | 48  | 7  | 10x3,18    | 5 | x | -      | -      | 993 04 | 994 15 |
| 42  | 4 42 858                    | 42 | 16 | 35  | 4  | 12x3,97    | 6 | x | -      | -      | 993 04 | 994 15 |
| 42  | 5 42 996                    | 42 | 16 | 35  | 5  | 12x3,97    | 6 | x | -      | -      | 993 04 | 994 15 |
| 50  | 5 50 RD12A22                | 50 | 22 | 40  | 5  | 12x3,97    | 6 | x | -      | 995 05 | 993 04 | 994 15 |
| 52  | 5 52 995                    | 50 | 22 | 40  | 5  | 12x3,97    | 6 | x | -      | 995 05 | 993 04 | 994 15 |
| 66  | 6 66 854                    | 50 | 27 | 48  | 6  | 12x3,97    | 6 | x | -      | 995 05 | 993 04 | 994 15 |
| 80  | 7 80 851                    | 50 | 27 | 60  | 7  | 12x3,97    | 6 | x | -      | 995 05 | 993 04 | 994 15 |
| 52  | 4 52 994                    | 50 | 22 | 40  | 4  | 16x4,76    | 8 | x | 995 01 | -      | 993 06 | 994 20 |
| 52  | 5 52 993                    | 50 | 22 | 40  | 5  | 16x4,76    | 8 | x | -      | -      | 993 06 | 994 20 |
| 66  | 5 66 992                    | 50 | 27 | 48  | 5  | 16x4,76    | 8 | x | 995 01 | -      | 993 06 | 994 20 |
| 80  | 5 80 RD16A27                | 52 | 27 | 60  | 5  | 16x4,76    | 8 | x | -      | -      | 993 06 | 994 20 |
| 80  | 6 80 991                    | 52 | 27 | 60  | 6  | 16x4,76    | 8 | x | 995 01 | -      | 993 06 | 994 20 |
| 100 | 7 100 990                   | 52 | 32 | 70  | 7  | 16x4,76    | 8 | - | 995 01 | -      | 993 06 | 994 20 |
| 125 | 8 125 989                   | 52 | 40 | 90  | 8  | 16x4,76    | 8 | - | 995 01 | -      | 993 06 | 994 20 |
| 160 | 9 160 988                   | 52 | 40 | 120 | 9  | 16x4,76    | 8 | - | 995 01 | -      | 993 06 | 994 20 |
| 200 | 11 200 RD16A40              | 52 | 40 | 160 | 11 | 16x4,76    | 8 | - | 995 01 | -      | 993 06 | 994 20 |

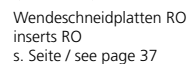
shell cutter R5-R6-R8 RD\_\_

rineck 15

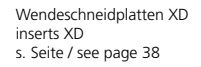
ball nose cutter ROHX



modular screw in cutter ROHX

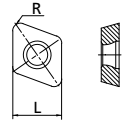


## modular screw in cutter for insert - XDHW - XDHT

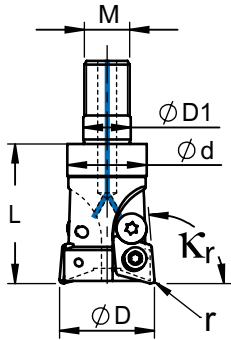
18 rineck

# Eck-Einschraubfräser für Rhombus WSP - XDHW - XDHT

modular screw in cutter for insert - XDHW - XDHT



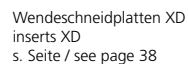
Wendeschneidplatten XD  
inserts XD  
s. Seite / see page 38



| D  | Bestell-Nr.<br>order number | L  | D1   | d    | Z | M  | K <sub>r</sub> | WSP<br>L | r |   |        |        |        |
|----|-----------------------------|----|------|------|---|----|----------------|----------|---|---|--------|--------|--------|
| 10 | 2 10 897                    | 20 | 6,5  | 9,8  | 2 | 6  | 95°            | 4        | 1 | x | -      | 993 00 | 994 06 |
| 12 | 2 12 896                    | 20 | 6,5  | 10   | 2 | 6  | 95°            | 4        | 1 | x | -      | 993 00 | 994 06 |
| 15 | 3 15 870                    | 23 | 8,5  | 13,6 | 3 | 8  | 95°            | 4        | 1 | x | -      | 993 00 | 994 06 |
| 15 | 2 15 855                    | 23 | 8,5  | 13,6 | 2 | 8  | 91°            | 6,5      | 1 | x | -      | 993 02 | 994 07 |
| 16 | 2 16 914                    | 23 | 8,5  | 13,6 | 2 | 8  | 95°            | 6,5      | 1 | x | -      | 993 02 | 994 07 |
| 16 | 2 16 XD71M10-95             | 23 | 10,5 | 15,4 | 2 | 10 | 95°            | 6,5      | 1 | x | -      | 993 02 | 994 07 |
| 20 | 3 20 913                    | 30 | 10,5 | 18   | 3 | 10 | 95°            | 6,5      | 1 | x | -      | 993 02 | 994 07 |
| 25 | 3 25 912                    | 35 | 12,5 | 21   | 3 | 12 | 95°            | 6,5      | 1 | x | -      | 993 02 | 994 07 |
| 25 | 2 25 911                    | 35 | 12,5 | 21   | 2 | 12 | 95°            | 10       | 1 | x | 995 05 | 993 04 | 994 15 |
| 35 | 3 35 910                    | 43 | 17   | 29   | 3 | 16 | 95°            | 10       | 1 | x | 995 05 | 993 04 | 994 15 |
| 42 | 4 42 909                    | 43 | 17   | 29   | 4 | 16 | 95°            | 10       | 1 | x | 995 05 | 993 04 | 994 15 |

|    |               |    |      |      |   |    |     |     |          |   |   |        |        |
|----|---------------|----|------|------|---|----|-----|-----|----------|---|---|--------|--------|
| 16 | 216XD72M8-95  | 23 | 8,5  | 13,6 | 2 | 8  | 95° | 6,5 | <b>2</b> | x | - | 993 02 | 994 07 |
| 20 | 320XD72M10-95 | 30 | 10,5 | 18   | 3 | 10 | 95° | 6,5 | <b>2</b> | x | - | 993 02 | 994 07 |

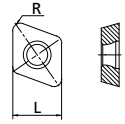
modular screw in cutter for insert - XDHW - XDHT

20 rineck

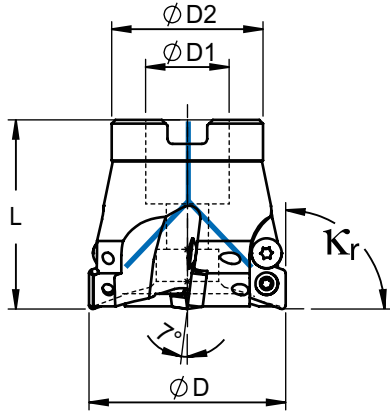


# Eck-Aufsteckfräser für Rhombus WSP - XDHW - XDHT

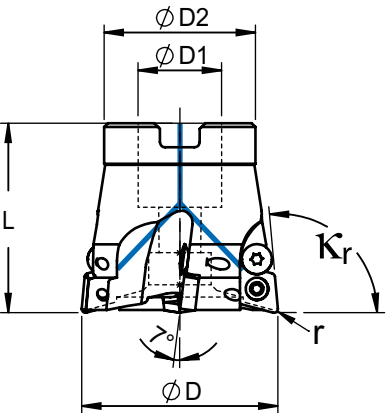
shell cutter for insert - XDHW - XDHT



Wendeschneidplatten XD  
inserts XD  
s. Seite / see page 38



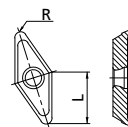
| D  | Bestell-Nr.<br>order number | L  | D1 | D2 | Z | K <sub>r</sub> | WSP<br>DxS | r |   |        |        |        |
|----|-----------------------------|----|----|----|---|----------------|------------|---|---|--------|--------|--------|
| 52 | 5 52 908                    | 50 | 22 | 40 | 5 | 90°            | 10         | - | x | 995 05 | 993 04 | 994 15 |
| 66 | 6 66 907                    | 50 | 27 | 48 | 6 | 90°            | 10         | - | x | 995 05 | 993 04 | 994 15 |
| 80 | 7 80 906                    | 50 | 27 | 60 | 7 | 90°            | 10         | - | x | 995 05 | 993 04 | 994 15 |
|    |                             |    |    |    |   |                |            |   |   |        |        |        |
|    |                             |    |    |    |   |                |            |   |   |        |        |        |
|    |                             |    |    |    |   |                |            |   |   |        |        |        |



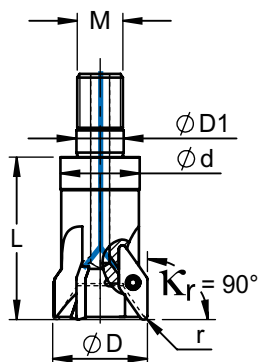
| D   | Bestell-Nr.<br>order number | L  | D1 | D2 | Z | K <sub>r</sub> | WSP<br>DxS | r |   |        |        |        |
|-----|-----------------------------|----|----|----|---|----------------|------------|---|---|--------|--------|--------|
| 52  | 5 52 904                    | 50 | 22 | 40 | 5 | 95°            | 10         | 1 | x | 995 05 | 993 04 | 994 15 |
| 66  | 6 66 903                    | 50 | 27 | 48 | 6 | 95°            | 10         | 1 | x | 995 05 | 993 04 | 994 15 |
| 80  | 7 80 902                    | 50 | 27 | 60 | 7 | 95°            | 10         | 1 | x | 995 05 | 993 04 | 994 15 |
| 100 | 7 100 901                   | 50 | 32 | 70 | 7 | 95°            | 10         | 1 | x | 995 05 | 993 04 | 994 15 |
|     |                             |    |    |    |   |                |            |   |   |        |        |        |
|     |                             |    |    |    |   |                |            |   |   |        |        |        |
|     |                             |    |    |    |   |                |            |   |   |        |        |        |

## VDGT/VCGT

modular screw in cutter for aluminium, copper, plastic, graphite VDGT/CGT



Wendeschneidplatten V  
inserts V  
s. Seite / see page 39

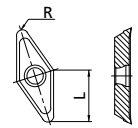


| D  | Bestell-Nr.<br>order number | L  | D1   | d    | Z | M  | WSP<br>L | r          |  |  |  |
|----|-----------------------------|----|------|------|---|----|----------|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 15 | 2 15VD11-05M8               | 36 | 8,5  | 13,5 | 2 | 8  | 11       | <b>0,5</b> | x                                                                                   | 993 02                                                                              | 994 07                                                                              |
| 16 | 2 16VD11-05M8               | 36 | 8,5  | 13,5 | 2 | 8  | 11       | <b>0,5</b> | x                                                                                   | 993 02                                                                              | 994 07                                                                              |
| 20 | 2 20VD11-05M10              | 36 | 10,5 | 18   | 2 | 10 | 11       | <b>0,5</b> | x                                                                                   | 993 02                                                                              | 994 07                                                                              |
| 25 | 3 25VD11-05M12              | 41 | 12,5 | 21   | 3 | 12 | 11       | <b>0,5</b> | x                                                                                   | 993 02                                                                              | 994 07                                                                              |
| 32 | 4 32VD11-05M16              | 45 | 17   | 29   | 4 | 16 | 11       | <b>0,5</b> | x                                                                                   | 993 02                                                                              | 994 07                                                                              |
| 42 | 5 42VD11-05M16              | 45 | 17   | 34   | 5 | 16 | 11       | <b>0,5</b> | x                                                                                   | 993 02                                                                              | 994 07                                                                              |

|    |              |    |      |      |   |    |    |   |   |        |        |
|----|--------------|----|------|------|---|----|----|---|---|--------|--------|
| 15 | 2 15 879     | 36 | 8,5  | 13,5 | 2 | 8  | 11 | 1 | x | 993 02 | 994 07 |
| 16 | 2 16 815     | 36 | 8,5  | 13,5 | 2 | 8  | 11 | 1 | x | 993 02 | 994 07 |
| 16 | 2 16 815-M10 | 36 | 10,5 | 15,4 | 2 | 10 | 11 | 1 | x | 993 02 | 994 07 |
| 20 | 2 20 878     | 36 | 10,5 | 18   | 2 | 10 | 11 | 1 | x | 993 02 | 994 07 |
| 25 | 3 25 877     | 41 | 12,5 | 21   | 3 | 12 | 11 | 1 | x | 993 02 | 994 07 |
| 32 | 4 32 876     | 45 | 17   | 29   | 4 | 16 | 11 | 1 | x | 993 02 | 994 07 |
| 42 | 5 42 875     | 45 | 17   | 34   | 5 | 16 | 11 | 1 | x | 993 02 | 994 07 |

|    |             |    |    |    |   |    |    |          |   |        |        |
|----|-------------|----|----|----|---|----|----|----------|---|--------|--------|
| 32 | 2 32 874    | 48 | 17 | 29 | 2 | 16 | 22 | <b>3</b> | x | 993 06 | 994 20 |
| 42 | 3 42 873    | 48 | 17 | 34 | 3 | 16 | 22 | <b>3</b> | x | 993 06 | 994 20 |
| 42 | 3 42 873-37 | 48 | 17 | 37 | 3 | 16 | 22 | <b>3</b> | x | 993 06 | 994 20 |

shell cutter for aluminium, copper, plastic, graphite VCGT



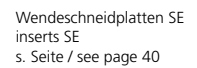
Technical drawing of a mechanical part with dimensions:

- Overall diameter:  $\varnothing D$
- Top diameter:  $\varnothing D2$
- Inner diameter:  $\varnothing D1$
- Height:  $L$
- Radius:  $r$
- Angle:  $K_r = 90^\circ$

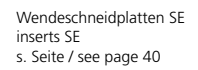


| D   | Bestell-Nr.<br>order number | L  | D1 | D2 | Z | WSP<br>L | r |  |  |  |
|-----|-----------------------------|----|----|----|---|----------|---|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 42  | 3 42 872                    | 57 | 16 | 35 | 3 | 22       | 3 | x                                                                                   | 993 06                                                                              | 994 20                                                                              |
| 50  | 3 50 871                    | 57 | 22 | 40 | 3 | 22       | 3 | x                                                                                   | 993 06                                                                              | 994 20                                                                              |
| 52  | 3 52 871                    | 57 | 22 | 40 | 3 | 22       | 3 | x                                                                                   | 993 06                                                                              | 994 20                                                                              |
| 66  | 4 66 870                    | 57 | 27 | 48 | 4 | 22       | 3 | x                                                                                   | 993 06                                                                              | 994 20                                                                              |
| 80  | 4 80 869                    | 57 | 27 | 60 | 4 | 22       | 3 | x                                                                                   | 993 06                                                                              | 994 20                                                                              |
| 100 | 5 100 868                   | 55 | 32 | 70 | 5 | 22       | 3 | -                                                                                   | 993 06                                                                              | 994 20                                                                              |
| 125 | 6 125 867                   | 55 | 40 | 90 | 6 | 22       | 3 | -                                                                                   | 993 06                                                                              | 994 20                                                                              |

face milling cutter 45° SEKX

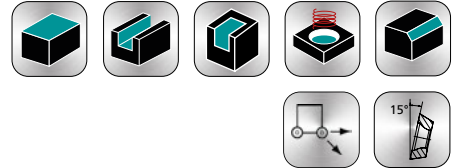
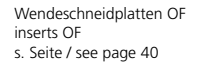


modular screw in cutter for chamfering SEKX

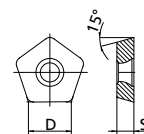
rineck 25



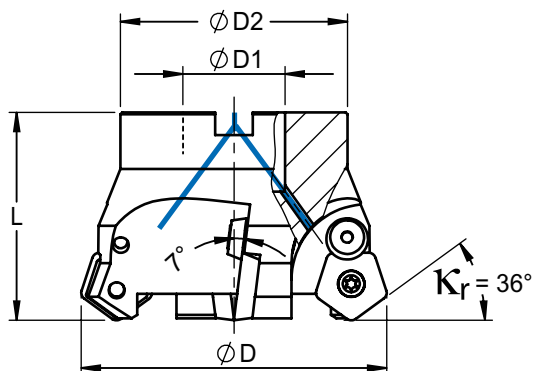
shell cutter OFMT



shell cutter for pentagon insert PDHX

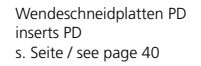


Wendeschneidplatten PD  
inserts PD  
s. Seite / see page 40

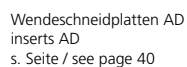
28 rineck



shell cutter for pentagon insert PDHX

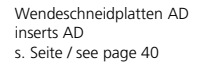
rineck 29

modular screw in cutter, ADKT

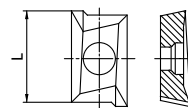


30 rineck

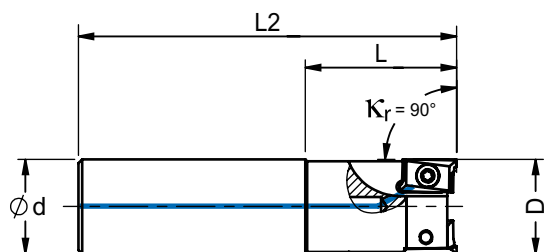
shell cutter ADKT

rineck 31

## shank type cutter APKT 1003 PD...

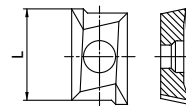


Wendeschneidplatten AP  
inserts AP  
s. Seite / see page 40

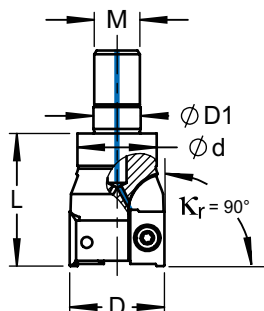
[illegible]

## Einschraubfräser APKT 1003 PD...

modular screw in cutter APKT 1003 PD...



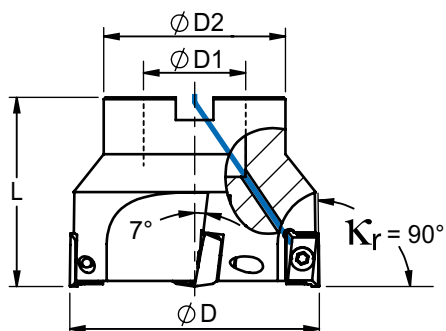
Wendeschneidplatten AP  
inserts AP  
s. Seite / see page 40



| D  | Bestell-Nr.<br>order number | L  | D1   | d    | M  | Z | WSP<br>L |   |        |        |
|----|-----------------------------|----|------|------|----|---|----------|---|--------|--------|
| 16 | 216AP10M8                   | 25 | 8,5  | 13,8 | 8  | 2 | 10       | x | 993 12 | 994 08 |
| 20 | 320AP10M10                  | 30 | 10,5 | 18   | 10 | 3 | 10       | x | 993 12 | 994 08 |
| 25 | 425AP10M12                  | 35 | 12,5 | 21   | 12 | 4 | 10       | x | 993 12 | 994 08 |
|    |                             |    |      |      |    |   |          |   |        |        |

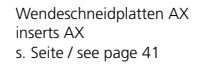
## Aufsteckfräser APKT 1003 PD...

shell cutter, APKT 1003 PD...

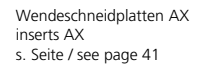


| D  | Bestell-Nr.<br>order number | L  | D1 | D2 | Z | WSP<br>L |   |        |        |
|----|-----------------------------|----|----|----|---|----------|---|--------|--------|
| 40 | 640AP10A16                  | 40 | 16 | 35 | 6 | 10       | x | 993 12 | 994 08 |
| 50 | 750AP10A22                  | 50 | 22 | 40 | 7 | 10       | x | 993 12 | 994 08 |
| 52 | 752AP10A22                  | 50 | 22 | 40 | 7 | 10       | x | 993 12 | 994 08 |
| 63 | 863AP10A27                  | 50 | 27 | 48 | 8 | 10       | x | 993 12 | 994 08 |
| 66 | 866AP10A27                  | 50 | 27 | 48 | 8 | 10       | x | 993 12 | 994 08 |
|    |                             |    |    |    |   |          |   |        |        |
|    |                             |    |    |    |   |          |   |        |        |
|    |                             |    |    |    |   |          |   |        |        |
|    |                             |    |    |    |   |          |   |        |        |

modular screw in cutter, AXMT

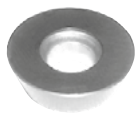
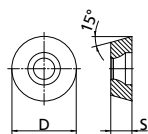
34 rineck

shell cutter AXMT

rineck 35

## Runde-Fräswendeschnidplatten RDHX - präzisionsgeschliffen

inserts RDHX - precision ground insert

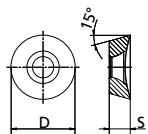


WSP rund, TIALN-beschichtet  
inserts round, TIALN-coated

TIALN  
coated

| Wendeschnidplatte<br>insert | WSP<br>DxS | P 40   | P 25   | K 10   | K 03   |
|-----------------------------|------------|--------|--------|--------|--------|
| RDHX 05 01 MOT              | 5x1,5      | -      | 80 111 | -      | 80 113 |
| RDHX 07 01 MOT              | 7x1,99     | -      | 80 131 | 80 132 | -      |
| RDHX 07 02 MOT              | 7x2,38     | -      | 80 141 | 80 142 | -      |
| RDHX 08 T2 MOE              | 8x2,78     | 80 254 | 80 255 | -      | -      |
| RDHX 10 03 MOT              | 10x3,18    | 80 264 | 80 265 | 80 162 | -      |
| RDHX 12 T3 MOT              | 12x3,97    | 80 274 | 80 275 | 80 172 | -      |
| RDHX 16 04 MOT              | 16x4,76    | 80 180 | 80 181 | 80 182 | 80 183 |

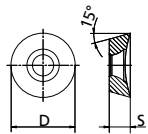
| Wendeschnidplatte<br>insert | WSP<br>DxS | TIALN-beschichtet hartfräsen bis 60HRc<br>TIALN-coated hardmilling up to 60HRc |  |  | RK 15F |
|-----------------------------|------------|--------------------------------------------------------------------------------|--|--|--------|
| RDHX 05 01 MOT              | 5x1,5      |                                                                                |  |  | 80 217 |
| RDHX 07 01 MOT              | 7x1,99     |                                                                                |  |  | 80 237 |
| RDHX 07 02 MOT              | 7x2,38     |                                                                                |  |  | 80 247 |
| RDHX 08 T2 MOE              | 8x2,78     |                                                                                |  |  | 80 257 |
| RDHX 10 03 MOT              | 10x3,18    |                                                                                |  |  | 80 267 |
| RDHX 12 T3 MOT              | 12x3,97    |                                                                                |  |  | 80 277 |



WSP rund mit Hohlkehle, für Alu, Kupfer, Kunststoff, beschichtet  
for alu, copper, plastic, coated

R-Cut  
coated

| Wendeschnidplatte<br>insert | WSP<br>DxS |   |   |   | K 05   |
|-----------------------------|------------|---|---|---|--------|
| RDHT 07 01 MOE              | 7x1,99     | - | - | - | 82 132 |
| RDHT 07 02 MOE              | 7x2,38     | - | - | - | 82 142 |
| RDHT 10 03 MOE              | 10x3,18    | - | - | - | 82 162 |
| RDHT 12 T3 MOE              | 12x3,97    | - | - | - | 82 172 |
| RDHT 16 04 MOE              | 16x4,76    | - | - | - | 82 182 |



WSP rund mit polierter Hohlkehle,  
für Alu, Kupfer, Kunststoff, unbeschichtet  
hollow ground polished, uncoated

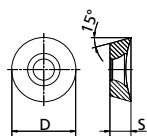
uncoated

| Wendeschnidplatte<br>insert | WSP<br>DxS |   |   |   | K 05   |
|-----------------------------|------------|---|---|---|--------|
| RDHT 07 01 MOE              | 7x1,99     | - | - | - | 82 032 |
| RDHT 07 02 MOE              | 7x2,38     | - | - | - | 82 042 |
| RDHT 10 03 MOE              | 10x3,18    | - | - | - | 82 062 |
| RDHT 12 T3 MOE              | 12x3,97    | - | - | - | 82 072 |
| RDHT 16 04 MOE              | 16x4,76    | - | - | - | 82 082 |



## Runde-Fräswendeschneidplatten mit Hohlkehle RDHT

inserts RDHT



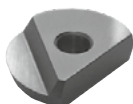
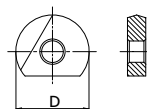
WSP rund mit Hohlkehle, Diamant beschichtet  
Diamond coated



| Wendeschneidplatte<br>insert | WSP<br>DxS |   |   | K 10   |   |
|------------------------------|------------|---|---|--------|---|
| RDHT 07 01 MOE               | 7x1,99     | - | - | 82 832 | - |
| RDHT 07 02 MOE               | 7x2,38     | - | - | 82 842 | - |
| RDHT 10 03 MOE               | 10x3,18    | - | - | 82 862 | - |
| RDHT 12 T3 MOE               | 12x3,97    | - | - | 82 872 | - |

## Kugelbahn-Wechselplatten ROHX

inserts ROHX



Kugelplatte, TIALN-beschichtet  
TIALN-coated



| Wendeschneidplatte<br>insert | WSP<br>D | R  |  | P 40 | P 25   | K 10 | K 05   |
|------------------------------|----------|----|--|------|--------|------|--------|
| ROHX 08                      | 8        | 4  |  | -    | 83 111 | -    | 83 113 |
| ROHX 10                      | 10       | 5  |  | -    | 83 121 | -    | 83 123 |
| ROHX 12                      | 12       | 6  |  | -    | 83 131 | -    | 83 133 |
| ROHX 16                      | 16       | 8  |  | -    | 83 151 | -    | 83 153 |
| ROHX 20                      | 20       | 10 |  | -    | 83 161 | -    | 83 163 |

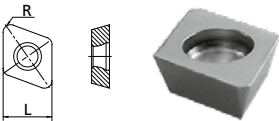
Kugelplatte, Diamant beschichtet  
diamond-coated



| Wendeschneidplatte<br>insert | WSP<br>D | R |  | P 40 | P 25 | K 10   | K 05 |
|------------------------------|----------|---|--|------|------|--------|------|
| ROHX 08                      | 8        | 4 |  | -    | -    | 83 812 | -    |
| ROHX 10                      | 10       | 5 |  | -    | -    | 83 822 | -    |
| ROHX 12                      | 12       | 6 |  | -    | -    | 83 832 | -    |
| ROHX 16                      | 16       | 8 |  | -    | -    | 83 852 | -    |

Rhombus-Wendeschneidplatten XDHW

inserts XDHW - rhombic



WSP rhombisch, TIALN-beschichtet  
inserts rhombic, TIALN-coated



| Wendeschneidplatte<br>insert | WSP<br>L | R   | P 40   | P 25      | K 10      | K 03      |
|------------------------------|----------|-----|--------|-----------|-----------|-----------|
| XDHW 01 04-05                | 4        | 0,5 | -      | -         | -         | 84 103.05 |
| XDHW 01 04-10                | 4        | 1   | -      | 84 101.10 | -         | 84 103.10 |
| XDHW 02 06-05                | 6,5      | 0,5 | -      | 84 111.05 | 84 112.05 | 84 113.05 |
| XDHW 02 06-10                | 6,5      | 1   | 84 110 | 84 111    | 84 112    | -         |
| XDHW 02 06-20                | 6,5      | 2   | -      | 84 111.20 | 84 112.20 | 84 113.20 |
| XDHW 03 10-10                | 10       | 1   | 84 120 | 84 121    | 84 122    | -         |

WSP rhombisch, Diamant beschichtet  
inserts rhombic, diamond-coated



| Wendeschneidplatte<br>insert | WSP<br>L | R | P 40 | P 25 | K 10      | K 03 |
|------------------------------|----------|---|------|------|-----------|------|
| XDHW 01 04-10                | -        | 1 | -    | -    | 84 802.10 | -    |
| XDHW 02 06-10                | -        | 1 | -    | -    | 84 812    | -    |

Rhombus-Wendeschneidplatten XDHT, mit Spanformer

inserts XDHT - rhombic



WSP rhombisch, poliert, beschichtet  
inserts rhombic, polished, coated



| Wendeschneidplatte<br>insert | WSP<br>L | R | P 40 | P 25 | K 10 | K 05   |
|------------------------------|----------|---|------|------|------|--------|
| XDHT 02 06-10                | 6,5      | 1 | -    | -    | -    | 84 142 |
| XDHT 03 10-10                | 10       | 1 | -    | -    | -    | 84 152 |

WSP rhombisch, poliert unbeschichtet  
inserts rhombic, uncoated polished



| Wendeschneidplatte<br>insert | WSP<br>L | R | P 40 | P 25 | K 10 | K 05   |
|------------------------------|----------|---|------|------|------|--------|
| XDHT 02 06-10                | 6,5      | 1 | -    | -    | -    | 84 042 |
| XDHT 03 10-10                | 10       | 1 | -    | -    | -    | 84 052 |

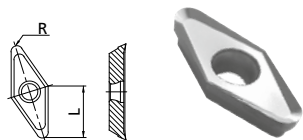
WSP rhombisch, Diamant beschichtet  
inserts rhombic, diamond-coated



| Wendeschneidplatte<br>insert | WSP<br>L | R | P 40 | P 25 | K 10   | K 05 |
|------------------------------|----------|---|------|------|--------|------|
| XDHT 02 06-10                | 6,5      | 1 | -    | -    | 84 842 | -    |
| XDHT 03 10-10                | 10       | 1 | -    | -    | 84 852 | -    |

## Fräs-Wendeschneidplatten für Alu-Tauchfräser VDGT/VCGT

insert VDGT/VCGT



WSP für Alu, Kupfer und Kunststoff, poliert, beschichtet  
for alu, copper, plastic, polished, coated

R-Cut  
coated

| Wendeschneidplatte<br>insert | WSP<br>L | R   | P 40 | P 25 | K 10      | K 05 |
|------------------------------|----------|-----|------|------|-----------|------|
| VDGT 11 02-05                | 11       | 0,5 | -    | -    | 85 112.05 | -    |
| VDGT 11 02                   | 11       | 1   | -    | -    | 85 112    | -    |
| VCGT 22 05                   | 22       | 3   | -    | -    | 85 122    | -    |
|                              |          |     |      |      |           |      |

WSP für Alu, Kupfer und Kunststoff, poliert unbeschichtet  
for alu, copper, plastic, uncoated polished

uncoated

| Wendeschneidplatte<br>insert | WSP<br>L | R   | P 40 | P 25 | K 10      | K 05 |
|------------------------------|----------|-----|------|------|-----------|------|
| VDGT 11 02-05                | 11       | 0,5 | -    | -    | 85 012.05 | -    |
| VDGT 11 02                   | 11       | 1   | -    | -    | 85 012    | -    |
| VCGT 22 05                   | 22       | 3   | -    | -    | 85 022    | -    |
|                              |          |     |      |      |           |      |

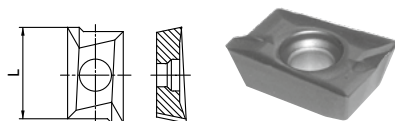
WSP für Alu, Kupfer und Kunststoff, Diamant beschichtet  
for alu, copper, plastic, diamond coated



| Wendeschneidplatte<br>insert | WSP<br>L | R | P 40 | P 25 | K 10   | K 05 |
|------------------------------|----------|---|------|------|--------|------|
| VDGT 11 02                   | 11       | 1 | -    | -    | 85 812 | -    |
| VCGT 22 05                   | 22       | 3 | -    | -    | 85 822 | -    |
|                              |          |   |      |      |        |      |

## Wendeschneidplatten APKT / ADKT / SEKX / SEET / PDHX / OFKT / OFEX

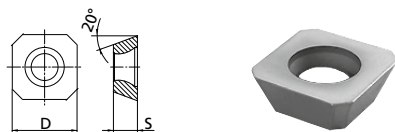
inserts APKT / ADKT / SEKX / SEET / PDHX / OFKT / OFEX



WSP beschichtet  
inserts coated

TIALN  
coated

| Wendeschneidplatte<br>insert | WSP<br>L |  | P 40   | P 25   | K 10   | K 20   |
|------------------------------|----------|--|--------|--------|--------|--------|
| APKT 10 03PDER               | 10       |  | -      | 90 111 | 90 112 | -      |
| APKT 10 03PDFR-ALP           | 10       |  | -      | -      | 90 012 | -      |
| APKT 10 03PDSR               | 10       |  | 90 110 | -      | -      | -      |
| APHT 10 03PDFR-AL            | 10       |  |        |        |        | 90 114 |
| ADKT 15 05                   | 15       |  | 91 110 | 91 111 | 91 112 | -      |



WSP beschichtet  
inserts coated

TIALN  
coated

| Wendeschneidplatte<br>insert | WSP<br>L |  | P 40 | P 25   | K 10   |  |
|------------------------------|----------|--|------|--------|--------|--|
| SEKX 12 04                   | 12,7     |  | -    | 87 171 | -      |  |
| SEET 12 04                   | 12,7     |  | -    | 87 151 | 87 152 |  |



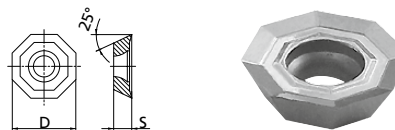
WSP 5 kant, TIALN-beschichtet  
inserts 5 edge, TIALN-coated

TIALN  
coated

| Wendeschneidplatte<br>insert | WSP<br>L |  | P 40   | P 25   | K 10   |  |
|------------------------------|----------|--|--------|--------|--------|--|
| PDHX 12 04                   | 12       |  | 87 180 | 87 181 | 87 182 |  |

## Fräs-Wendeschneidplatten Octa-Cut für Aluminiumbearbeitung OFKT

insert Octa-Cut for aluminium machining OFKT



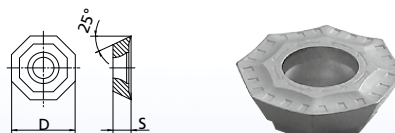
WSP, poliert unbeschichtet  
inserts, uncoated polished

uncoated

| Wendeschneidplatte<br>insert | WSP<br>L | R | P 40 | P 25 | K 10   |  |
|------------------------------|----------|---|------|------|--------|--|
| OFKT-05T3-FNALP              | 12,7     | - | -    | -    | 93 062 |  |

## Fräs-Wendeschneidplatten Octa-Cut für Stahlbearbeitung OFEX

insert Octa-Cut for steel machining OFEX



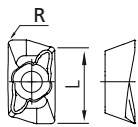
WSP beschichtet;  
inserts coated

TIALN  
coated

| Wendeschneidplatte<br>insert | WSP<br>L | R | P 40 | P 25   | K 10 |  |
|------------------------------|----------|---|------|--------|------|--|
| OFEX-05T35N                  | 12,7     | - | -    | 93 161 | -    |  |

Wendeschneidplatten AXMT

inserts AXMT



WSP beschichtet  
inserts coated



| Wendeschneidplatte<br>insert | WSP<br>L | R   | RM 20     | P 40      | P 25      | K 10      |
|------------------------------|----------|-----|-----------|-----------|-----------|-----------|
| AXMT 070204                  | 7        | 0,4 | 88 246.04 | -         | 88 245.04 | 88 042.04 |
| AXMT 11T304                  | 11       | 0,4 | 88 266.04 | -         | -         | 88 062.04 |
| AXMT 11T308                  | 11       | 0,8 | 88 266.08 | -         | 88 265.08 | -         |
|                              |          |     |           |           |           |           |
| AXMT 160604                  | 16       | 0,4 | -         | -         | -         | 88 082.04 |
| AXMT 160608                  | 16       | 0,8 | 88 286.08 | 88 284.08 | 88 285.08 | 88 082.08 |
|                              |          |     |           |           |           |           |
|                              |          |     |           |           |           |           |
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|                              |          |     |           |           |           |           |
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|                              |          |     |           |           |           |           |



# Werkzeugaufnahmen HSK-A

Tool holders HSK-A

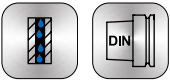
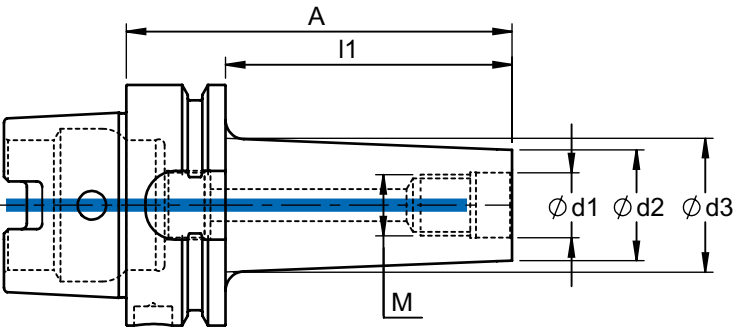
**Seite**  
**Page**

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| Fräsaufnahmen für Einschraubfräser<br>Modular screw on holder | 44 - 53 |
| Fräsdorne<br>Arbors for shell cutters                         | 54 - 61 |
| Fräserhülsen / Zwischenhülsen<br>Morse taper adaptors         | 62 - 63 |
| Weldonfutter<br>Side lock adapter                             | 64 - 67 |
| Spannzangenfutter<br>Collet chucks                            | 68 - 71 |
| CNC-Bohrfutter<br>CNC-drill chucks                            | 73      |
| Rohlinge<br>Blanks                                            | 74      |

Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

Fräsaufnahme HSK-A32 für Einschraubfräser

modular screw on holder HSK-A32



69893-1

| Bestell-Nr.<br>order number | M   | d1   | d2   | d3 | A  | l1 |  |
|-----------------------------|-----|------|------|----|----|----|-------------------------------------------------------------------------------------|
| 920 - A320625               | M6  | 6,5  | 10   | 15 | 45 | 25 | G2,5/15.000<br>oder/or<br>U<1gmm                                                    |
| 920 - A320650               | M6  | 6,5  | 10   | 22 | 70 | 50 |                                                                                     |
| 920 - A320825               | M8  | 8,5  | 13,8 | 17 | 45 | 25 |                                                                                     |
| 920 - A320850               | M8  | 8,5  | 13,8 | 24 | 70 | 50 |                                                                                     |
| 920 - A321025               | M10 | 10,5 | 18   | 23 | 45 | 25 |                                                                                     |
| 920 - A321050               | M10 | 10,5 | 18   | 25 | 70 | 50 |                                                                                     |
| 920 - A321225               | M12 | 12,5 | 21   | 25 | 45 | 25 |                                                                                     |
|                             |     |      |      |    |    |    |                                                                                     |
|                             |     |      |      |    |    |    |                                                                                     |
|                             |     |      |      |    |    |    |                                                                                     |
|                             |     |      |      |    |    |    |                                                                                     |
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|                             |     |      |      |    |    |    |                                                                                     |
|                             |     |      |      |    |    |    |                                                                                     |



modular screw on holder HSK-A40

[illegible]



## modular screw on holder HSK-A50



69893-1

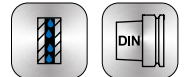
rineck 47

## modular screw on holder HSK-A63



| Bestell-Nr.<br>order number | M    | d1   | d2   | d3   | A   | I1  |  |
|-----------------------------|------|------|------|------|-----|-----|------------------------------------------------------------------------------------|
| 920 - A630625               | M 6  | 6,5  | 10   | 22   | 51  | 25  | G2,5/15.000<br>oder/or<br>U<1gmm                                                   |
| 920 - A630650               | M 6  | 6,5  | 10   | 22   | 76  | 50  |                                                                                    |
| 920 - A630675               | M 6  | 6,5  | 10   | 26   | 101 | 75  |                                                                                    |
| 920 - A630825               | M 8  | 8,5  | 13,8 | 18   | 51  | 25  |                                                                                    |
| 920 - A630825ZY             | M 8  | 8,5  | 13,8 | 13,8 | 51  | 25  |                                                                                    |
| 920 - A630850               | M 8  | 8,5  | 13,8 | 23   | 76  | 50  |                                                                                    |
| 920 - A630850ZY             | M 8  | 8,5  | 13,8 | 13,8 | 76  | 50  |                                                                                    |
| 920 - A630875               | M 8  | 8,5  | 13,8 | 25   | 101 | 75  |                                                                                    |
| 920 - A630875ZY             | M 8  | 8,5  | 13,8 | 13,8 | 101 | 75  |                                                                                    |
| 920 - A6308100              | M 8  | 8,5  | 13,8 | 30   | 126 | 100 |                                                                                    |
| 920 - A6308125              | M 8  | 8,5  | 13,8 | 32   | 151 | 125 |                                                                                    |
| 920 - A6308125ZY            | M 8  | 8,5  | 13,8 | 13,8 | 151 | 125 |                                                                                    |
| 920 - A6308200              | M 8  | 8,5  | 13,8 | 50   | 226 | 200 |                                                                                    |
| 920 - A631025               | M 10 | 10,5 | 18   | 23   | 51  | 25  |                                                                                    |
| 920 - A631025ZY             | M 10 | 10,5 | 18   | 18   | 51  | 25  |                                                                                    |
| 920 - A631050               | M 10 | 10,5 | 18   | 25   | 76  | 50  |                                                                                    |
| 920 - A631050ZY             | M 10 | 10,5 | 18   | 18   | 76  | 50  |                                                                                    |
| 920 - A631075               | M 10 | 10,5 | 18   | 30   | 101 | 75  |                                                                                    |
| 920 - A631075ZY             | M 10 | 10,5 | 18   | 18   | 101 | 75  |                                                                                    |
| 920 - A6310100              | M 10 | 10,5 | 18   | 35   | 126 | 100 |                                                                                    |
| 920 - A6310100ZY            | M 10 | 10,5 | 18   | 18   | 126 | 100 |                                                                                    |
| 920 - A6310125              | M 10 | 10,5 | 18   | 40   | 151 | 125 |                                                                                    |
| 920 - A6310125ZY            | M 10 | 10,5 | 18   | 18   | 151 | 125 |                                                                                    |
| 920 - A6310150              | M 10 | 10,5 | 18   | 44   | 176 | 150 |                                                                                    |
| 920 - A6310200              | M 10 | 10,5 | 18   | 50   | 226 | 200 |                                                                                    |
| 920 - A631225               | M 12 | 12,5 | 21   | 24   | 51  | 25  |                                                                                    |
| 920 - A631250               | M 12 | 12,5 | 21   | 30   | 76  | 50  |                                                                                    |
| 920 - A631250ZY             | M 12 | 12,5 | 23   | 23   | 76  | 50  |                                                                                    |
| 920 - A631260ZY             | M 12 | 12,5 | 23   | 23   | 86  | 60  |                                                                                    |
| 920 - A631275               | M 12 | 12,5 | 21   | 35   | 101 | 75  |                                                                                    |
| 920 - A631275ZY             | M 12 | 12,5 | 23   | 23   | 101 | 75  |                                                                                    |
| 920 - A6312100              | M 12 | 12,5 | 21   | 38   | 126 | 100 |                                                                                    |
| 920 - A6312100ZY            | M 12 | 12,5 | 23   | 23   | 126 | 100 |                                                                                    |
| 920 - A6312125              | M 12 | 12,5 | 21   | 43   | 151 | 125 |                                                                                    |
| 920 - A6312125ZY            | M 12 | 12,5 | 23   | 23   | 151 | 125 |                                                                                    |
| 920 - A6312150              | M 12 | 12,5 | 21   | 45   | 176 | 150 |                                                                                    |
| 920 - A6312150ZY            | M 12 | 12,5 | 23   | 23   | 176 | 150 |                                                                                    |
|                             |      |      |      |      |     |     |                                                                                    |
|                             |      |      |      |      |     |     |                                                                                    |
|                             |      |      |      |      |     |     |                                                                                    |
|                             |      |      |      |      |     |     |                                                                                    |
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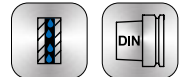
modular screw on holder HSK-A63



G2,5/15.000  
oder/or  
U<1gmm



modular screw on holder HSK-A80



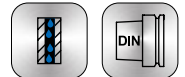
G2,5/15.000  
oder/or  
U<1gmm

## modular screw on holder HSK-A100

[illegible]



modular screw on holder HSK-A100



G2,5/15.000  
oder/or  
U<1gmm

arbor HSK-A50 for shell cutter

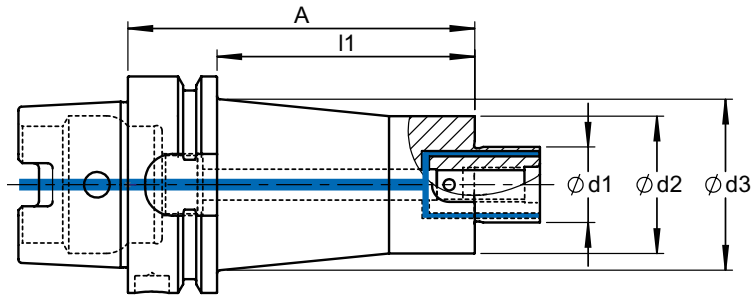
delivery: with drive keys and retaining screw



# Fräsdorne HSK-A63

arbor HSK-A63 for shell cutter

Lieferumfang: HSK-Aufnahme mit Anzugsschraube  
und Mitnehmersteinen  
delivery: with drive keys and retaining screw



69893-1

| Bestell-Nr.<br>order number | d1 | d2 | d3 | l1  | A   |  |  |  |  |  |
|-----------------------------|----|----|----|-----|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 901 - A6316                 | 16 | 35 | 35 | 20  | 46  | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A631625               | 16 | 35 | 35 | 25  | 51  | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A631650               | 16 | 35 | 42 | 50  | 76  | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A631650ZY             | 16 | 35 | 35 | 50  | 76  | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A631675               | 16 | 35 | 45 | 75  | 101 | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A631675ZY             | 16 | 35 | 35 | 75  | 101 | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A6316100              | 16 | 35 | 50 | 100 | 126 | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A6316100ZY            | 16 | 35 | 35 | 100 | 126 | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A6316150              | 16 | 35 | 50 | 150 | 176 | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A6316200              | 16 | 35 | 53 | 200 | 226 | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A6316250              | 16 | 35 | 53 | 250 | 276 | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A6316300              | 16 | 35 | 53 | 300 | 326 | x                                                                                 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                   |
| 901 - A6322                 | 22 | 40 | 40 | 20  | 46  | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A632225               | 22 | 40 | 40 | 25  | 51  | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A632250               | 22 | 40 | 45 | 50  | 76  | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A632250ZY             | 22 | 48 | 48 | 50  | 76  | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A632275               | 22 | 40 | 50 | 75  | 101 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A632275ZY             | 22 | 48 | 48 | 75  | 101 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A6322100              | 22 | 40 | 50 | 100 | 126 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A6322100ZY            | 22 | 48 | 48 | 100 | 126 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A6322150              | 22 | 40 | 50 | 150 | 176 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A6322150ZY            | 22 | 48 | 48 | 150 | 176 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A6322200              | 22 | 40 | 53 | 200 | 226 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A6322200ZY            | 22 | 48 | 48 | 200 | 226 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A6322250              | 22 | 40 | 53 | 250 | 276 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A6322300              | 22 | 40 | 53 | 300 | 326 | x                                                                                 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                   |
| 901 - A632725               | 27 | 48 | 48 | 25  | 51  | x                                                                                 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                   |
| 901 - A632750               | 27 | 48 | 53 | 50  | 76  | x                                                                                 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                   |
| 901 - A6327100              | 27 | 48 | 53 | 100 | 126 | x                                                                                 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                   |
| 901 - A6327100ZY            | 27 | 48 | 48 | 100 | 126 | x                                                                                 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                   |
| 901 - A6327150              | 27 | 48 | 53 | 150 | 176 | x                                                                                 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                   |
| 901 - A6327200              | 27 | 48 | 53 | 200 | 226 | x                                                                                 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                   |
| 901 - A6327250              | 27 | 48 | 53 | 250 | 276 | x                                                                                 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                   |
| 901 - A6327300              | 27 | 48 | 53 | 300 | 326 | x                                                                                 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                   |
| 901 - A6332                 | 32 | 60 | 60 | 32  | 58  | x                                                                                 | 959-32                                                                            | 957-32                                                                            | -                                                                                 | 958-32                                                                              |
| 901 - A6332100              | 32 | 60 | 60 | 100 | 126 | x                                                                                 | 959-32                                                                            | 957-32                                                                            | -                                                                                 | 958-32                                                                              |
| 901 - A6332150              | 32 | 60 | 60 | 150 | 176 | x                                                                                 | 959-32                                                                            | 957-32                                                                            | -                                                                                 | 958-32                                                                              |
|                             |    |    |    |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |
|                             |    |    |    |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |
|                             |    |    |    |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |
|                             |    |    |    |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |

G6, 3/8.000



arbors HSK-A80 for shell cutter

delivery: with drive keys and retaining screw

[illegible]

arbors HSK-A63 for shell cutter

delivery: with drive keys and retaining screw

[illegible]

arbors HSK-A63 for shell cutter

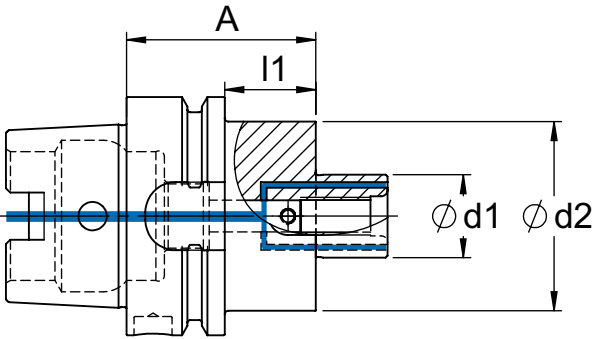
delivery: with drive keys and retaining screw

[illegible]

**mit vergrössertem Anlagedurchmesser**

arbors HSK-A63 - 100 with enlarged contact surface diameter

Lieferumfang: HSK-Aufnahme mit Anzugsschraube  
und Mitnehmersteinen  
delivery: with drive keys and retaining screw



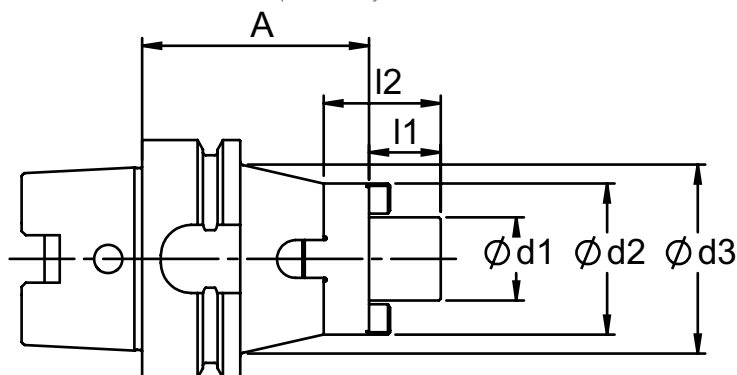
69 893-1

[illegible]



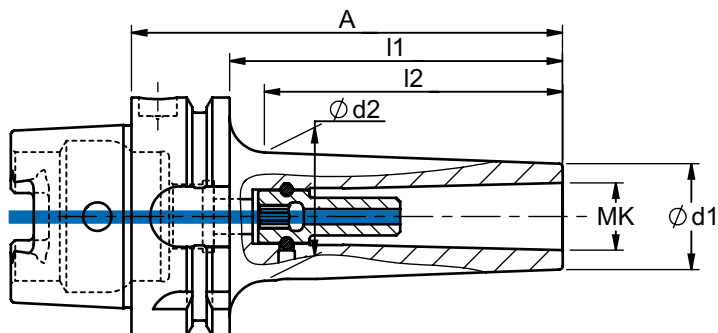
## combi-arbors with tenon and parallel key drive, HSK-A40 - 100

delivery: with drive keys and retaining screw



G6,3/8.000

morse taper adaptor HSK-A63 - 100



69 893-1

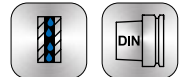
[illegible]

morse taper adaptor, HSK-A50 - 100

[illegible]

## side lock adapter HSK-A50

Lieferumfang: HSK-Aufnahme mit Spannschraube  
delivery: side lock adapter with tightening screw

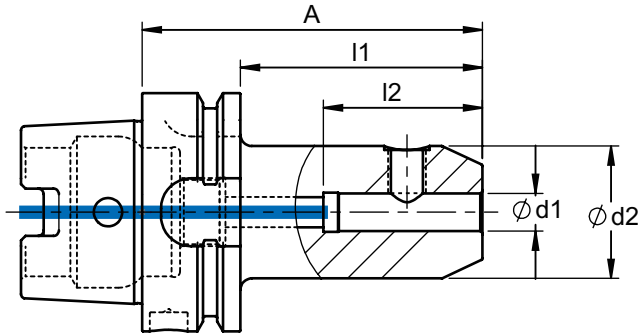


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[illegible]

side lock adapter HSK-A63

Lieferumfang: HSK-Aufnahme mit Spannschraube  
delivery: side lock adapter with tightening screw



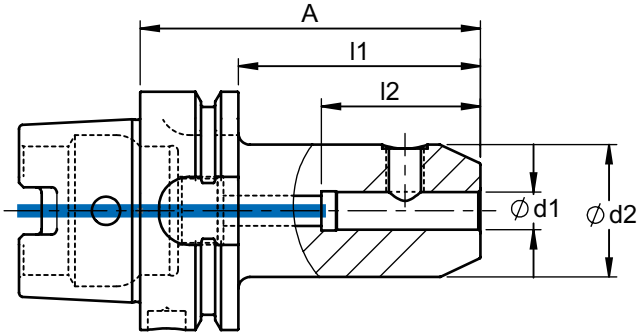
69 893-1

| Bestell-Nr.<br>order number | d1 | D  | l1  | l2 | A   |  |  |
|-----------------------------|----|----|-----|----|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 903 - A6306                 | 6  | 25 | 39  | 38 | 65  | 949-M6                                                                             | G6,3/8.000                                                                          |
| 903 - A6308                 | 8  | 28 | 39  | 38 | 65  | 949-M8                                                                             |                                                                                     |
| 903 - A6310                 | 10 | 35 | 39  | 42 | 65  | 949-M10                                                                            |                                                                                     |
| 903 - A6312                 | 12 | 42 | 54  | 47 | 80  | 949-M12                                                                            |                                                                                     |
| 903 - A6314                 | 14 | 44 | 54  | 47 | 80  | 949-M12                                                                            |                                                                                     |
| 903 - A6316                 | 16 | 48 | 54  | 50 | 80  | 949-M14                                                                            |                                                                                     |
| 903 - A6318                 | 18 | 50 | 54  | 50 | 80  | 949-M14                                                                            |                                                                                     |
| 903 - A6320                 | 20 | 52 | 54  | 52 | 80  | 949-M16                                                                            |                                                                                     |
| 903 - A6325                 | 25 | 65 | 84  | 60 | 110 | 949-M18X2                                                                          |                                                                                     |
| 903 - A6332                 | 32 | 72 | 84  | 64 | 110 | 949-M20X2                                                                          |                                                                                     |
| 903 - A6340                 | 40 | 80 | 94  | 74 | 120 | 949-M20X2                                                                          |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
| 903 - A6306A125             | 6  | 25 | 99  | 38 | 125 | 949-M6                                                                             |                                                                                     |
| 903 - A6308A125             | 8  | 28 | 99  | 38 | 125 | 949-M8                                                                             |                                                                                     |
| 903 - A6310A125             | 10 | 35 | 99  | 42 | 125 | 949-M10                                                                            |                                                                                     |
| 903 - A6312A125             | 12 | 42 | 99  | 47 | 125 | 949-M12                                                                            |                                                                                     |
| 903 - A6314A125             | 14 | 44 | 99  | 47 | 125 | 949-M12                                                                            |                                                                                     |
| 903 - A6316A125             | 16 | 48 | 99  | 50 | 125 | 949-M14                                                                            |                                                                                     |
| 903 - A6318A125             | 18 | 50 | 99  | 50 | 125 | 949-M14                                                                            |                                                                                     |
| 903 - A6320A125             | 20 | 52 | 99  | 52 | 125 | 949-M16                                                                            |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
| 903 - A6306A160             | 6  | 25 | 134 | 38 | 160 | 949-M6                                                                             |                                                                                     |
| 903 - A6308A160             | 8  | 28 | 134 | 38 | 160 | 949-M8                                                                             |                                                                                     |
| 903 - A6310A160             | 10 | 35 | 134 | 42 | 160 | 949-M10                                                                            |                                                                                     |
| 903 - A6312A160             | 12 | 42 | 134 | 47 | 160 | 949-M12                                                                            |                                                                                     |
| 903 - A6314A160             | 14 | 44 | 134 | 47 | 160 | 949-M12                                                                            |                                                                                     |
| 903 - A6316A160             | 16 | 48 | 134 | 50 | 160 | 949-M14                                                                            |                                                                                     |
| 903 - A6318A160             | 18 | 50 | 134 | 50 | 160 | 949-M14                                                                            |                                                                                     |
| 903 - A6320A160             | 20 | 52 | 134 | 52 | 160 | 949-M16                                                                            |                                                                                     |
| 903 - A6325A160             | 25 | 65 | 134 | 60 | 160 | 949-M18X2                                                                          |                                                                                     |
| 903 - A6332A160             | 32 | 72 | 134 | 64 | 160 | 949-M20X2                                                                          |                                                                                     |
| 903 - A6340A160             | 40 | 80 | 134 | 74 | 160 | 949-M20X2                                                                          |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
| 903 - A6306A200             | 6  | 25 | 174 | 38 | 200 | 949-M6                                                                             |                                                                                     |
| 903 - A6308A200             | 8  | 28 | 174 | 38 | 200 | 949-M8                                                                             |                                                                                     |
| 903 - A6310A200             | 10 | 35 | 174 | 42 | 200 | 949-M10                                                                            |                                                                                     |
| 903 - A6312A200             | 12 | 42 | 174 | 47 | 200 | 949-M12                                                                            |                                                                                     |
| 903 - A6316A200             | 16 | 48 | 174 | 50 | 200 | 949-M14                                                                            |                                                                                     |
| 903 - A6320A200             | 20 | 52 | 174 | 52 | 200 | 949-M16                                                                            |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |

## Weldonfutter HSK-A80

side lock adapter HSK-A80

Lieferumfang: HSK-Aufnahme mit Spannschraube  
delivery: side lock adapter with tightening screw



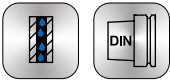
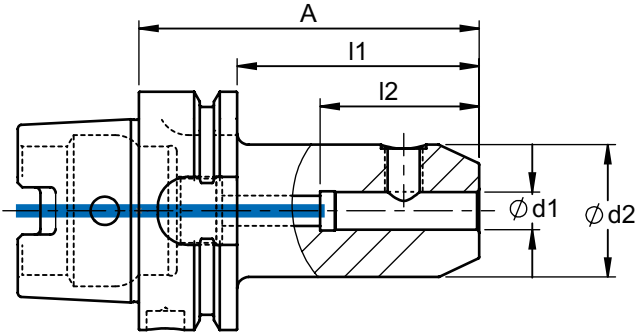
69893-1

[illegible]

Weldonfutter HSK-A100

side lock adapter HSK-A100

Lieferumfang: HSK-Aufnahme mit Spannschraube  
delivery: side lock adapter with tightening screw



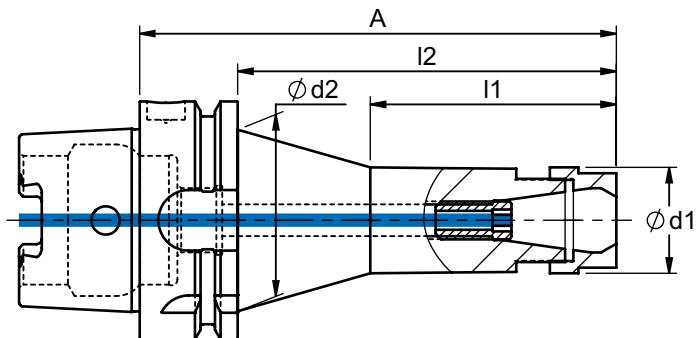
69893-1

| Bestell-Nr.<br>order number | d1 | D  | l1  | l2 | A   |  |  |
|-----------------------------|----|----|-----|----|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 903 - A10006                | 6  | 25 | 51  | 38 | 80  | 949-M6                                                                             | G6,3/8.000                                                                          |
| 903 - A10008                | 8  | 28 | 51  | 38 | 80  | 949-M8                                                                             |                                                                                     |
| 903 - A10010                | 10 | 35 | 51  | 42 | 80  | 949-M10                                                                            |                                                                                     |
| 903 - A10012                | 12 | 42 | 51  | 47 | 80  | 949-M12                                                                            |                                                                                     |
| 903 - A10014                | 14 | 44 | 51  | 47 | 80  | 949-M12                                                                            |                                                                                     |
| 903 - A10016                | 16 | 48 | 71  | 50 | 100 | 949-M14                                                                            |                                                                                     |
| 903 - A10018                | 18 | 50 | 71  | 50 | 100 | 949-M14                                                                            |                                                                                     |
| 903 - A10020                | 20 | 52 | 71  | 52 | 100 | 949-M16                                                                            |                                                                                     |
| 903 - A10025                | 25 | 65 | 71  | 60 | 100 | 949-M18X2                                                                          |                                                                                     |
| 903 - A10032                | 32 | 72 | 71  | 64 | 100 | 949-M20X2                                                                          |                                                                                     |
| 903 - A10040                | 40 | 80 | 91  | 74 | 120 | 949-M20X2                                                                          |                                                                                     |
| 903 - A10006A160            | 6  | 25 | 131 | 38 | 160 | 949-M6                                                                             |                                                                                     |
| 903 - A10008A160            | 8  | 28 | 131 | 38 | 160 | 949-M8                                                                             |                                                                                     |
| 903 - A10010A160            | 10 | 35 | 131 | 42 | 160 | 949-M10                                                                            |                                                                                     |
| 903 - A10012A160            | 12 | 42 | 131 | 47 | 160 | 949-M12                                                                            |                                                                                     |
| 903 - A10014A160            | 14 | 44 | 131 | 47 | 160 | 949-M12                                                                            |                                                                                     |
| 903 - A10016A160            | 16 | 48 | 131 | 50 | 160 | 949-M14                                                                            |                                                                                     |
| 903 - A10018A160            | 18 | 50 | 131 | 50 | 160 | 949-M14                                                                            |                                                                                     |
| 903 - A10020A160            | 20 | 52 | 131 | 52 | 160 | 949-M16                                                                            |                                                                                     |
| 903 - A10025A160            | 25 | 65 | 131 | 60 | 160 | 949-M18X2                                                                          |                                                                                     |
| 903 - A10032A160            | 32 | 72 | 131 | 64 | 160 | 949-M20X2                                                                          |                                                                                     |
| 903 - A10040A160            | 40 | 80 | 131 | 74 | 160 | 949-M20X2                                                                          |                                                                                     |
| 903 - A10006A200            | 6  | 25 | 171 | 38 | 200 | 949-M6                                                                             |                                                                                     |
| 903 - A10008A200            | 8  | 28 | 171 | 38 | 200 | 949-M8                                                                             |                                                                                     |
| 903 - A10010A200            | 10 | 35 | 171 | 42 | 200 | 949-M10                                                                            |                                                                                     |
| 903 - A10012A200            | 12 | 42 | 171 | 47 | 200 | 949-M12                                                                            |                                                                                     |
| 903 - A10014A200            | 14 | 44 | 171 | 47 | 200 | 949-M12                                                                            |                                                                                     |
| 903 - A10016A200            | 16 | 48 | 171 | 50 | 200 | 949-M14                                                                            |                                                                                     |
| 903 - A10018A200            | 18 | 50 | 171 | 50 | 200 | 949-M14                                                                            |                                                                                     |
| 903 - A10020A200            | 20 | 52 | 171 | 52 | 200 | 949-M16                                                                            |                                                                                     |
| 903 - A10025A200            | 25 | 65 | 171 | 60 | 200 | 949-M18X2                                                                          |                                                                                     |
| 903 - A10032A200            | 32 | 72 | 171 | 64 | 200 | 949-M20X2                                                                          |                                                                                     |
| 903 - A10040A200            | 40 | 80 | 171 | 74 | 200 | 949-M20X2                                                                          |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |
|                             |    |    |     |    |     |                                                                                    |                                                                                     |

**für Spannzangen ER 16 mit Spannmutter UM**

collet chucks HSK type-A50 - 100 for collets ER 16 with nut UM

Lieferumfang: HSK-Aufnahme mit Spannmutter UM  
delivery: collet chuck with nut UM



69 893-1

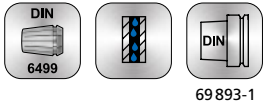
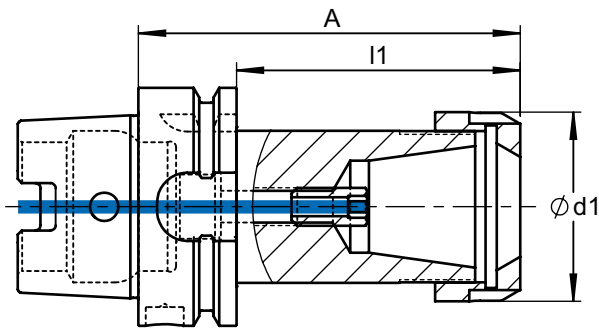
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# Spannzangenfutter HSK-A32 - 100 für Spannzangen ER 25/32/40 mit Spannmutter UM

collet chucks HSK-A32 - 100 for collets ER 25/32/40 with nut UM

Lieferumfang: HSK-Aufnahme mit Spannmutter UM  
delivery: collet chuck with nut UM



69 893-1

| Bestell-Nr.<br>order number | HSK  | ER | d1 | l1  | A   |  |  |  |  |
|-----------------------------|------|----|----|-----|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 912 - A3245                 | A32  | 25 | 42 | 45  | 45  | 953-UM25                                                                          | -                                                                                 | 954-013ER25                                                                        |                                                                                     |
| 913 - A3260                 | A32  | 32 | 50 | 60  | 80  | 953-UM32                                                                          | -                                                                                 | 954-014ER32                                                                        |                                                                                     |
| 912 - A4060                 | A40  | 25 | 42 | 60  | 80  | 953-UM25                                                                          | 948-M12                                                                           | 954-013ER25                                                                        |                                                                                     |
| 913 - A4060                 | A40  | 32 | 50 | 60  | 80  | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 912 - A5050                 | A50  | 25 | 42 | 50  | 76  | 953-UM25                                                                          | -                                                                                 | 954-013ER25                                                                        |                                                                                     |
| 913 - A5050                 | A50  | 32 | 50 | 50  | 76  | 953-UM32                                                                          | -                                                                                 | 954-014ER32                                                                        |                                                                                     |
| 912 - A6350                 | A63  | 25 | 42 | 50  | 76  | 953-UM25                                                                          | -                                                                                 | 954-013ER25                                                                        |                                                                                     |
| 912 - A6375                 | A63  | 25 | 42 | 75  | 101 | 953-UM25                                                                          | -                                                                                 | 954-013ER25                                                                        |                                                                                     |
| 912 - A63100                | A63  | 25 | 42 | 100 | 126 | 953-UM25                                                                          | 948-M12                                                                           | 954-013ER25                                                                        |                                                                                     |
| 913 - A6350                 | A63  | 32 | 50 | 50  | 76  | 953-UM32                                                                          | -                                                                                 | 954-014ER32                                                                        |                                                                                     |
| 913 - A6375                 | A63  | 32 | 50 | 75  | 101 | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 913 - A63100                | A63  | 32 | 50 | 100 | 126 | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 914 - A6350                 | A63  | 40 | 63 | 50  | 76  | 953-UM40                                                                          | -                                                                                 | 954-015ER40                                                                        |                                                                                     |
| 914 - A6390                 | A63  | 40 | 63 | 90  | 116 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
| 914 - A63A120               | A63  | 40 | 63 | 94  | 120 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
| 914 - A63A160               | A63  | 40 | 63 | 134 | 160 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
| 913 - A8075                 | A80  | 32 | 50 | 75  | 101 | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 914 - A8075                 | A80  | 40 | 63 | 75  | 101 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
| 914 - A80A120               | A80  | 40 | 63 | 94  | 120 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
| 912 - A10070                | A100 | 25 | 42 | 70  | 99  | 953-UM25                                                                          | 948-M12                                                                           | 954-013ER25                                                                        |                                                                                     |
| 912 - A100100               | A100 | 25 | 42 | 100 | 129 | 953-UM25                                                                          | 948-M12                                                                           | 954-013ER25                                                                        |                                                                                     |
| 912 - A100A160              | A100 | 25 | 42 | 131 | 160 | 953-UM25                                                                          | 948-M12                                                                           | 954-013ER25                                                                        |                                                                                     |
| 912 - A100A200              | A100 | 25 | 42 | 171 | 200 | 953-UM25                                                                          | 948-M12                                                                           | 954-013ER25                                                                        |                                                                                     |
| 913 - A10050                | A100 | 32 | 50 | 50  | 79  | 953-UM32                                                                          | -                                                                                 | 954-014ER32                                                                        |                                                                                     |
| 913 - A10070                | A100 | 32 | 50 | 70  | 99  | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 913 - A100100               | A100 | 32 | 50 | 100 | 129 | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 913 - A100A100              | A100 | 32 | 50 | 71  | 100 | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 913 - A100A120              | A100 | 32 | 50 | 91  | 120 | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 913 - A100A160              | A100 | 32 | 50 | 131 | 160 | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 913 - A100A200              | A100 | 32 | 50 | 171 | 200 | 953-UM32                                                                          | 948-M16                                                                           | 954-014ER32                                                                        |                                                                                     |
| 914 - A10075                | A100 | 40 | 63 | 75  | 104 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
| 914 - A10090                | A100 | 40 | 63 | 90  | 119 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
| 914 - A100100               | A100 | 40 | 63 | 100 | 129 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
| 914 - A100A120              | A100 | 40 | 63 | 91  | 120 | 953-UM40                                                                          | 948-M16                                                                           | 954-015ER40                                                                        |                                                                                     |
|                             |      |    |    |     |     |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|                             |      |    |    |     |     |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|                             |      |    |    |     |     |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|                             |      |    |    |     |     |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|                             |      |    |    |     |     |                                                                                   |                                                                                   |                                                                                    |                                                                                     |

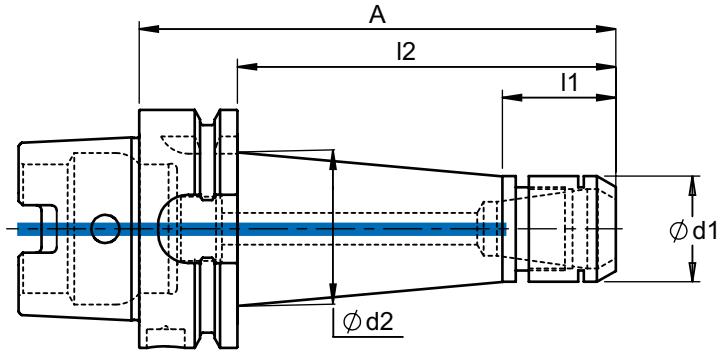
G6,3/8.000



**Spannzangenfutter HSK-A32 - 100**  
für Spannzangen ER 11/16/20 mit Spannmutter HS

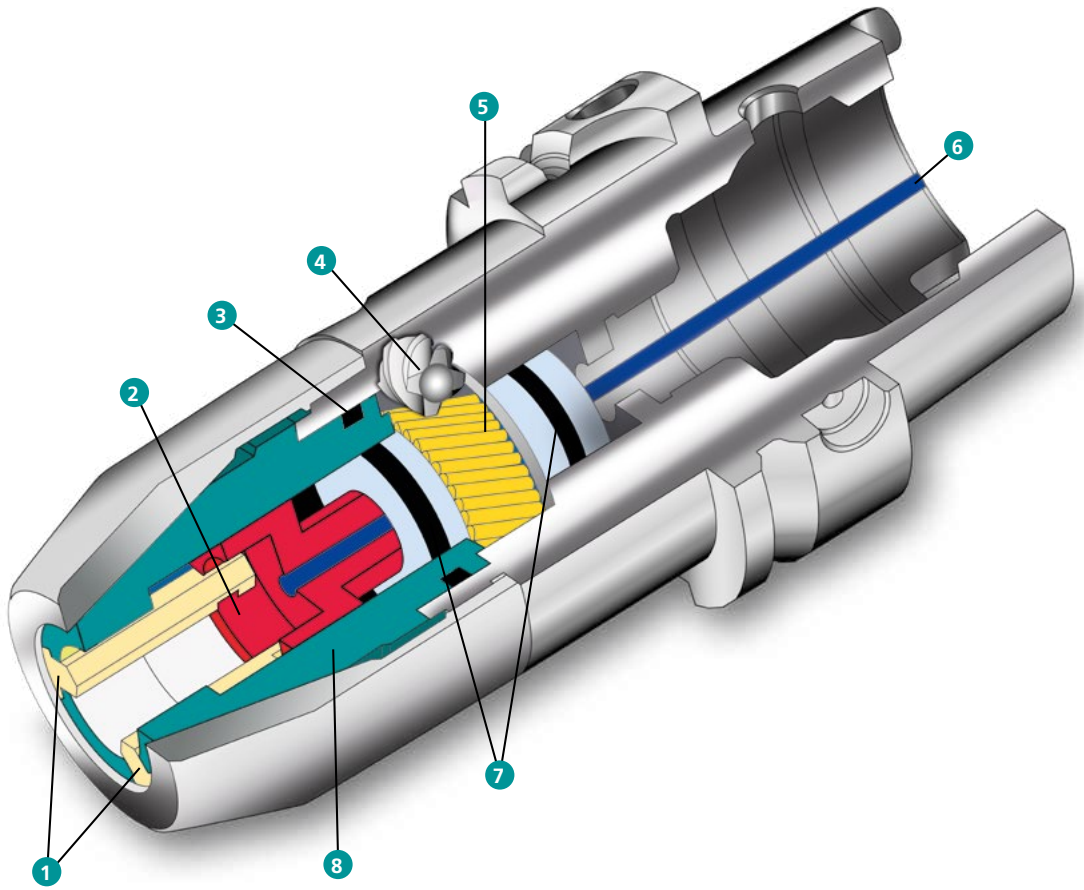
collet chucks HSK-A32 - 100 for collets ER 11/16/20 with nut HS

Lieferumfang: HSK-Aufnahme mit Spannmutter HS  
delivery: collet chuck with nut HS



69 893-1

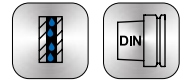
[illegible]



- 1 Spannbacken
- 2 Backenantrieb
- 3 Abdichtung Backenführung
- 4 Schnecke
- 5 Schneckenrad
- 6 IKZ
- 7 Abdichtung Getriebe
- 8 Backenführung

- 1 Clamping jaws
- 2 Jaws driver
- 3 Seal for jaws guide
- 4 Worm
- 5 Worm gear
- 6 Internal cooling
- 7 Seal for gearbox
- 8 Jaws guide

CNC- drill chucks HSK-A40 - 100 for clockwise and anti clockwise rotation

[illegible]

## blanks HSK-A32 - 100

Ausführung: Kegel und Bund gehärtet und geschliffen.  
Verwendung: Zur Herstellung von Sonderwerkzeugen.  
Execution: taper and collar hardened and ground.  
Application: For producing your own special tools.

[illegible]

# Werkzeugaufnahmen HSK-E

Tool holders HSK-E

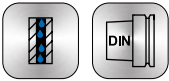
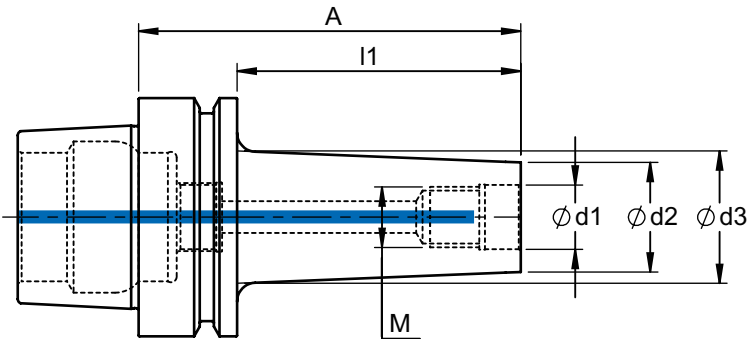
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| Fräsdorne<br>Arbors for shell cutters                         | 82 - 83 |
| Zwischenhülsen<br>Morse taper adaptors                        | 84      |
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| Spannzangenfutter<br>Collet chucks                            | 86 - 88 |
| CNC-Bohrfutter<br>CNC-drill chucks                            | 89      |
| Rohlinge<br>Blanks                                            | 90      |

Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

Fräsaufnahme HSK-E32 für Einschraubfräser

modular screw on holder HSK-E32



69893-5

| Bestell-Nr.<br>order number | M   | d1   | d2   | d3 | A  | l1 |  |
|-----------------------------|-----|------|------|----|----|----|-------------------------------------------------------------------------------------|
| 920 - E320650               | M6  | 6,5  | 10   | 22 | 70 | 50 | G2,5/15.000<br>oder/or<br>U<1gmm                                                    |
| 920 - E320825               | M8  | 8,5  | 13,8 | 17 | 45 | 25 |                                                                                     |
| 920 - E320850               | M8  | 8,5  | 13,8 | 24 | 70 | 50 |                                                                                     |
| 920 - E321025               | M10 | 10,5 | 18   | 23 | 45 | 25 |                                                                                     |
| 920 - E321050               | M10 | 10,5 | 18   | 25 | 70 | 50 |                                                                                     |
| 920 - E321225               | M12 | 12,5 | 21   | 25 | 45 | 25 |                                                                                     |
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modular screw on holder HSK-E40

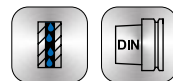
[illegible]



modular screw on holder HSK-E50

[illegible]

## modular screw on holder HSK-E63



69 893-5

80 rineck

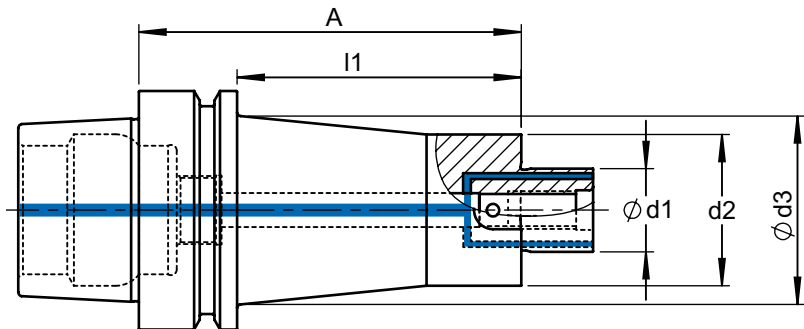
modular screw on holder HSK-E63

[illegible]

## Fräsdorne HSK-E40 - 63

arbors HSK-E40 - 63 for shell cutter

Lieferumfang: HSK-Aufnahme mit Anzugsschraube  
und Mitnehmersteinen  
delivery: with drive keys and retaining screw



69 893-5

[illegible]

## combi-arbors with tenon and parallel key drive, HSK-E50

delivery: with drive keys and retaining screw



| Bestell-Nr.<br>order number | d1 | d2 | d3 | l1 | l2 | A  |  |  |  |  |  |
|-----------------------------|----|----|----|----|----|----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 902 - E5016                 | 16 | 32 | 32 | 17 | 27 | 50 | 955-16                                                                            | 956-16                                                                            | 957-16                                                                             | 958-16                                                                              | G6,3/8.000                                                                          |
| 902 - E5022                 | 22 | 40 | 40 | 19 | 31 | 50 | 955-22                                                                            | 956-22                                                                            | 957-22                                                                             | 958-22                                                                              |                                                                                     |
| 902 - E5027                 | 27 | 48 | 48 | 21 | 33 | 65 | 955-27                                                                            | 956-27                                                                            | 957-27                                                                             | 958-27                                                                              |                                                                                     |

morse taper adaptor, HSK-E50

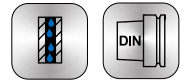
morse taper adaptor, HSK-E50

[illegible]



## weldon chuck HSK-E40 - 63

delivery: weldon chuck with tightening screw



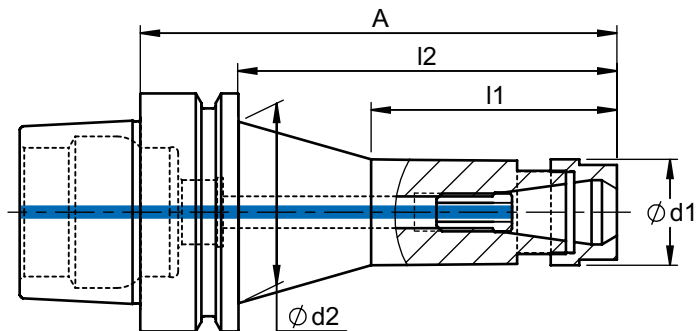
G6,3/15.000

rineck 85

**für Spannzangen ER 16 mit Spannmutter UM**

collet chucks HSK type-E32 - 50 for collets ER 16 with nut UM

Lieferumfang: HSK-Aufnahme mit Spannmutter UM  
delivery: collet chuck with nut UM



69 893-5



collet chucks HSK-E25 - 63 for collets ER 11/16/20 with nut MS

Lieferumfang: HSK-Aufnahme mit Spannmutter MS

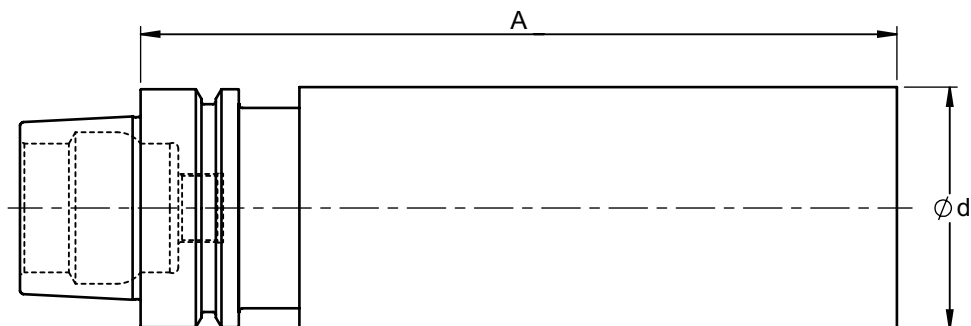
[illegible]

CNC- drill chucks HSK-E40 - 63 for clockwise and anti clockwise rotation

[illegible]

## blanks HSK-E50 - 63

Ausführung: Kegel und Bund gehärtet und geschliffen.  
Verwendung: Zur Herstellung von Sonderwerkzeugen.  
Execution: taper and collar hardened and ground.  
Application: For producing your own special tools.



69 893-5

[illegible]

# Werkzeugaufnahmen HSK-F

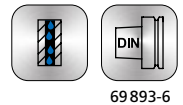
Tool holders HSK-F

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| Fräsdorne<br>Arbors for shell cutters                         | 94      |
| Zwischenhülsen<br>Morse taper adaptors                        | 95      |
| Weldonfutter<br>Side lock adapter                             | 96      |
| Spannzangenfutter<br>Collet chucks                            | 97 - 98 |
| CNC-Bohrfutter<br>CNC-drill chucks                            | 99      |

Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

modular screw on holder HSK-F63

92 rineck



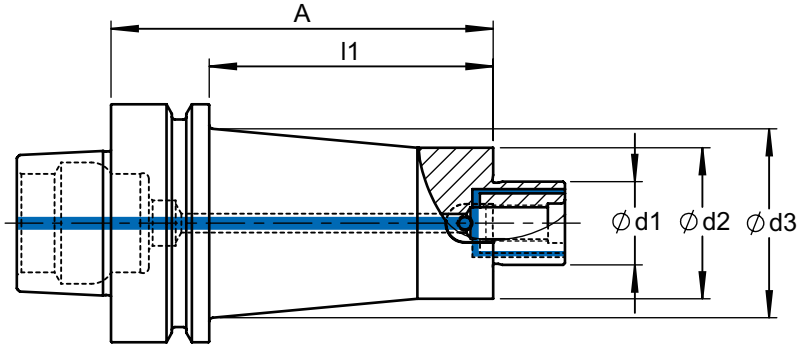
modular screw on holder HSK-F63 with thread for coolant tube

[illegible]

## Fräsdorne HSK-F63

arbors HSK-F63 for shell cutter

Lieferumfang: HSK-Aufnahme mit Anzugsschraube und Mitnehmersteinen  
delivery: with drive keys and retaining screw



69 893-6

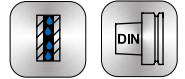
[illegible]

morse taper adaptor, HSK-F63

[illegible]

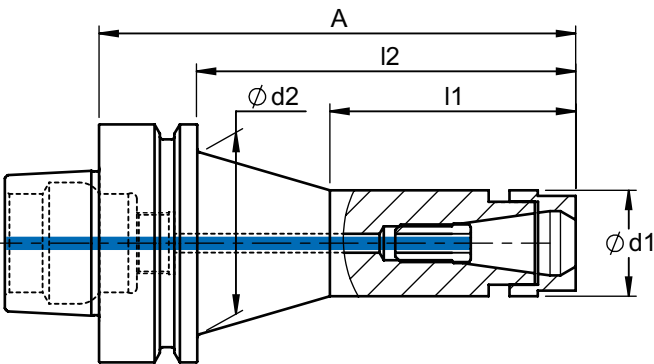
weldon chuck HSK-F63

delivery: weldon chuck with tightening screw

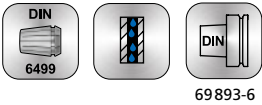
[illegible]

# Spannzangenfutter HSK-F63 für Spannzangen ER 16/25/32/40 mit Spannmutter UM

collet chucks HSK-F63 for collets ER 16/25/32/40 with nut UM

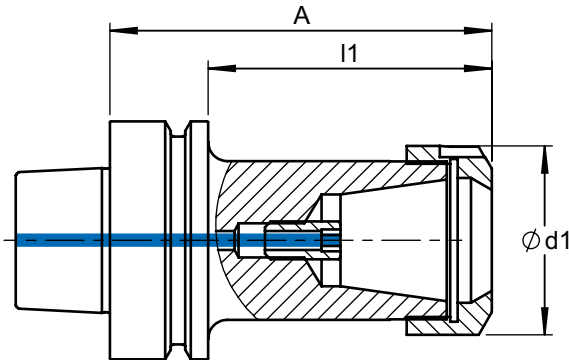


Lieferumfang: HSK-Aufnahme mit Spannmutter UM  
delivery: collet chuck with nut UM

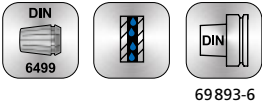


69893-6

| Bestell-Nr.<br>order number | ER | d1 | d2 | l1 | l2  | A   |  |  |  |  |
|-----------------------------|----|----|----|----|-----|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 910 - F6350                 | 16 | 28 | 28 | -  | 50  | 76  | 953-UM16                                                                          | -                                                                                 | 954-034                                                                            | G6,3/15.000                                                                         |
| 910 - F6375                 | 16 | 28 | 28 | -  | 75  | 101 | 953-UM16                                                                          | -                                                                                 | 954-034                                                                            | G6,3/15.000                                                                         |
| 910 - F63100                | 16 | 28 | 48 | 65 | 100 | 126 | 953-UM16                                                                          | 948-M10                                                                           | 954-034                                                                            | G6,3/15.000                                                                         |



Lieferumfang: HSK-Aufnahme mit Spannmutter UM  
delivery: collet chuck with nut UM



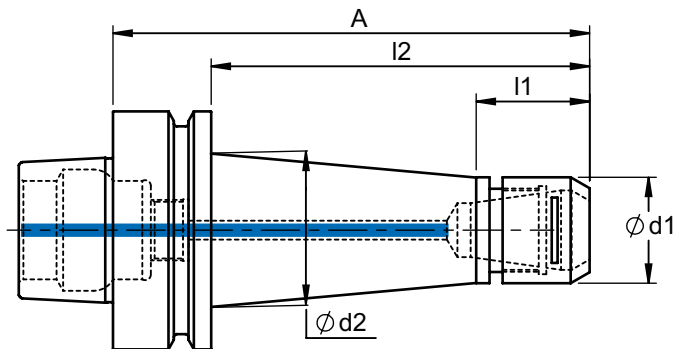
69893-6

| Bestell-Nr.<br>order number | ER | d1 | l1  | A   |  |  |  |  |
|-----------------------------|----|----|-----|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 912 - F6350                 | 25 | 42 | 50  | 76  | 953-UM25                                                                            | -                                                                                   | 954-013ER25                                                                          | G6,3/15.000                                                                           |
| 912 - F6375                 | 25 | 42 | 75  | 101 | 953-UM25                                                                            | 948-M12                                                                             | 954-013ER25                                                                          |                                                                                       |
| 912 - F63100                | 25 | 42 | 100 | 126 | 953-UM25                                                                            | 948-M12                                                                             | 954-013ER25                                                                          |                                                                                       |
| 913 - F6350                 | 32 | 50 | 50  | 76  | 953-UM32                                                                            | -                                                                                   | 954-013ER32                                                                          |                                                                                       |
| 913 - F6375                 | 32 | 50 | 75  | 101 | 953-UM32                                                                            | 948-M16                                                                             | 954-013ER32                                                                          |                                                                                       |
| 913 - F63100                | 32 | 50 | 100 | 126 | 953-UM32                                                                            | 948-M16                                                                             | 954-013ER32                                                                          |                                                                                       |
| 914 - F6350                 | 40 | 63 | 50  | 76  | 953-UM40                                                                            | -                                                                                   | 954-014ER40                                                                          |                                                                                       |
|                             |    |    |     |     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |
|                             |    |    |     |     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |
|                             |    |    |     |     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |

**für Spannzangen ER 11/20 mit Spannmutter MS**

collet chucks HSK-F63 for collets ER 11/20 with nut MS

Lieferumfang: HSK-Aufnahme mit Spannmutter MS  
delivery: collet chuck with nut MS



69 893-6

| Bestell-Nr.<br>order number | ER | d1 | d2 | l1 | l2  | A   |  |  |  |
|-----------------------------|----|----|----|----|-----|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 918 - F63100                | 11 | 16 | 33 | 20 | 100 | 126 | 953-MS11                                                                           | 954-11                                                                              | G2,5/15.000                                                                         |
| 918 - F63200                | 11 | 16 | 32 | 20 | 200 | 226 | 953-MS11                                                                           | 954-11                                                                              |                                                                                     |
| 911 - F6350                 | 20 | 28 | 37 | 30 | 50  | 76  | 953-MS20                                                                           | 954-063E20                                                                          |                                                                                     |
| 911 - F63100                | 20 | 28 | 50 | 30 | 100 | 126 | 953-MS20                                                                           | 954-063E20                                                                          |                                                                                     |
| 911 - F63150                | 20 | 28 | 53 | 30 | 150 | 176 | 953-MS20                                                                           | 954-063E20                                                                          |                                                                                     |
| 911 - F63200                | 20 | 28 | 53 | 30 | 200 | 226 | 953-MS20                                                                           | 954-063E20                                                                          |                                                                                     |
| 911 - F63250                | 20 | 28 | 53 | 30 | 250 | 276 | 953-MS20                                                                           | 954-063E20                                                                          |                                                                                     |

CNC- drill chucks HSK-F40 - 63 for clockwise and anti clockwise rotation

[illegible]





# Werkzeugaufnahmen PSC

Tool holders PSC

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| Fräsdorne<br>Arbors for shell cutters                         | 103 |
| Weldonfutter<br>Side lock adapter                             | 104 |
| Spannzangenfutter<br>Collet chucks                            | 105 |
| CNC-Bohrfutter<br>CNC-drill chucks                            | 106 |

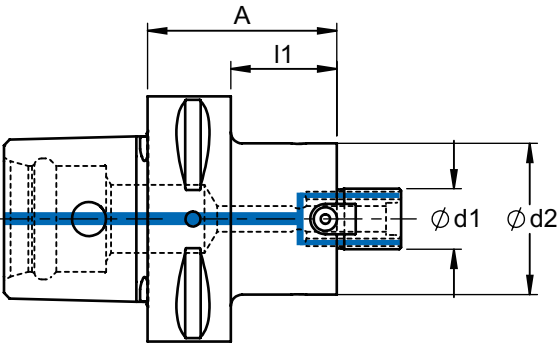
Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

shank PSC-63 for threaded type cutter

102 rineck

Fräsdorne PSC-63

arbors PSC-63 for shell cutter



| Bestell-Nr.<br>order number | d1 | d2 | l1 | A   |  |  |  |  |  |
|-----------------------------|----|----|----|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 922-PSC6316A50              | 16 | 40 | 28 | 50  | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                  | G6,3/8.000                                                                          |
| 922-PSC6316A100             | 16 | 40 | 78 | 100 | 959-16                                                                            | -                                                                                 | 957-M8                                                                            | -                                                                                  |                                                                                     |
| 922-PSC6322A50              | 22 | 50 | 28 | 50  | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                  |                                                                                     |
| 922-PSC6322A100             | 22 | 50 | 78 | 100 | 959-22                                                                            | -                                                                                 | 957-M10                                                                           | -                                                                                  |                                                                                     |
| 922-PSC6327A50              | 27 | 60 | 28 | 50  | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                  |                                                                                     |
| 922-PSC6327A100             | 27 | 60 | 78 | 100 | 959-27                                                                            | -                                                                                 | 957-M12                                                                           | -                                                                                  |                                                                                     |
| 922-PSC6332A60              | 32 | 63 | 38 | 60  | 959-32                                                                            | 957-32                                                                            | -                                                                                 | 958-32                                                                             |                                                                                     |
|                             |    |    |    |     |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
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|                             |    |    |    |     |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |



## collet chucks for collets ER PSC-63

rineck 105

CNC- drill chucks PSC40 - 80 for clockwise and anti clockwise rotation

106 rineck

# Werkzeugaufnahmen SK

Tool holders SK

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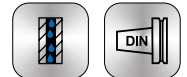
|                                                                                                                          |           |
|--------------------------------------------------------------------------------------------------------------------------|-----------|
| Fräsaufnahmen für Einschraubfräser<br>Modular screw on holder                                                            | 109 - 117 |
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| Weldonfutter<br>Side lock adapter                                                                                        | 125       |
| Spannzangenfutter<br>Collet chucks                                                                                       | 126 - 127 |
| CNC-Bohrfutter<br>CNC-drill chucks                                                                                       | 129       |
| Plananlagen für Einschraub- und Aufsteckfräser<br>Arbors with face contact for modular screw in cutter and shell cutters | 130 - 131 |
| Rohlinge<br>Blanks                                                                                                       | 132       |

Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

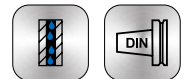




modular screw on holder SK30

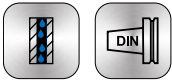
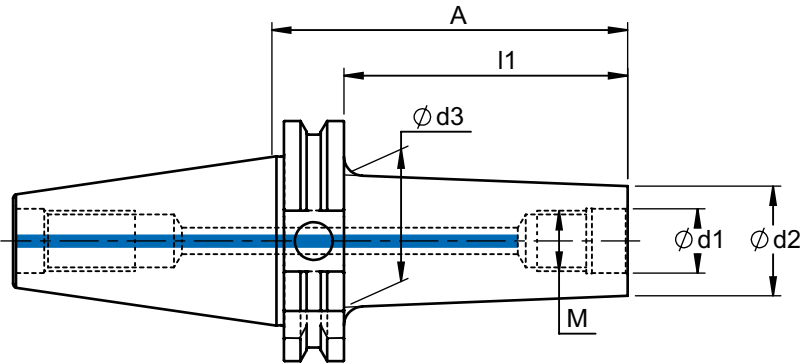
[illegible]

modular screw on holder SK40

[illegible]

Fräsaufnahmen SK40 für Einschraubfräser

modular screw on holder SK40



69871-AD

| Bestell-Nr.<br>order number | M   | d1   | d2 | d3 | A     | l1  |                 |
|-----------------------------|-----|------|----|----|-------|-----|----------------------------------------------------------------------------------------------------|
| 962 - 1225                  | M12 | 12,5 | 21 | 24 | 44,1  | 25  | <br>G6,3/10.000 |
| 962 - 1250                  | M12 | 12,5 | 21 | 30 | 69,1  | 50  |                                                                                                    |
| 962 - 1250ZY                | M12 | 12,5 | 22 | 22 | 69,1  | 50  |                                                                                                    |
| 962 - 1275                  | M12 | 12,5 | 21 | 35 | 94,1  | 75  |                                                                                                    |
| 962 - 1275ZY                | M12 | 12,5 | 22 | 22 | 94,1  | 75  |                                                                                                    |
| 962 - 12100                 | M12 | 12,5 | 21 | 38 | 119,1 | 100 |                                                                                                    |
| 962 - 12100ZY               | M12 | 12,5 | 22 | 22 | 119,1 | 100 |                                                                                                    |
| 962 - 12125                 | M12 | 12,5 | 21 | 43 | 144,1 | 125 |                                                                                                    |
| 962 - 12150                 | M12 | 12,5 | 21 | 45 | 169,1 | 150 |                                                                                                    |
| 962 - 12175                 | M12 | 12,5 | 21 | 50 | 194,1 | 175 |                                                                                                    |
| 962 - 12200                 | M12 | 12,5 | 21 | 50 | 219,1 | 200 |                                                                                                    |
| 962 - 12250                 | M12 | 12,5 | 21 | 50 | 269,1 | 250 |                                                                                                    |
| 962 - 1625                  | M16 | 17   | 29 | 29 | 44,1  | 25  |                                                                                                    |
| 962 - 1650                  | M16 | 17   | 29 | 34 | 69,1  | 50  |                                                                                                    |
| 962 - 1650-37               | M16 | 17   | 37 | 43 | 69,1  | 50  |                                                                                                    |
| 962 - 1650ZY                | M16 | 17   | 29 | 29 | 69,1  | 50  |                                                                                                    |
| 962 - 1675                  | M16 | 17   | 29 | 35 | 94,1  | 75  |                                                                                                    |
| 962 - 1675-37               | M16 | 17   | 37 | 46 | 94,1  | 75  |                                                                                                    |
| 962 - 1675ZY                | M16 | 17   | 29 | 29 | 94,1  | 75  |                                                                                                    |
| 962 - 16100                 | M16 | 17   | 29 | 40 | 119,1 | 100 |                                                                                                    |
| 962 - 16100-37              | M16 | 17   | 37 | 49 | 119,1 | 100 |                                                                                                    |
| 962 - 16100ZY               | M16 | 17   | 29 | 29 | 119,1 | 100 |                                                                                                    |
| 962 - 16125                 | M16 | 17   | 29 | 44 | 144,1 | 125 |                                                                                                    |
| 962 - 16150                 | M16 | 17   | 29 | 45 | 169,1 | 150 |                                                                                                    |
| 962 - 16150ZY               | M16 | 17   | 29 | 29 | 169,1 | 150 |                                                                                                    |
| 962 - 16175                 | M16 | 17   | 29 | 50 | 194,1 | 175 |                                                                                                    |
| 962 - 16200                 | M16 | 17   | 29 | 50 | 219,1 | 200 |                                                                                                    |
| 962 - 16200ZY               | M16 | 17   | 29 | 29 | 219,1 | 200 |                                                                                                    |
| 962 - 16225                 | M16 | 17   | 29 | 50 | 244,1 | 225 |                                                                                                    |
| 962 - 16250                 | M16 | 17   | 29 | 50 | 269,1 | 250 |                                                                                                    |





modular screw on holder SK50



69871-AD

modular screw on holder SK50

[illegible]



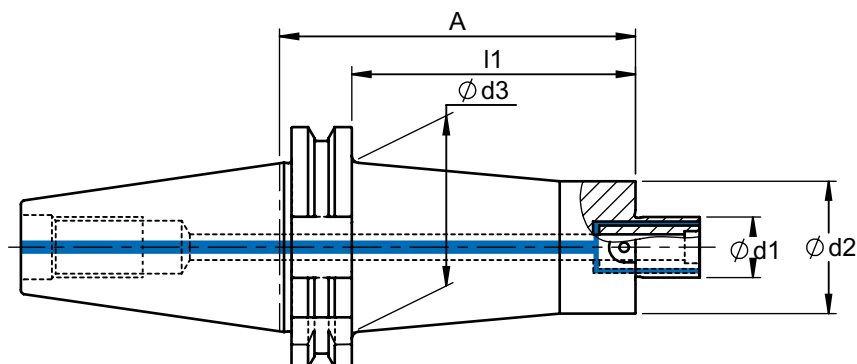


modular screw on holder SK50

[illegible]

arbors SK40 for shell cutter

delivery: with drive keys and retaining screw



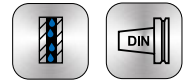
69871-AD

118 nineck



**mit vergrössertem Anlagedurchmesser**  
arbors SK40, 50 with enlarged contact surface diameter

delivery: with drive keys and retaining screw

[illegible]

## combi-arbors with tenon and parallel key drive, SK40, 50

delivery: with drive keys and retaining screw

[illegible]

morse taper adaptor SK50



69871-AD

122 rineck

morse taper adaptor, SK40, 50



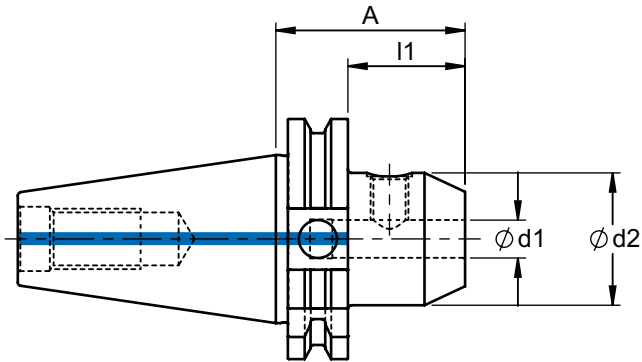
G6,3/8.000





weldon chuck SK40, 50

Lieferumfang: SK-Aufnahme mit Spannschraube  
delivery: weldon chuck with tightening screw



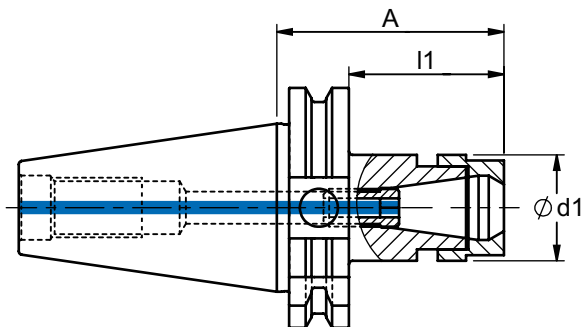
69871-AD

[illegible]

**Spannzangenfutter SK30 - 50  
für Spannzangen ER 16/25/32/40 mit Spannmutter UM**

collet chucks SK30 - 50 for collets ER 16/25/32/40 with nut type UM

Lieferumfang: SK-Aufnahme mit Spannmutter UM  
delivery: collet chuck with nut UM



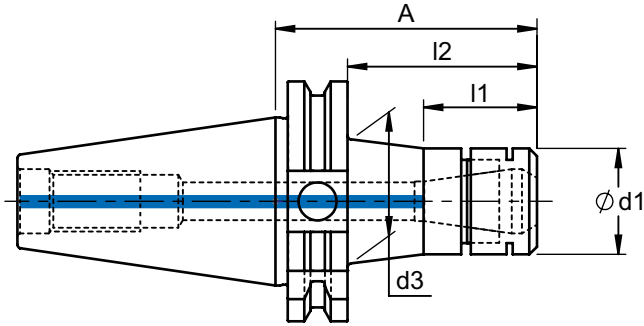
69871-AD

[illegible]

**für Spannzangen ER 11/16/20 mit Spannmutter MS**

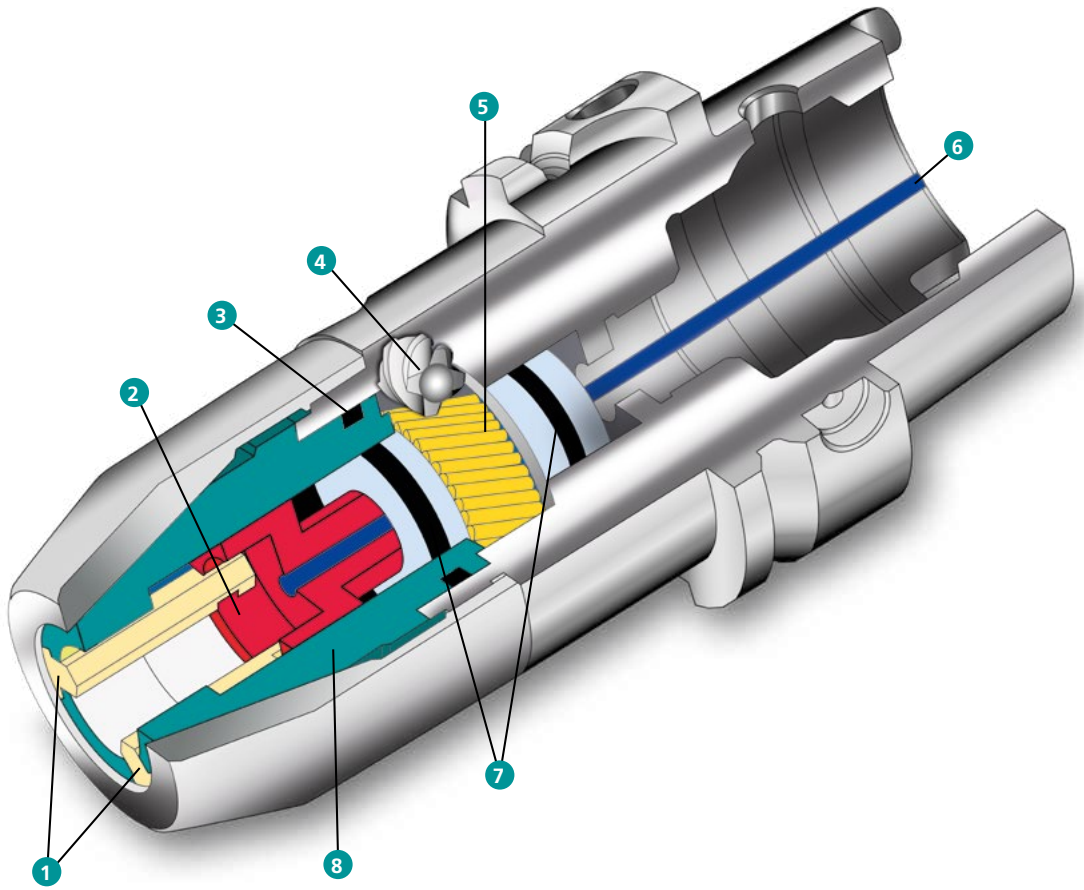
collet chucks SK30, 40 for collets ER 1 1/16/20 with nut type MS

Lieferumfang: SK-Aufnahme mit Spannmutter MS  
delivery: collet chuck with nut MS



69871-AD

[illegible]



- 1 Spannbacken
- 2 Backenantrieb
- 3 Abdichtung Backenführung
- 4 Schnecke
- 5 Schneckenrad
- 6 IKZ
- 7 Abdichtung Getriebe
- 8 Backenführung

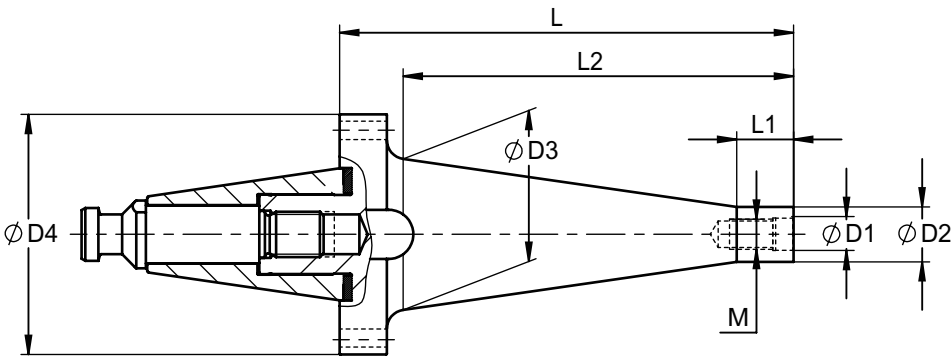
- 1 Clamping jaws
- 2 Jaws driver
- 3 Seal for jaws guide
- 4 Worm
- 5 Worm gear
- 6 Internal cooling
- 7 Seal for gearbox
- 8 Jaws guide

CNC- drill chucks SK30 - 50 for clockwise and anti clockwise rotation

[illegible]

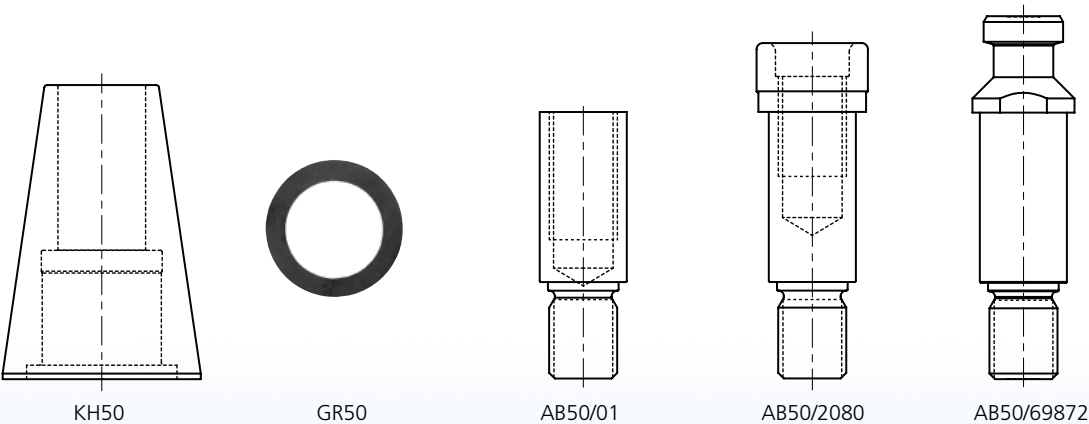
Steilkegel-Plananlagen SK50 für Einschraubfräser

modular screw on holder SK50 with face contact

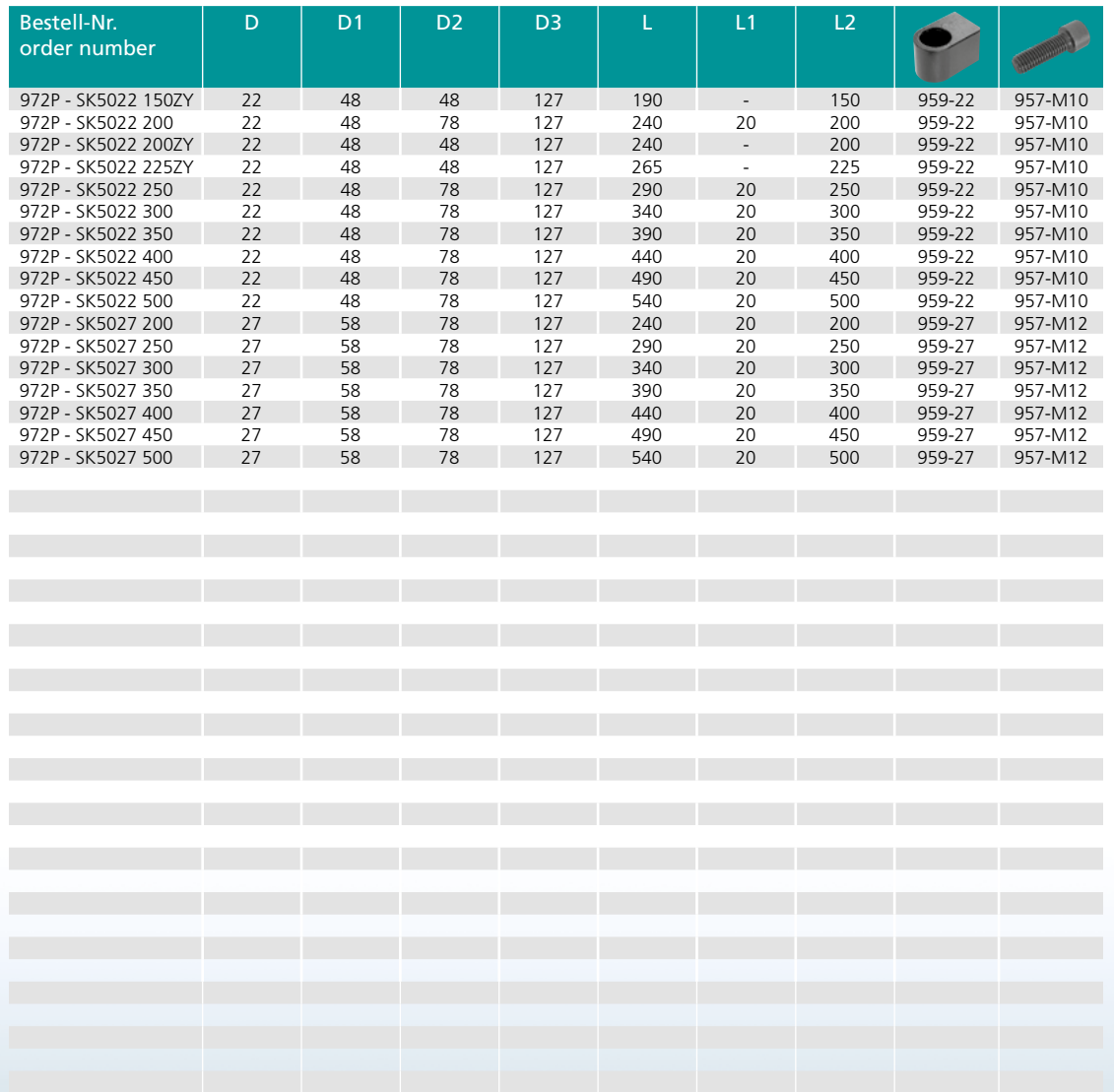


| Bestell-Nr.<br>order number | M  | d1 | d2 | d3 | d4  | L   | L1 | L2  |  |
|-----------------------------|----|----|----|----|-----|-----|----|-----|--|
| 963P - SK5016 250           | 16 | 17 | 29 | 78 | 127 | 290 | 30 | 250 |  |
| 963P - SK5016 300           | 16 | 17 | 29 | 78 | 127 | 340 | 30 | 300 |  |
| 963P - SK5016 350           | 16 | 17 | 29 | 78 | 127 | 390 | 30 | 350 |  |
| 963P - SK5016 400           | 16 | 17 | 29 | 78 | 127 | 440 | 30 | 400 |  |
| 963P - SK5016 450           | 16 | 17 | 29 | 78 | 127 | 490 | 30 | 450 |  |
| 963P - SK5016 500           | 16 | 17 | 29 | 78 | 127 | 540 | 30 | 500 |  |
|                             |    |    |    |    |     |     |    |     |  |
|                             |    |    |    |    |     |     |    |     |  |

Die Zubehöerteile sind nicht im Lieferumfang enthalten und müssen separat bestellt werden.  
Accessories have to be ordered seperatly.



arbors SK50 with face contact for shell cutters



blanks SK40, 50

**Application:** For producing your own special tools.



69871 A

132 rineck



# Werkzeugaufnahmen SK50 DIN 2080

Tool holders SK50 DIN 2080

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| Fräsdorne<br>Arbors for shell cutters                         | 135 |
| Fräserhülsen / Zwischenhülsen<br>Morse taper adaptors         | 136 |

Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

modular screw on holder SK50 DIN 2080

134 rineck

arbors SK50 for shell cutter

delivery: with drive keys and retaining screw



nineck 135

[illegible]

morse taper adaptor SK50

136 rineck

# Werkzeugaufnahmen BT

Tool holders BT

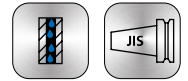
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| Fräsaufnahmen für Einschraubfräser<br>Modular screw on holder | 139 - 143 |
| Fräsdorne<br>Arbors for shell cutters                         | 144 - 145 |
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| CNC-Bohrfutter<br>CNC-drill chucks                            | 151       |
| Rohlinge<br>Blanks                                            | 152       |

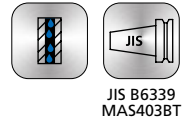
Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.



modular screw on holder BT30

[illegible]

modular screw on holder BT40

140 rineck













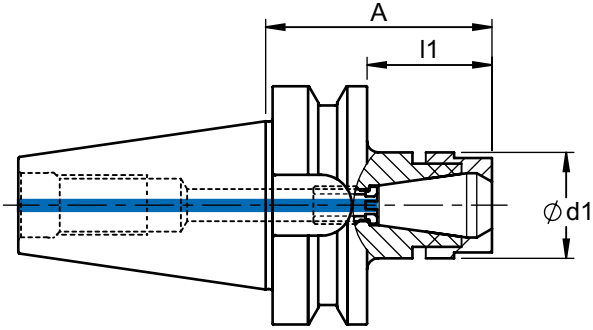




**Spannzangenfutter BT30 - 50**  
für Spannzangen ER 16/25/32/40 mit Spannmutter UM

collet chucks BT30 - 50 for collets ER 16/25/32/40 with nut type UM

Lieferumfang: BT-Aufnahme mit Spannmutter UM  
delivery: collet chuck with nut UM



JIS B6339  
MAS403BT

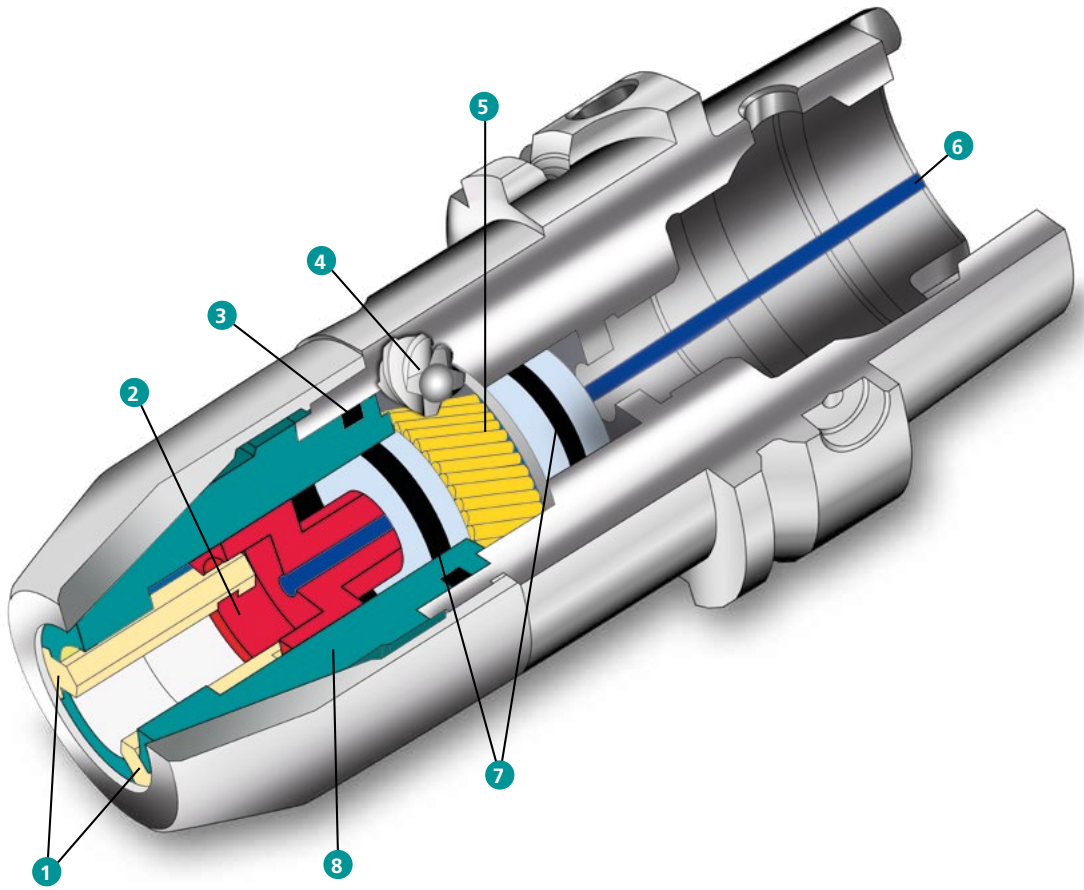
[illegible]



collet chucks BT30, 40 for collets ER 20 with nut type MS

Lieferumfang: BT-Aufnahme mit Spannmutter  
delivery: collet chuck with nut MS

[illegible]



- 1 Spannbacken
- 2 Backenantrieb
- 3 Abdichtung Backenführung
- 4 Schnecke
- 5 Schneckenrad
- 6 IKZ
- 7 Abdichtung Getriebe
- 8 Backenführung

- 1 Clamping jaws
- 2 Jaws driver
- 3 Seal for jaws guide
- 4 Worm
- 5 Worm gear
- 6 Internal cooling
- 7 Seal for gearbox
- 8 Jaws guide



blanks BT40, 50

Application: For producing your own special tools.

[illegible]

# Verlängerungen/Reduzierungen für Einschraubfräser

extensions/reducers for threaded type cutters

**Seite**

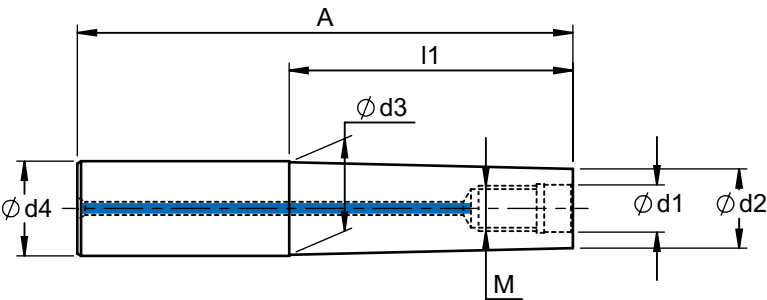
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| Hartmetallverlängerungen für Einschraubfräser<br>Carbide modular screw on extension           | 154 - 155 |
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| Verlängerungen / Reduzierungen für Einschraubfräser<br>Extensions for modular screw in cutter | 158 - 159 |
| Frässtangen MK für Einschraubfräser<br>Adapters with morse taper for modular screw in cutter  | 160 - 161 |
| <b>Einschraubadapter für ER-Spannzangen</b><br>Modular screw on adapter for ER-collets        | 162       |

Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

Hartmetallverlängerungen für Einschraubfräser

modular screw on carbide extensions



1835-A

| Bestell-Nr.<br>order number | M   | d1   | d2   | d3   | d4 | A   | l1  |
|-----------------------------|-----|------|------|------|----|-----|-----|
| 979HM - 120620ZY            | M6  | 6,5  | 9,8  | 9,8  | 12 | 65  | 20  |
| 979HM - 120640              | M6  | 6,5  | 9,8  | 11,5 | 12 | 85  | 40  |
| 979HM - 120640ZY            | M6  | 6,5  | 9,8  | 9,8  | 12 | 85  | 40  |
| 979HM - 120660              | M6  | 6,5  | 9,8  | 11,5 | 12 | 105 | 60  |
| 979HM - 120660ZY            | M6  | 6,5  | 9,8  | 9,8  | 12 | 105 | 60  |
| 979HM - 120680              | M6  | 6,5  | 9,8  | 11,5 | 12 | 125 | 80  |
| 979HM - 120680ZY            | M6  | 6,5  | 9,8  | 9,8  | 12 | 125 | 80  |
| 979HM - 1206100             | M6  | 6,5  | 9,8  | 11,5 | 12 | 145 | 100 |
| 979HM - 120720ZY            | M7  | 7,5  | 11,5 | 11,5 | 12 | 65  | 20  |
| 979HM - 120740ZY            | M7  | 7,5  | 11,5 | 11,5 | 12 | 85  | 40  |
| 979HM - 120760ZY            | M7  | 7,5  | 11,5 | 11,5 | 12 | 105 | 60  |
| 979HM - 120780ZY            | M7  | 7,5  | 11,5 | 11,5 | 12 | 125 | 80  |
| 979HM - 1607100             | M7  | 7,5  | 11,5 | 15,5 | 16 | 148 | 100 |
| 979HM - 160820ZY            | M8  | 8,5  | 13,6 | 13,6 | 16 | 68  | 20  |
| 979HM - 160840              | M8  | 8,5  | 13,6 | 15,5 | 16 | 88  | 40  |
| 979HM - 160840ZY            | M8  | 8,5  | 13,6 | 13,6 | 16 | 88  | 40  |
| 979HM - 160840ZY-12,5       | M8  | 8,5  | 12,5 | 12,5 | 16 | 88  | 40  |
| 979HM - 160860              | M8  | 8,5  | 13,6 | 15,5 | 16 | 108 | 60  |
| 979HM - 160860ZY            | M8  | 8,5  | 13,6 | 13,6 | 16 | 108 | 60  |
| 979HM - 160860ZY-12,5       | M8  | 8,5  | 12,5 | 12,5 | 16 | 108 | 60  |
| 979HM - 160880              | M8  | 8,5  | 13,6 | 15,5 | 16 | 128 | 80  |
| 979HM - 160880ZY            | M8  | 8,5  | 13,6 | 13,6 | 16 | 128 | 80  |
| 979HM - 160880ZY-12,5       | M8  | 8,5  | 12,5 | 12,5 | 16 | 128 | 80  |
| 979HM - 1608100             | M8  | 8,5  | 13,6 | 15,5 | 16 | 148 | 100 |
| 979HM - 1608100ZY           | M8  | 8,5  | 13,6 | 13,6 | 16 | 148 | 100 |
| 979HM - 1608120             | M8  | 8,5  | 13,6 | 15,5 | 16 | 168 | 120 |
| 979HM - 161020ZY-15,4       | M10 | 10,5 | 15,4 | 15,4 | 16 | 68  | 20  |
| 979HM - 161040ZY-15,4       | M10 | 10,5 | 15,4 | 15,4 | 16 | 88  | 40  |
| 979HM - 161060ZY-15,4       | M10 | 10,5 | 15,4 | 15,4 | 16 | 108 | 60  |
| 979HM - 161080ZY-15,4       | M10 | 10,5 | 15,4 | 15,4 | 16 | 128 | 80  |
| 979HM - 1610100ZY-15,4      | M10 | 10,5 | 15,4 | 15,4 | 16 | 148 | 100 |
| 979HM - 1610120ZY-15,4      | M10 | 10,5 | 15,4 | 15,4 | 16 | 168 | 120 |
| 979HM - 1610205ZY-15,4      | M10 | 10,5 | 15,4 | 15,4 | 16 | 250 | 205 |

modular screw on **carbide** extensions

[illegible]

## modular screw on extensions





modular screw on extensions



modular screw on extensions

158 rineck

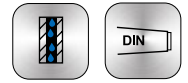
modular screw on reducers

rineck 159

modular screw on extension, morse taper

[illegible]

modular screw on extension, morse taper

[illegible]



# Zubehör

Acessories

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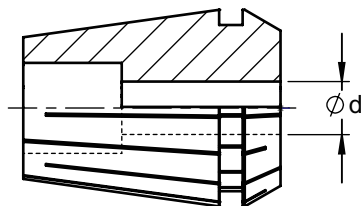
|                                                                                     |           |
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| ER - Spannzangen / Standard nach DIN 6499 Form B<br>Collets type ER DIN 6499 form B | 164 - 165 |
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| Pictogramme<br>Pictograms                                                           | 172 - 173 |

Andere Ausführungen und Längen auf Anfrage lieferbar.  
Specials on request.

# ER 11 - 25 Spannzangen / Standard nach DIN 6499 Form B

collets type ER 11 - 25 DIN 6499 form B

Ausführung:  
Rundlauf 0,010 mm  
Execution:  
Admissible concentricity 0,010 mm



| Spannzangen ER11<br>Spannbereich d max / min | Bestell-Nr.<br>order number |
|----------------------------------------------|-----------------------------|
| 1,0 - 0,5                                    | 950 - 1101                  |
| 1,5 - 1,0                                    | 950 - 11015                 |
| 2,0 - 1,5                                    | 950 - 1102                  |
| 2,5 - 2,0                                    | 950 - 11025                 |
| 3,0 - 2,5                                    | 950 - 1103                  |
| 3,5 - 3,0                                    | 950 - 11035                 |
| 4,0 - 3,5                                    | 950 - 1104                  |
| 4,5 - 4,0                                    | 950 - 11045                 |
| 5,0 - 4,5                                    | 950 - 1105                  |
| 5,5 - 5,0                                    | 950 - 11055                 |
| 6,0 - 5,5                                    | 950 - 1106                  |
| 6,5 - 6,0                                    | 950 - 11065                 |
| 7,0 - 6,5                                    | 950 - 1107                  |

|                                        |            |
|----------------------------------------|------------|
| Holzsockel für ER11                    | 950 - 1198 |
| Standard Satz = 13 Stk. d = 1,0... 7,0 | 950 - 1199 |

| Spannzangen ER16<br>Spannbereich d max / min | Bestell-Nr.<br>order number |
|----------------------------------------------|-----------------------------|
| 1,0 - 0,5                                    | 950 - 1601                  |
| 2,0 - 1,0                                    | 950 - 1602                  |
| 3,0 - 2,0                                    | 950 - 1603                  |
| 4,0 - 3,0                                    | 950 - 1604                  |
| 5,0 - 4,0                                    | 950 - 1605                  |
| 6,0 - 5,0                                    | 950 - 1606                  |
| 7,0 - 6,0                                    | 950 - 1607                  |
| 8,0 - 7,0                                    | 950 - 1608                  |
| 9,0 - 8,0                                    | 950 - 1609                  |
| 10,0 - 9,0                                   | 950 - 1610                  |

|                                         |            |
|-----------------------------------------|------------|
| Holzsockel für ER16                     | 950 - 1698 |
| Standard Satz = 10 Stk. d = 1,0... 10,0 | 950 - 1699 |

| Spannzangen ER20<br>Spannbereich d max / min | Bestell-Nr.<br>order number |
|----------------------------------------------|-----------------------------|
| 1,0 - 0,5                                    | 950 - 2001                  |
| 2,0 - 1,0                                    | 950 - 2002                  |
| 3,0 - 2,0                                    | 950 - 2003                  |
| 4,0 - 3,0                                    | 950 - 2004                  |
| 5,0 - 4,0                                    | 950 - 2005                  |
| 6,0 - 5,0                                    | 950 - 2006                  |
| 7,0 - 6,0                                    | 950 - 2007                  |
| 8,0 - 7,0                                    | 950 - 2008                  |
| 9,0 - 8,0                                    | 950 - 2009                  |
| 10,0 - 9,0                                   | 950 - 2010                  |
| 11,0 - 10,0                                  | 950 - 2011                  |
| 12,0 - 11,0                                  | 950 - 2012                  |
| 13,0 - 12,0                                  | 950 - 2013                  |

|                                         |            |
|-----------------------------------------|------------|
| Holzsockel für ER20                     | 950 - 2098 |
| Standard Satz = 12 Stk. d = 2,0... 13,0 | 950 - 2099 |

| Spannzangen ER25<br>Spannbereich d max / min | Bestell-Nr.<br>order number |
|----------------------------------------------|-----------------------------|
| 1,0 - 0,5                                    | 950 - 2501                  |
| 2,0 - 1,0                                    | 950 - 2502                  |
| 3,0 - 2,0                                    | 950 - 2503                  |
| 4,0 - 3,0                                    | 950 - 2504                  |
| 5,0 - 4,0                                    | 950 - 2505                  |
| 6,0 - 5,0                                    | 950 - 2506                  |
| 7,0 - 6,0                                    | 950 - 2507                  |
| 8,0 - 7,0                                    | 950 - 2508                  |
| 9,0 - 8,0                                    | 950 - 2509                  |
| 10,0 - 9,0                                   | 950 - 2510                  |
| 11,0 - 10,0                                  | 950 - 2511                  |
| 12,0 - 11,0                                  | 950 - 2512                  |
| 13,0 - 12,0                                  | 950 - 2513                  |
| 14,0 - 13,0                                  | 950 - 2514                  |
| 15,0 - 14,0                                  | 950 - 2515                  |
| 16,0 - 15,0                                  | 950 - 2516                  |

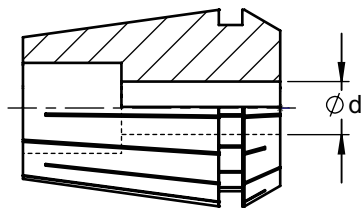
|                                         |            |
|-----------------------------------------|------------|
| Holzsockel für ER25                     | 950 - 2598 |
| Standard Satz = 15 Stk. d = 2,0... 16,0 | 950 - 2599 |



## ER 32, 40 Spannzangen / Standard nach DIN 6499 Form B

collets type ER 32, 40 DIN 6499 form B

Ausführung:  
Rundlauf 0,010 mm  
Execution:  
Admissible concentricity 0,010 mm



| Spannzangen ER32<br>Spannbereich d max / min | Bestell-Nr.<br>order number |
|----------------------------------------------|-----------------------------|
| 2,0 - 1,0                                    | 950 - 3202                  |
| 3,0 - 2,0                                    | 950 - 3203                  |
| 4,0 - 3,0                                    | 950 - 3204                  |
| 5,0 - 4,0                                    | 950 - 3205                  |
| 6,0 - 5,0                                    | 950 - 3206                  |
| 7,0 - 6,0                                    | 950 - 3207                  |
| 8,0 - 7,0                                    | 950 - 3208                  |
| 9,0 - 8,0                                    | 950 - 3209                  |
| 10,0 - 9,0                                   | 950 - 3210                  |
| 11,0 - 10,0                                  | 950 - 3211                  |
| 12,0 - 11,0                                  | 950 - 3212                  |
| 13,0 - 12,0                                  | 950 - 3213                  |
| 14,0 - 13,0                                  | 950 - 3214                  |
| 15,0 - 14,0                                  | 950 - 3215                  |
| 16,0 - 15,0                                  | 950 - 3216                  |
| 17,0 - 16,0                                  | 950 - 3217                  |
| 18,0 - 17,0                                  | 950 - 3218                  |
| 19,0 - 18,0                                  | 950 - 3219                  |
| 20,0 - 19,0                                  | 950 - 3220                  |
|                                              |                             |
|                                              |                             |
|                                              |                             |
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|                                              |                             |
|                                              |                             |
|                                              |                             |
| Holzsockel für ER32                          | 950 - 3298                  |
| Standard Satz = 18 Stk. d = 3,0... 20,0      | 950 - 3299                  |

| Spannzangen ER40<br>Spannbereich d max / min | Bestell-Nr.<br>order number |
|----------------------------------------------|-----------------------------|
| 3,0 - 2,0                                    | 950 - 4003                  |
| 4,0 - 3,0                                    | 950 - 4004                  |
| 5,0 - 4,0                                    | 950 - 4005                  |
| 6,0 - 5,0                                    | 950 - 4006                  |
| 7,0 - 6,0                                    | 950 - 4007                  |
| 8,0 - 7,0                                    | 950 - 4008                  |
| 9,0 - 8,0                                    | 950 - 4009                  |
| 10,0 - 9,0                                   | 950 - 4010                  |
| 11,0 - 10,0                                  | 950 - 4011                  |
| 12,0 - 11,0                                  | 950 - 4012                  |
| 13,0 - 12,0                                  | 950 - 4013                  |
| 14,0 - 13,0                                  | 950 - 4014                  |
| 15,0 - 14,0                                  | 950 - 4015                  |
| 16,0 - 15,0                                  | 950 - 4016                  |
| 17,0 - 16,0                                  | 950 - 4017                  |
| 18,0 - 17,0                                  | 950 - 4018                  |
| 19,0 - 18,0                                  | 950 - 4019                  |
| 20,0 - 19,0                                  | 950 - 4020                  |
| 21,0 - 20,0                                  | 950 - 4021                  |
| 22,0 - 21,0                                  | 950 - 4022                  |
| 23,0 - 22,0                                  | 950 - 4023                  |
| 24,0 - 23,0                                  | 950 - 4024                  |
| 25,0 - 24,0                                  | 950 - 4025                  |
| 26,0 - 25,0                                  | 950 - 4026                  |
| 27,0 - 26,0                                  | 950 - 4027                  |
| 28,0 - 27,0                                  | 950 - 4028                  |
| 29,0 - 28,0                                  | 950 - 4029                  |
| 30,0 - 29,0                                  | 950 - 4030                  |
|                                              |                             |
| Holzsockel für ER40                          | 950 - 4098                  |
| Standard Satz = 23 Stk. d = 4,0... 26,0      | 950 - 4099                  |

Alle unter Standard-Ausführung aufgeführten Spannzangen sind auch als Ultrapräzisions-Ausführung erhältlich.

Bei der Bestellung bitte vor die Bestell-Nr. ein „U“ setzen.

All above collets also available in high precision. Put a "U" in front of the order number.

Order example: U 950-3220

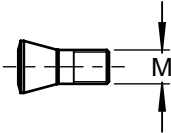


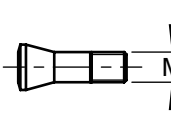
## tightening fixtures and flange for tightening fixture



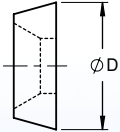
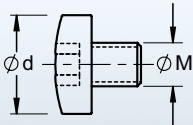
Zubehör

acesories

| Torxschrauben<br>clamping screws                                                 | Bestell-Nr.<br>order number | Größe ( Gewinde)<br>size |
|----------------------------------------------------------------------------------|-----------------------------|--------------------------|
|  | 993 00                      | M 1,8                    |
|                                                                                  | 993 01                      | M 2                      |
|                                                                                  | 993 02                      | M 2,5                    |
|                                                                                  | 993 02K                     | M 2,5                    |
|                                                                                  | 993 12                      | M 2,5                    |
|                                                                                  | 993 03                      | M 3                      |
|                                                                                  | 993 04                      | M 3,5                    |
|                                                                                  | 993 15                      | M 4                      |
|                                                                                  | 993 06                      | M 4,5                    |
|                                                                                  | 993 07                      | M 5                      |
|                                                                                  | 993 31                      | M 2                      |
|                                                                                  | 993 32                      | M 2,5                    |
|                                                                                  | 993 35                      | M 4                      |
|                                                                                  |                             |                          |

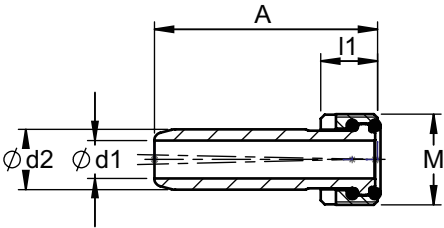
| Passschrauben<br>clamping screws                                                 | Bestell-Nr.<br>order number | Größe ( Gewinde)<br>size |
|----------------------------------------------------------------------------------|-----------------------------|--------------------------|
|  | 993 22                      | M 2,5 x 0,35             |
|                                                                                  | 993 23                      | M 3 x 0,35               |
|                                                                                  | 993 24                      | M 3,5                    |
|                                                                                  | 993 25                      | M 4                      |
|                                                                                  | 993 27                      | M 5                      |
|                                                                                  |                             |                          |

| Torxschlüssel<br>torx wrenches                                                      | Bestell-Nr.<br>order number | Größe ( Gewinde)<br>size |
|-------------------------------------------------------------------------------------|-----------------------------|--------------------------|
|  | 994 06                      | T 6                      |
|                                                                                     | 994 07                      | T 7                      |
|                                                                                     | 994 08                      | T 8                      |
|                                                                                     | 994 10                      | T 10                     |
|                                                                                     | 994 15                      | T 15                     |
|                                                                                     | 994 20                      | T 20                     |
|                                                                                     | 994 06IP                    | T 6IP                    |
|                                                                                     | 994 07IP                    | T 7IP                    |
|                                                                                     | 994 15IP                    | T 15IP                   |
|                                                                                     |                             |                          |

| Klemmscheiben, -schrauben<br>clamp washer                                           | Bestell-Nr.<br>order number | Größe<br>size | M   | Torxschlüssel<br>torx wrenches | Bezeichnung<br>name        |
|-------------------------------------------------------------------------------------|-----------------------------|---------------|-----|--------------------------------|----------------------------|
|  |                             |               |     |                                |                            |
|                                                                                     |                             |               |     |                                |                            |
|                                                                                     | 995 01                      | Ø12           |     |                                | Klemmscheibe               |
|                                                                                     |                             |               |     |                                |                            |
|  |                             |               |     |                                |                            |
|                                                                                     | 995 05                      | Ø 8           | 3,5 | 994 15                         | Klemmschraube für WSP Ø 12 |
|                                                                                     |                             |               |     |                                |                            |

Kühlmittelübergaberohre für HSK- Aufnahmen

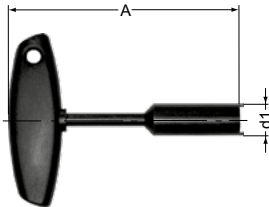
coolant tubes



| Bestell-Nr.<br>order number | HSK     | d1  | d2 | M         | l1   | A    |
|-----------------------------|---------|-----|----|-----------|------|------|
| 951 - A32                   | A - 32  | 3,5 | 6  | M 10x 1,0 | 5,5  | 25,7 |
| 951 - A40                   | A - 40  | 5   | 8  | M 12x 1,0 | 7,5  | 29,2 |
| 951 - A50                   | A - 50  | 6,4 | 10 | M 16x 1,0 | 9,5  | 32,7 |
| 951 - A63                   | A - 63  | 8   | 12 | M 18x 1,0 | 11,5 | 36,2 |
| 951 - A80                   | A - 80  | 10  | 14 | M 20x 1,5 | 13,5 | 39,7 |
| 951 - A100                  | A - 100 | 12  | 16 | M 24x 1,5 | 15,5 | 43,6 |
|                             |         |     |    |           |      |      |
|                             |         |     |    |           |      |      |
|                             |         |     |    |           |      |      |

Schlüssel für Kühlmittelübergaberohre

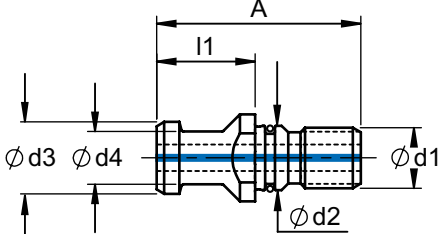
wrench for collant pipe

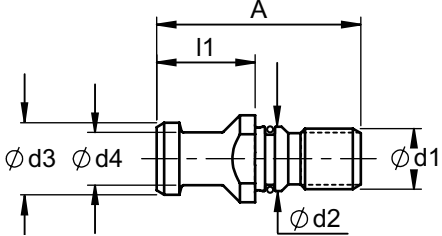


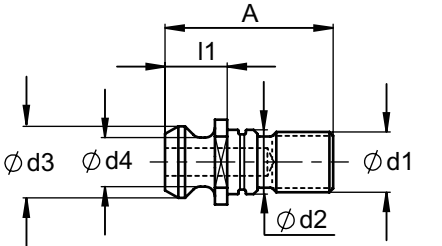
| Bestell-Nr.<br>order number | HSK     | d1   | L   |  |  |  |
|-----------------------------|---------|------|-----|--|--|--|
| 952 - A32                   | A - 32  | 8,8  | 110 |  |  |  |
| 952 - A40                   | A - 40  | 10,8 | 110 |  |  |  |
| 952 - A50                   | A - 50  | 14,5 | 120 |  |  |  |
| 952 - A63                   | A - 63  | 16,5 | 130 |  |  |  |
| 952 - A80                   | A - 80  | 18   | 140 |  |  |  |
| 952 - A100                  | A - 100 | 22   | 140 |  |  |  |
|                             |         |      |     |  |  |  |
|                             |         |      |     |  |  |  |
|                             |         |      |     |  |  |  |
|                             |         |      |     |  |  |  |

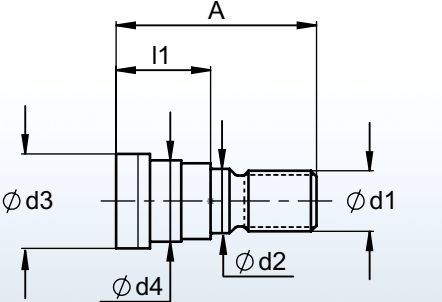
# Anzugsbolzen

pull studs

| DIN 69 872 A                                                                     | Bestell-Nr.<br>order number | SK | d1  | d2 | d3 | d4 | l1 | A  |
|----------------------------------------------------------------------------------|-----------------------------|----|-----|----|----|----|----|----|
|  | 980 - A40                   | 40 | M16 | 17 | 19 | 14 | 26 | 54 |
|                                                                                  | 980 - A50                   | 50 | M24 | 25 | 28 | 21 | 34 | 74 |
|                                                                                  |                             |    |     |    |    |    |    |    |
|                                                                                  |                             |    |     |    |    |    |    |    |
|                                                                                  |                             |    |     |    |    |    |    |    |

| DIN 69 872 B                                                                     | Bestell-Nr.<br>order number | SK  | d1 | d2 | d3 | d4 | l1 | A  |
|----------------------------------------------------------------------------------|-----------------------------|-----|----|----|----|----|----|----|
|  | 980 - B40                   | M16 | 17 | 19 | 14 | 26 | 54 | 54 |
|                                                                                  | 980 - B50                   | M24 | 25 | 28 | 21 | 34 | 34 | 74 |
|                                                                                  |                             |     |    |    |    |    |    |    |
|                                                                                  |                             |     |    |    |    |    |    |    |
|                                                                                  |                             |     |    |    |    |    |    |    |

| ISO 7388                                                                           | Bestell-Nr.<br>order number | SK | d1  | d2 | d3    | d4    | l1    | A    |
|------------------------------------------------------------------------------------|-----------------------------|----|-----|----|-------|-------|-------|------|
|  | 981 - 40                    | 40 | M16 | 17 | 18,95 | 12,95 | 16,4  | 44,5 |
|                                                                                    | 981 - 50                    | 50 | M24 | 25 | 29,1  | 19,6  | 25,55 | 65,5 |
|                                                                                    |                             |    |     |    |       |       |       |      |
|                                                                                    |                             |    |     |    |       |       |       |      |
|                                                                                    |                             |    |     |    |       |       |       |      |

| DIN 20 80                                                                          | Bestell-Nr.<br>order number | SK | d1  | d2 | d3   | d4   | l1   | A    |
|------------------------------------------------------------------------------------|-----------------------------|----|-----|----|------|------|------|------|
|  | 982 - 40                    | 40 | M16 | 17 | 25   | 21,1 | 25   | 53   |
|                                                                                    | 982 - 50                    | 50 | M24 | 25 | 39,3 | 32   | 35,8 | 64,8 |
|                                                                                    |                             |    |     |    |      |      |      |      |
|                                                                                    |                             |    |     |    |      |      |      |      |
|                                                                                    |                             |    |     |    |      |      |      |      |

Anzugsbolzen

pull studs

| MAS BT - Typ 1 | Bestell-Nr.<br>order number | BT | d1  | d2 | d3 | 45° | l1 | A  |
|----------------|-----------------------------|----|-----|----|----|-----|----|----|
|                | 983 - 40                    | 40 | M16 | 17 | 15 | 45° | 35 | 60 |
|                | 983 - 50                    | 50 | M24 | 25 | 23 | 45° | 45 | 85 |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |

| MAS BT - Typ 2 | Bestell-Nr.<br>order number | BT | d1  | d2 | d3 | 60° | l1 | A  |
|----------------|-----------------------------|----|-----|----|----|-----|----|----|
|                | 984 - 40                    | 40 | M16 | 17 | 15 | 60° | 35 | 60 |
|                | 984 - 50                    | 50 | M24 | 25 | 23 | 60° | 45 | 85 |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |

| MAS BT - Typ 3 | Bestell-Nr.<br>order number | BT | d1  | d2 | d3 | 90° | l1 | A  |
|----------------|-----------------------------|----|-----|----|----|-----|----|----|
|                | 985 - 40                    | 40 | M16 | 17 | 15 | 90° | 35 | 60 |
|                | 985 - 50                    | 50 | M24 | 25 | 23 | 90° | 45 | 85 |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |
|                |                             |    |     |    |    |     |    |    |

# PIKTOGRAMME

Pictograms



Bearbeitungsrichtung  
machining direction



Bearbeitungsrichtung  
machining direction



Bearbeitungsrichtung  
machining direction



Planfräsen  
face milling



Nutfräsen  
slot milling



Eckfräsen / Umfangfräsen  
step milling / side milling



Fasfräsen  
chamfering



Freiformflächenfräsen  
contour milling



Eintauchwinkel  
ramping



Zirkularfräsen  
helix milling



Innenkühlung wahlweise, zentral oder über Bund  
through coolant either central or radial



Guss  
cast iron



Stahl  
steel



Mit Innenkühlung  
through coolant



Ohne Innenkühlung  
without coolant



Wendeplatteneinstellung 0°  
rake angle of insert pocket 0°



Wendeplatteneinstellung 7° positiv  
rake angle of insert pocket 7° positiv



Wendeplatteneinstellung 12° positiv  
rake angle of insert pocket 12° positiv



Diamant beschichtet  
diamond coated



Diamant beschichtet  
diamond coated



beschichtet / unbeschichtet  
coated / uncoated



Unbeschichtet  
uncoated



# PIKTOGRAMME

Pictograms



Aluminium und Nichteisenwerkstoffe  
aluminium and non ferrous material



R-Cut beschichtet  
R-Cut coated



TIALN beschichtet  
TIALN coated



6535-HA

Schaftausführung DIN 6535-HA  
shank DIN 6535-HA



6535-HB

Schaftausführung DIN 6535-HB  
shank DIN 6535-HB



228-A

Morsekegel DIN 228-A  
morse taper DIN 228-A



2080

Steilkegel DIN 2080  
shank DIN 2080



6499

Spannzange DIN 6499  
collet DIN 6499



69871 A

Steilkegel DIN 69 871 A  
shank DIN 69 871 A



69871-AD

Steilkegel DIN 69 871 AD  
shank DIN 69 871 AD



69871 AD/B

Steilkegel DIN 69 871 AD/B  
shank DIN 69 871 AD/B



69 893-1

Hohlschaftkegel DIN 69 893-1  
hollow taper shank DIN 69 893-1



69 893-5

Hohlschaftkegel DIN 69 893-5  
hollow taper shank DIN 69 893-5



69 893-6

Hohlschaftkegel DIN 69 893-6  
hollow taper shank DIN 69 893-6



JIS B6339  
MAS403BT

Steilkegel MAS-BT JIS B 6339  
shank MAS-BT JIS B 6339



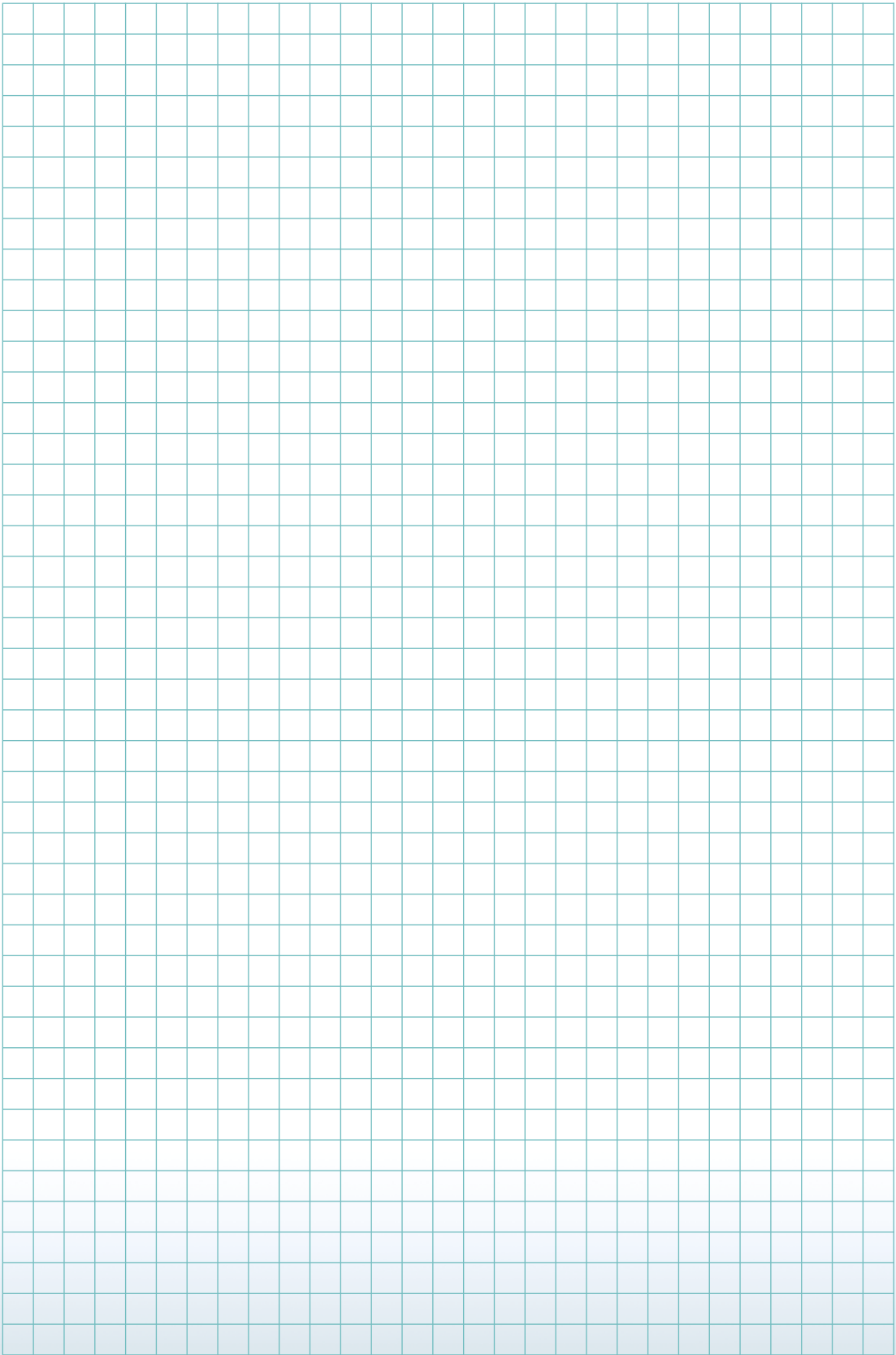
ISO  
26623-1

Polygonschaftkegel ISO 26623-1  
Polygonal taper interface ISO 26623-1



PSC

Polygonschaftkegel ISO 26623-1  
Polygonal taper interface ISO 26623-1



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• Werkzeugtechnik



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