

Ball-shaped copy mills



High performance tools made by

JONGEN!

K01-

K06



THE TOOL

- ☞ Ball-shaped copy mills for roughing and finishing operations with effectively 2 cutting edges at the tool circumference
- ☞ The cutters are made of high-tensile tool steel and can withstand even heavy loads
- ☞ Thanks to the nickel-coated surfaces, an additional resistance is obtained that helps against build-up material and corrosions
- ☞ All tools are equipped with bore holes for internal coolant

Available versions:

- Shank type mill with clamping made to DIN1835-B (Weldon), diameters 12- 32mm
- Shank type mill with clamping made to DIN1835-A (cylindrical), diameters 12- 32mm
- The screw-in cutters are compatible with many different market usual systems, diameters 12- 32mm

CHARACTERISTICS

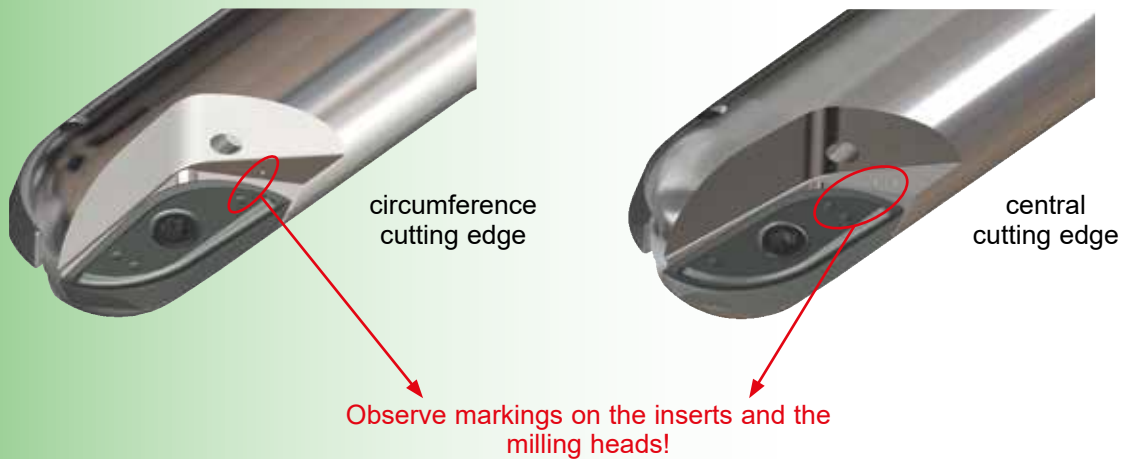
- ☞ Application fields are the profile milling, pocket milling, helical interpolation, the slot milling, as well as the application of concave radii
- ☞ Due to the comprehensive insert programme, almost all materials types can be machined
- ☞ Thanks to the different adaption possibilities, also large cavities can be processed without any problems

THE INSERT

| JMK01-R06N | JMK02-R08N | JMK03-R10N | JMK04-R125N | JMK05-R15N | JMK06-R16N |
|---|---|---|---|--|---|
|  |  |  |  |  |  |
| 12,3x5,2x2,7 R6,0 | 15,2 x 7,0 x 2,7 R8,0 | 21,2x8,8x4,3 R10,0 | 23,0x11,2x4,5 R12,5 | 27,6x13,5x4,6 R15,0 | 30,5x14,4x4,7 R16,0 |

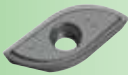
- ☞ Effectively 2-edge asymmetrical insert with radii 6,0 - 8,0 - 10,0 - 12,5 - 15,0 - 16,0
- ☞ Precision sintered with positive chip breaker, rounded cutting edge

ASSEMBLY INSTRUCTIONS INSERT



Following carbide qualities are offered:

HC45



Code 41, ISO Classification P30 - P35

Very tough fine grain quality with a thick power nitride coating for middle - high cutting speeds and high feed rates. This quality is suitable for dry milling and can also be adopted with cooling. Application areas are roughing and finishing of almost all steels such as structural steel, tool steel, heat-treatable steel as well as unalloyed, low alloyed and high alloyed steel, and also cast-qualities such as grey cast iron, globular graphite cast iron etc.

HC30



Code 52, ISO Classification M25 - M30

Hard wearing and tough finest grain carbide with power nitride coating for middle cutting speeds and middle feed rates. This quality is suitable for dry milling and can also be adopted with cooling. Application areas are roughing and finishing high grade steel as well as high alloyed materials.

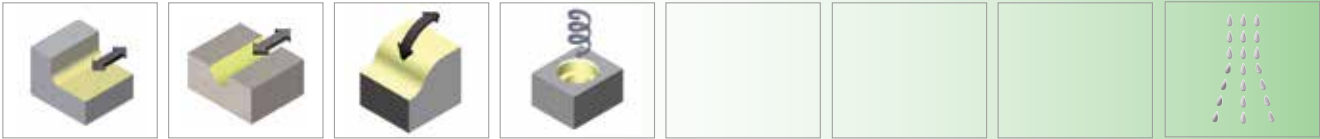
HC20



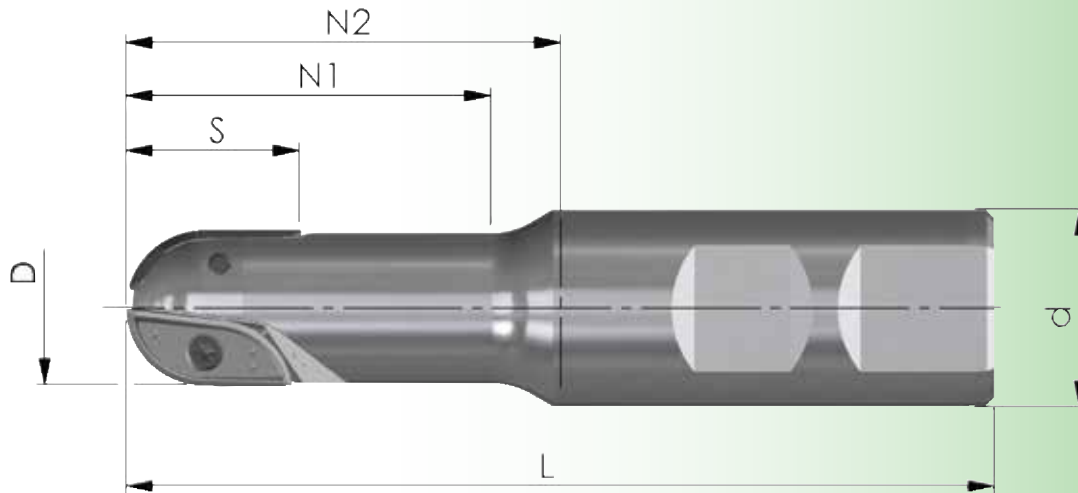
Code 53, Iso-Classification K15-K20

Very hard wearing fine grain carbide with power nitride coating for middle – high cutting speeds with high feed rates. This quality is suitable for dry milling and can also be adopted with cooling. Application areas are roughing and finishing of cast iron materials, e.g. grey-, tempered-, vermicular-, graphite- and globular graphite cast iron.

TECHNICAL DATA

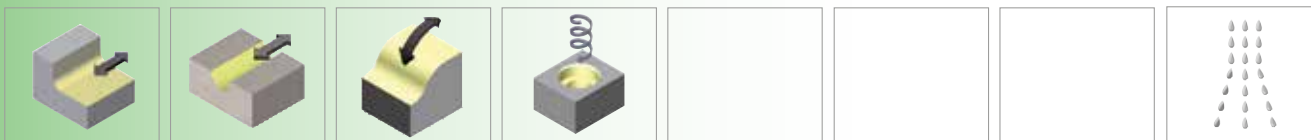


SHANK TYPE MILL DIN 1835-B (WELDON)

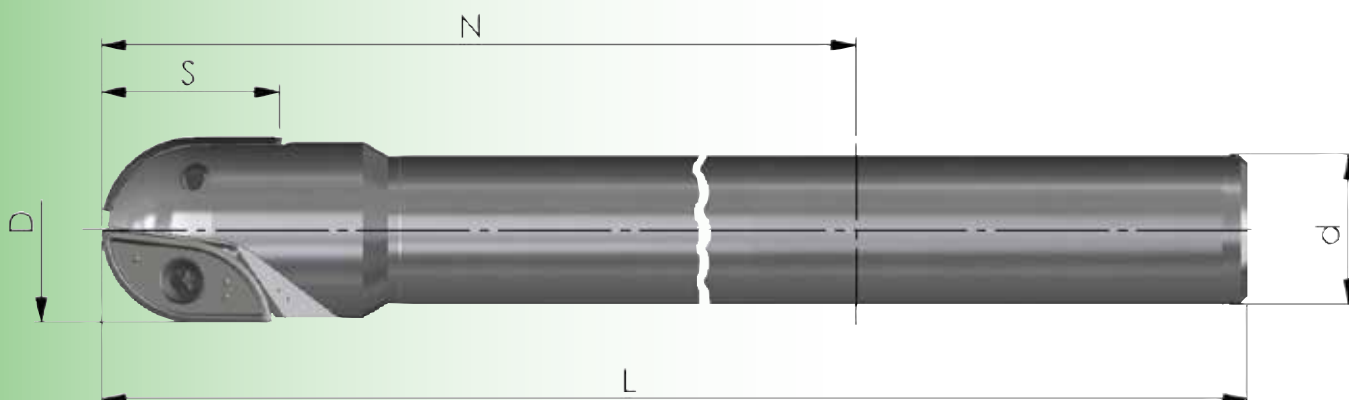


| Order-No. | D \pm 0,05 | N1 | N2 | d _{h6} | S | L | Z | Inserts |
|-----------------|--------------|----|----|-----------------|------|-----|-----|---------|
| KF-12-29-K01-20 | 12 | 29 | 39 | 20 | 12,8 | 90 | 1+1 | JMK01- |
| KF-16-43-K02-20 | 16 | 43 | 49 | 20 | 15,8 | 100 | 1+1 | JMK02- |
| KF-20-46-K03-25 | 20 | 46 | 53 | 25 | 22,0 | 110 | 1+1 | JMK03- |
| KF-25-52-K04-25 | 25 | 52 | 53 | 25 | 23,9 | 110 | 1+1 | JMK04- |
| KF-30-76-K05-32 | 30 | 76 | 79 | 32 | 29,0 | 140 | 1+1 | JMK05- |
| KF-32-78-K06-32 | 32 | 78 | 79 | 32 | 32,0 | 140 | 1+1 | JMK06- |

TECHNICAL DATA



SHANK TYPE MILL DIN 1835-A (CYLINDRICAL)

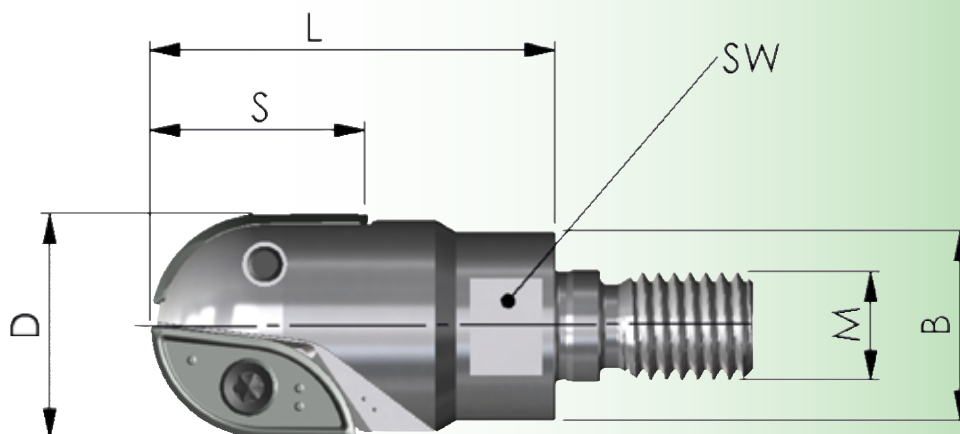


| Order-No. | D \pm 0,05 | N | d _{h6} | S | L | Z | Inserts |
|------------------|--------------|-----|-----------------|------|-----|-----|---------|
| KF-12-K01-10-120 | 12 | 79 | 10 | 12,8 | 120 | 1+1 | JMK01- |
| KF-16-K02-14-160 | 16 | 114 | 14 | 15,8 | 160 | 1+1 | JMK02- |
| KF-20-K03-18-200 | 20 | 151 | 18 | 22,0 | 200 | 1+1 | JMK03- |
| KF-25-K04-20-200 | 25 | 149 | 20 | 23,9 | 200 | 1+1 | JMK04- |
| KF-30-K05-25-200 | 30 | 143 | 25 | 29,0 | 200 | 1+1 | JMK05- |
| KF-32-K06-25-200 | 32 | 143 | 25 | 32,0 | 200 | 1+1 | JMK06- |

TECHNICAL DATA





















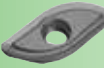












SCREW-IN CUTTERS
















| Order-No. | D±0,05 | S | L | M | B | SW | Z | Inserts |
|------------------------------|--------|------|------|-----|------|----|-----|---------|
| NEW! EKF-12-28-K01-M6 | 12 | 12,8 | 27,7 | M6 | 10,5 | 8 | 1+1 | JMK01- |
| EKF-12-28-K01-M8 | 12 | 12,8 | 28 | M8 | 13,5 | 12 | 1+1 | JMK01- |
| NEW! EKF-16-32-K02-M8 | 16 | 15,8 | 32 | M8 | 13,5 | 12 | 1+1 | JMK02- |
| EKF-16-32-K02-M10 | 16 | 15,8 | 32 | M10 | 18,0 | 16 | 1+1 | JMK02- |
| EKF-20-42-K03-M10 | 20 | 22,0 | 42 | M10 | 18,0 | 16 | 1+1 | JMK03- |
| EKF-25-45-K04-M12 | 25 | 23,9 | 45 | M12 | 21,0 | 18 | 1+1 | JMK04- |
| EKF-30-52-K05-M16 | 30 | 29,0 | 52 | M16 | 29,0 | 24 | 1+1 | JMK05- |
| EKF-32-55-K06-M16 | 32 | 32,0 | 55 | M16 | 29,0 | 24 | 1+1 | JMK06- |

INSERTS

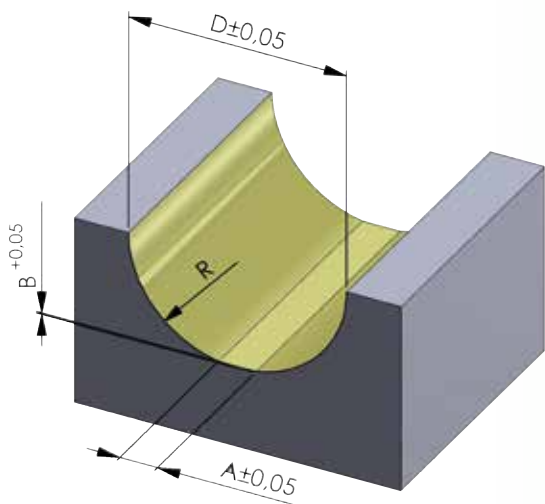
| | | | HC45 (code 41) | HC30 (code 52) | HC20 (code 53) | | | |
|---|--|---|--|--|---|--|--|--|
|  | JMK01-R06N  12,3 x 5,2 x 2,7 R 6,0 | |  |  |  | | | |
| | | f_z [mm] | 0,07 (0,05-0,20) | 0,07 (0,05-0,20) | 0,07 (0,05-0,20) | | | |
|  | JMK02-R08N  15,2 x 7,0 x 2,7 R 8,0 | |  |  |  | | | |
| | | f_z [mm] | 0,10 (0,05-0,20) | 0,10 (0,05-0,20) | 0,10 (0,05-0,20) | | | |
|  | JMK03-R10N  21,2 x 8,8 x 4,3 R 10,0 | |  |  |  | | | |
| | | f_z [mm] | 0,10 (0,05-0,20) | 0,10 (0,05-0,20) | 0,10 (0,05-0,20) | | | |
|  | JMK04-R125N  23,0 x 11,2 x 4,5 R 12,5 | |  |  |  | | | |
| | | f_z [mm] | 0,15 (0,05-0,25) | 0,15 (0,05-0,25) | 0,15 (0,05-0,25) | | | |
|  | JMK05-R15N  27,6 x 13,5 x 4,6 R 15,0 | |  |  |  | | | |
| | | f_z [mm] | 0,20 (0,10-0,30) | 0,20 (0,10-0,30) | 0,20 (0,10-0,30) | | | |
|  | JMK06-R16N  30,5 x 14,4 x 4,7 R 16,0 | |  |  |  | | | |
| | | f_z [mm] | 0,20 (0,10-0,30) | 0,20 (0,10-0,30) | 0,20 (0,10-0,30) | | | |
| | |  | 10 | 10 | 10 | | | |

| V_c [m/min] | steel | stainless | cast iron | non-ferrous metals | highly heat-resistant | tempered |
|------------------|--------------------|--------------------|--------------------|--------------------|-----------------------|------------------|
| HC45 | 250 (200 - 350) | 240 (140 - 300) | 240 (130 - 280) | | | |
| HC30 | 160 (120 - 220) | 200 (100 - 300) | | | 60 (40 - 200) | |
| HC20 | | | 260 (180 - 350) | | | 80 (40 - 120) |

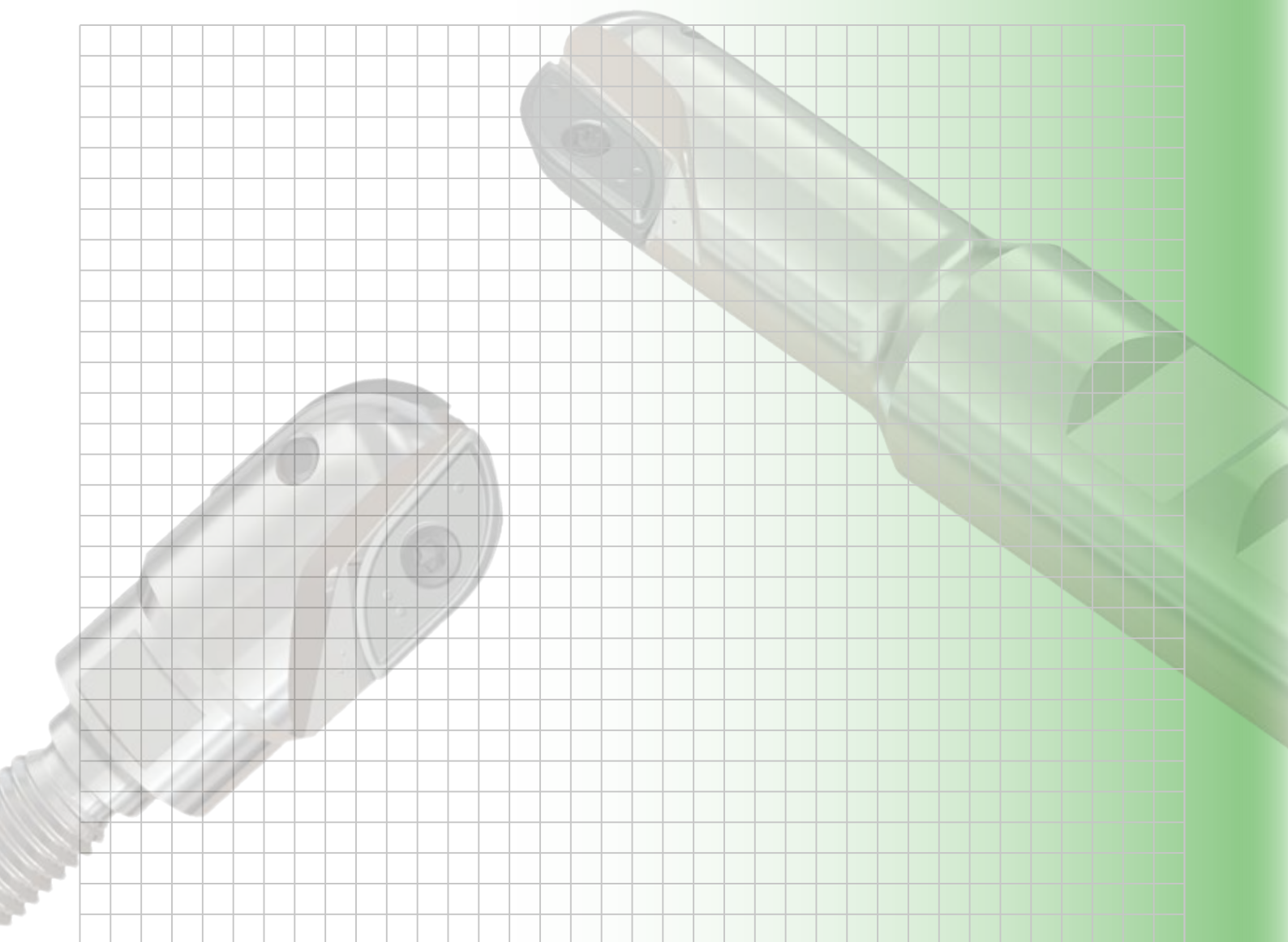
SPARE PARTS

| | | | | | |
|---------------|---|------------------------------------|---|--------------|---|
| JMK01- |  | SS 2,0-4 (M= 0,4-0,6 Nm) |  | T 06+ |  Grease |
| JMK02- |  | SS 2,5-5 (M= 1,2-1,3 Nm) |  | T 08 | |
| JMK03- |  | SS 3,0-2 (M= 1,7-1,8 Nm) |  | T 09 | |
| JMK04- |  | SS 4,0-3 (M= 3,2-3,3 Nm) |  | T 15+ | |
| JMK05- |  | SS 5,0-1 (M= 4,8-5,0 Nm) |  | T 20 | |
| JMK06- |  | SS 5,0-1 (M= 4,8-5,0 Nm) |  | T 20 | |

TECHNICAL DATA



| Inserts | D | R | A | B |
|---------|------|------|-----|------|
| JMK01- | 12,0 | 6,0 | 1,2 | 0,01 |
| JMK02- | 16,0 | 8,0 | 1,1 | 0,01 |
| JMK03- | 20,0 | 10,0 | 1,2 | 0,01 |
| JMK04- | 25,0 | 12,5 | 1,4 | 0,01 |
| JMK05- | 30,0 | 15,0 | 1,5 | 0,01 |
| JMK06- | 32,0 | 16,0 | 1,3 | 0,01 |



Errors and omissions excepted!

10/19



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