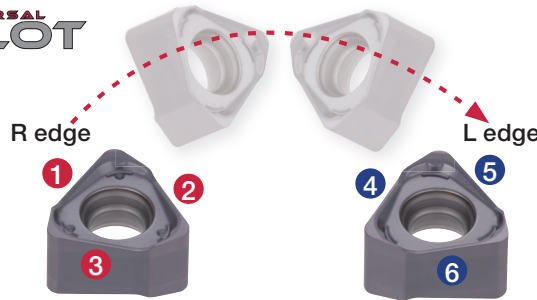


High economy by 6-corner insert with wiper
 Machining stability with the cutter design for optimum chip evacuation

High economy by 6-corner insert

6-corner insert provides economical advantage. Self-wiper edge delivers good surface quality.

TUNGUSLOT NIVERSAL
 6 corners
 with wiper



ASW / TSW
 CW = 10, 12, 14, 16 mm

Excellent chip evacuation even in deep slot milling - optimum pocket design

TUNGUSLOT NIVERSAL

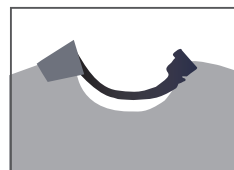
OK



Optimum chipbreaker and big gullets create compact chip formation and smooth evacuation!

Competitor

X



Unformed chip and narrow gullet cause chip packing.

TUNGUSLOT NIVERSAL ASW / TSW type

P Steel S55C / C55 (200HB)
 Edge width: CW = 10 mm, Dry
 Corner radius: RE = 0.8 mm

| Cutter | Depth of slot: ae (mm) | | |
|---------------------------|------------------------|----|----|
| | 10 | 20 | 30 |
| TUNGUSLOT NIVERSAL | ○ | ○ | ○ |
| Competitor A | ○ | ○ | ✗ |

Chips at ae = 30 mm depth

TUNGUSLOT NIVERSAL



Competitor A

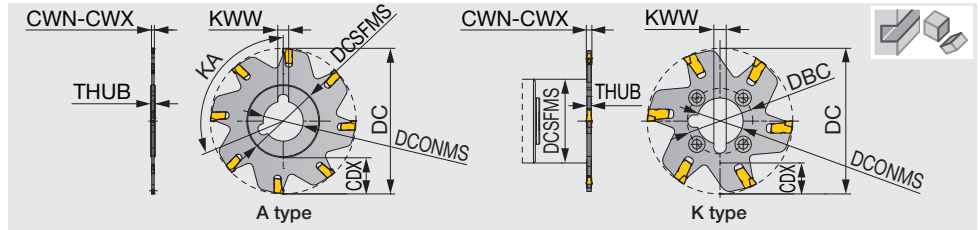


Packed chips



Chips are packed because of bad chip control and flow.

Side cutter for thin slitting and cutting off



| Designation | CW | CWN | CWX | DC | CICT | Seat size | CDX | DCONMS | THUB | DCSFMS | DBC | KA | KWW | SS | SS | Drive flange | Key | Insert |
|-------------------------------|-----|------|------|------|------|-----------|-------------------|--------|------|-------------------|-----|-------|------|----------------|-----------|--------------|-----|---------------|
| SSG01R063-E1.6 | 1.6 | 1.5 | 1.79 | 63 | 6 | 1 | 14 | 10 | 2.4 | 32 | 22 | - | 3 | SW25-32 | SW1.00-32 | - | K | SSM1*N/SSS1*N |
| ASG01N076-1.6 | 1.6 | 1.5 | 1.79 | 76.2 | 8 | 1 | 14 | 25.4 | 2.4 | 39 | - | 112.5 | 6.35 | - | - | - | A | SSM1*N/SSS1*N |
| ASG01N080-E1.6 | 1.6 | 1.5 | 1.79 | 80 | 8 | 1 | 16 | 22 | 2.4 | 39 | - | 112.5 | 6 | - | - | - | A | SSM1*N/SSS1*N |
| ASG01N100-1.6 | 1.6 | 1.5 | 1.79 | 100 | 10 | 1 | 30 | 25.4 | 2.4 | 39 | - | 90 | 6.35 | - | - | - | A | SSM1*N/SSS1*N |
| ASG01N100-E1.6 | 1.6 | 1.5 | 1.79 | 100 | 10 | 1 | 30 | 22 | 2.4 | 39 | - | 90 | 6 | - | - | - | A | SSM1*N/SSS1*N |
| ASG01N125-1.6 ⁽⁴⁾ | 1.6 | 1.5 | 1.79 | 125 | 12 | 1 | 30 | 31.75 | 2.4 | 64 | - | 75 | 7.92 | - | - | - | A | SSM1*N/SSS1*N |
| ASG01N125-E1.6 ⁽⁴⁾ | 1.6 | 1.5 | 1.79 | 125 | 12 | 1 | 30 | 27 | 2.4 | 64 | - | 75 | 7 | - | - | - | A | SSM1*N/SSS1*N |
| SSG02R063-E2 | 2.2 | 1.8 | 2.69 | 63 | 6 | 2 | 15 | 10 | 2.4 | 32 | 22 | - | 3 | SW25-32 | SW1.00-32 | - | K | SSM2*N/SSS2*N |
| ASG02N076-2 | 2.2 | 1.8 | 2.69 | 76.2 | 8 | 2 | 17 | 25.4 | 2.4 | 39 | - | 112.5 | 6.35 | - | - | - | A | SSM2*N/SSS2*N |
| ASG02N080-E2 | 2.2 | 1.8 | 2.69 | 80 | 8 | 2 | 20 | 22 | 2.4 | 39 | - | 112.5 | 6 | - | - | - | A | SSM2*N/SSS2*N |
| ASG02N100-2 | 2.2 | 1.8 | 2.69 | 100 | 10 | 2 | 30 | 25.4 | 2.4 | 39 | - | 90 | 6.35 | - | - | - | A | SSM2*N/SSS2*N |
| ASG02N100-E2 | 2.2 | 1.8 | 2.69 | 100 | 10 | 2 | 30 | 22 | 2.4 | 39 | - | 90 | 6 | - | - | - | A | SSM2*N/SSS2*N |
| ASG02N125-2 ⁽⁴⁾ | 2.2 | 1.8 | 2.69 | 125 | 12 | 2 | 32 | 31.75 | 2.4 | 60 | - | 75 | 7.92 | - | - | - | A | SSM2*N/SSS2*N |
| ASG02N125-E2 ⁽⁴⁾ | 2.2 | 1.8 | 2.69 | 125 | 12 | 2 | 32 | 27 | 2.4 | 60 | - | 75 | 7 | - | - | - | A | SSM2*N/SSS2*N |
| SSG03R063-E3 | 3.1 | 1.8 | 2.69 | 63 | 5 | 3 | 15 | 10 | 2.4 | 32 | 22 | - | 3 | SW25-32 | SW1.00-32 | - | K | SSM3*N/SSS3*N |
| SSG03R080-3 | 3.1 | 2.7 | 3.53 | 80 | 6 | 3 | 16 | 25.4 | 2.4 | 46 | 36 | - | 6.35 | SW32-25.4-46-J | SW1.25-46 | R1.00-46 | K | SSM3*N/SSS3*N |
| SSG03R080-E3 | 3.1 | 2.7 | 3.53 | 80 | 6 | 3 | 19 ⁽²⁾ | 22 | 2.4 | 40 ⁽¹⁾ | 32 | - | 6 | SW32-40 | - | R22-46 | K | SSM3*N/SSS3*N |
| SSG03R100-3 | 3.1 | 2.7 | 3.53 | 100 | 6 | 3 | 26 | 25.4 | 2.4 | 46 | 36 | - | 6.35 | SW32-25.4-46-J | SW1.25-46 | R1.00-46 | K | SSM3*N/SSS3*N |
| SSG03R100-E3 | 3.1 | 2.7 | 3.53 | 100 | 6 | 3 | 29 ⁽³⁾ | 22 | 2.4 | 40 ⁽¹⁾ | 32 | - | 6 | SW32-40 | - | R22-46 | K | SSM3*N/SSS3*N |
| SSG03R125-3 ⁽⁴⁾ | 3.1 | 2.7 | 3.53 | 125 | 8 | 3 | 34 | 31.75 | 2.4 | 55 | 45 | - | 7.92 | - | - | R1.25-55 | K | SSM3*N/SSS3*N |
| SSG03R125-E3 ⁽⁴⁾ | 3.1 | 2.7 | 3.53 | 125 | 8 | 3 | 34 | 32 | 2.4 | 55 | 45 | - | 8 | S32-55 | - | R32-55 | K | SSM3*N/SSS3*N |
| SSG04R063-E4 | 4.1 | 3.54 | 4.52 | 63 | 5 | 4 | 15 | 10 | 3.2 | 32 | 22 | - | 3 | SW25-32 | SW1.00-32 | - | K | SSM4*N/SSS4*N |
| SSG04R080-4 | 4.1 | 3.54 | 4.52 | 80 | 6 | 4 | 16 | 25.4 | 3.2 | 46 | 36 | - | 6.35 | SW32-25.4-46-J | SW1.25-46 | R1.00-46 | K | SSM4*N/SSS4*N |
| SSG04R080-E4 | 4.1 | 3.54 | 4.52 | 80 | 6 | 4 | 19 ⁽²⁾ | 22 | 3.2 | 40 ⁽¹⁾ | 32 | - | 6 | SW32-40 | - | R22-46 | K | SSM4*N/SSS4*N |
| SSG04R100-4 | 4.1 | 3.54 | 4.52 | 100 | 6 | 4 | 26 | 25.4 | 3.2 | 46 | 36 | - | 6.35 | SW32-25.4-46-J | SW1.25-46 | R1.00-46 | K | SSM4*N/SSS4*N |
| SSG04R100-E4 | 4.1 | 3.54 | 4.52 | 100 | 6 | 4 | 29 ⁽³⁾ | 22 | 3.2 | 40 ⁽¹⁾ | 32 | - | 6 | SW32-40 | - | R22-46 | K | SSM4*N/SSS4*N |
| SSG04R125-4 ⁽⁴⁾ | 4.1 | 3.54 | 4.52 | 125 | 8 | 4 | 34 | 31.75 | 3.2 | 55 | 45 | - | 7.92 | - | - | R1.25-55 | K | SSM4*N/SSS4*N |
| SSG04R125-E4 ⁽⁴⁾ | 4.1 | 3.54 | 4.52 | 125 | 8 | 4 | 34 | 32 | 3.2 | 55 | 45 | - | 8 | S32-55 | - | R32-55 | K | SSM4*N/SSS4*N |

(1) When using a drive flange, DCSFMS = 46 mm
 (2) When using a drive flange, CDX = 16 mm
 (3) When using a drive flange, CDX = 26 mm

(4) Cutters ø125, only one keyway.
 CW = When standard inserts are mounted. CWN, CWX = When special inserts are mounted.
 Since a single insert cuts the full groove width, use the insert whose width is equal to the groove width in the application.

Tolerance of slot width*

±0.1

*Just for reference

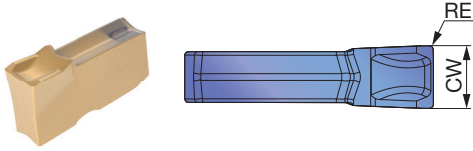
SPARE PARTS

| Designation | Grip | Extractor |
|-------------|--------|-----------|
| SSG01/02... | ESG0.5 | - |
| ASG01/02... | ESG0.5 | - |
| SSG03/04... | - | ESG1 |

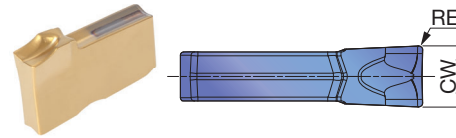
Reference pages: Inserts, Standard cutting conditions → **H191**

INSERT

SSM



SSS



| | | | | | | | | | | | | | | | | | | | | |
|----------|----------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel | ★ | | | | | | | | | | | | | | | | | | |
| M | Stainless | ★ | | | | | | | | | | | | | | | | | | |
| K | Cast iron | ★ | | | | | | | | | | | | | | | | | | |
| N | Non-ferrous | | | | | | | | | | | | | | | | | | | |
| S | Superalloys | | | | | | | | | | | | | | | | | | | |
| H | Hard materials | | | | | | | | | | | | | | | | | | | |

★ : First choice
☆ : Second choice

| Designation | RE | Coated | | | | | | | | | | CW±0.04 | |
|-------------|------|--------|--|--|--|--|--|--|--|--|--|---------|-----|
| | | GHT30 | | | | | | | | | | | |
| SSM22N | 0.2 | ● | | | | | | | | | | | 2.2 |
| SSM31N | 0.2 | ● | | | | | | | | | | | 3.1 |
| SSM41N | 0.25 | ● | | | | | | | | | | | 4.1 |
| SSS16N | 0.16 | ● | | | | | | | | | | | 1.6 |
| SSS22N | 0.2 | ● | | | | | | | | | | | 2.2 |
| SSS31N | 0.2 | ● | | | | | | | | | | | 3.1 |
| SSS41N | 0.25 | ● | | | | | | | | | | | 4.1 |

● : Line up

STANDARD CUTTING CONDITIONS

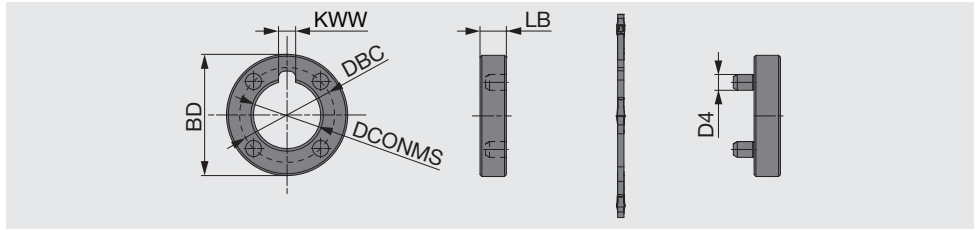
| ISO | Workpiece material | Hardness (HB) | Insert | Cutting speed Vc (m/min) | Chip thickness t (mm) |
|----------|--|---------------|--------|--------------------------|-----------------------|
| P | Low carbon steel SS400, S15C, etc. E275A, C15E4, etc. | - 200 | SSM... | 150 - 230 | 0.05 - 0.15 |
| | High carbon steel S45C, S55C, etc. E355D, C55, etc. | 200 - 300 | SSM... | 100 - 170 | 0.04 - 0.13 |
| | Alloy steels SCM440, SCR415, etc. 42CrMo4, 20Cr4, etc. | 150 - 300 | SSM... | 90 - 160 | 0.04 - 0.13 |
| | Tool steel SKD11, SKD61, etc. X153CrMoV12, X40CrMoV5-1, etc. | - 300 | SSM... | 70 - 120 | 0.04 - 0.13 |
| M | Stainless steel SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc. | - | SSS... | 90 - 200 | 0.04 - 0.13 |
| K | Grey cast iron FC250, FC300, etc. 250, 300, etc. | 150 - 250 | SSM... | 100 - 200 | 0.05 - 0.15 |
| | Ductile cast iron FCD400, etc. 400-15S, etc. | 150 - 250 | SSM... | 80 - 130 | 0.05 - 0.15 |

- High Feed Milling
- Face Milling
- Shoulder Milling
- Slot Milling
- Profile Milling

TUNGMSLIT

R (drive flange set)

Drive flange set for side cutters



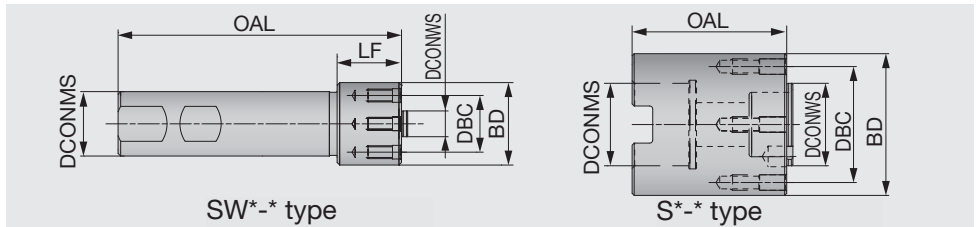
| Designation | DCONMS | BD | D4 | DBC | LB | KWW |
|-------------|--------|----|----|-----|----|------|
| R1.00-46 | 25.4 | 46 | 5 | 36 | 10 | 6.35 |
| R22-46 | 22 | 46 | 6 | 32 | 10 | 6 |
| R1.25-55 | 31.75 | 55 | 6 | 45 | 10 | 7.92 |
| R32-55 | 32 | 55 | 6 | 45 | 10 | 8 |

- Approach angle
- 10°-20°
- 45°
- 70°
- 85°
- 88°
- 90°

TUNGMSLIT

SW

Drive shank for side cutters



| Designation | DCONMS | DCONMS | DCONWS | BD | DBC | LF | OAL |
|----------------|--------|--------|--------|----|-----|------|-----|
| SW25-32 | 25 | - | 10 | 32 | 22 | 25 | 110 |
| SW32-40 | 32 | - | 22 | 40 | 32 | 30 | 120 |
| SW32-25.4-46-J | 32 | - | 25.4 | 46 | 36 | 30 | 120 |
| SW1.00-32 | 25.4 | - | 10 | 32 | 22 | 25.4 | 110 |
| SW1.25-46 | 31.75 | - | 25.4 | 46 | 36 | 30 | 120 |
| S32-55 | - | 32 | 32 | 55 | 45 | - | 60 |

SPARE PARTS



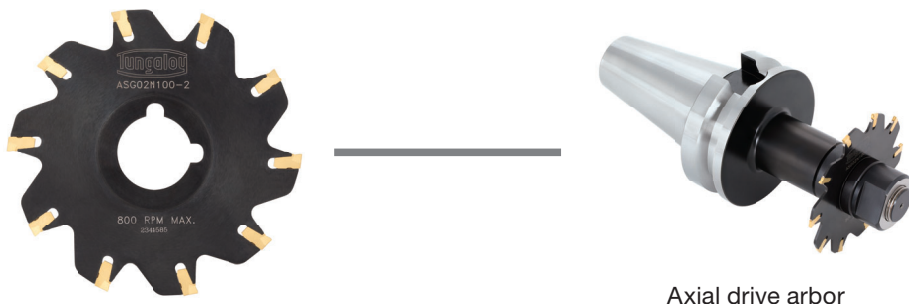
| Designation | Screw | Wrench | | |
|----------------|----------|-----------------|----------|--------|
| | | Mono block type | Torx bit | Handle |
| SW25-32 | SR76-961 | SETT-15/5 | - | - |
| SW32-40 | SR76-963 | SETT-15/5 | - | - |
| SW32-25.4-46-J | SR76-963 | SETT-15/5 | - | - |
| SW1.00-32 | SR76-961 | SETT-15/5 | - | - |
| SW1.25-46 | SR76-963 | SETT-15/5 | - | - |
| S32-55 | SR76-943 | - | BT20M | H-TB |

*Recommended clamping torque (N·m): SR76-961=3.5

COMBINATION OF ARBORS / ATTACHMENTS

Cutter bodies : "A" type

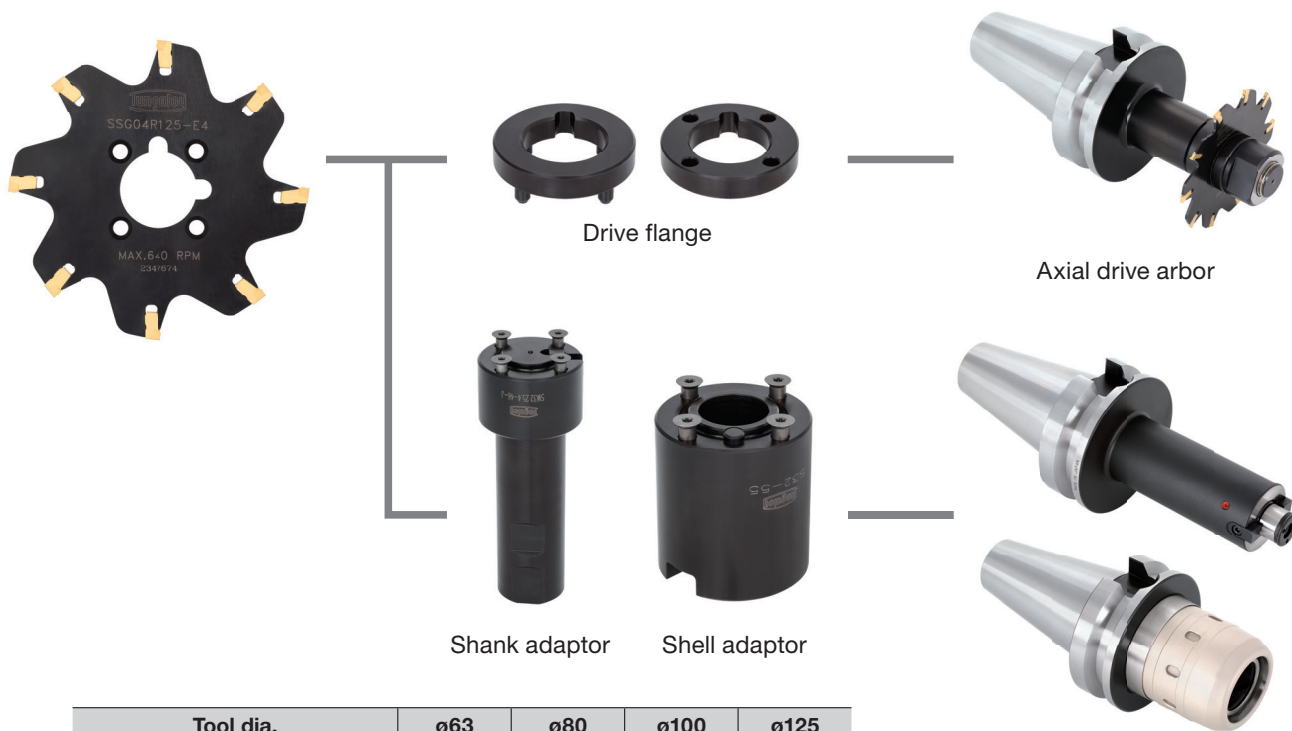
A-type disk cutters are without clamping holes on the hub and can be mounted only by using axial drive arbors.



Axial drive arbor

Cutter bodies : "K" type

K-type disk cutters are with clamping holes on the hub and can be mounted by using intermediate shanks or shell adaptors, making it possible to use endmills / shell mill arbors.



| Tool dia. | ø63 | ø80 | ø100 | ø125 |
|-----------------------|-----|-----|------|------|
| Drive flange | - | ✓ | ✓ | ✓ |
| Shank / Shell adaptor | ✓ | ✓ | ✓ | ✓ |

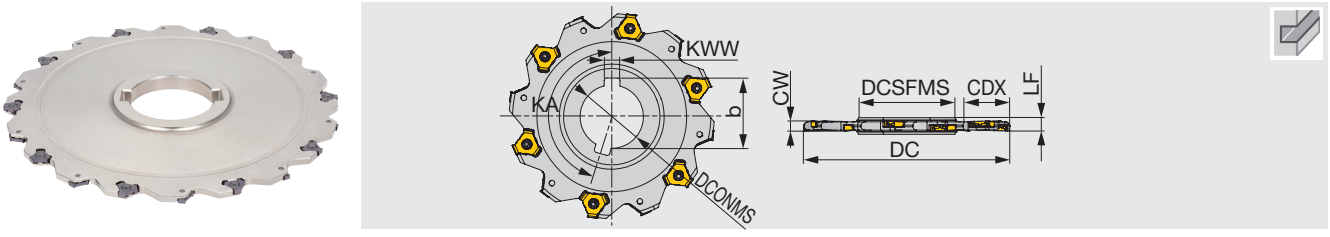
Shell mill / Endmill arbor

- High Feed Milling
- Face Milling
- Shoulder Milling
- Slot Milling
- Profile Milling
- Approach angle
- 10°-20°
- 45°
- 70°
- 85°
- 88°
- 90°
- Others

TUNGSLIT

ASV 02/03/04/05

Axial drive slot mill, for tangentially mounted inserts



| Designation | CW | DC | ZEFP/CICT | DCSFMS | DCONMS | LF | b | KWW | CDX | KA | Insert |
|--------------|----|-----|-----------|--------|--------|-----|------|------|------|--------|-------------|
| ASV02N080-4 | 4 | 80 | 5/10 | 41 | 25.4 | 6 | 28 | 6.35 | 15 | 162 | TVKX0202... |
| ASV02N080-E4 | 4 | 80 | 5/10 | 41 | 27 | 6 | 29.8 | 7 | 15 | 162 | TVKX0202... |
| ASV02N100-4 | 4 | 100 | 6/12 | 48 | 31.75 | 6 | 35.2 | 7.92 | 20 | 165 | TVKX0202... |
| ASV02N100-E4 | 4 | 100 | 6/12 | 47 | 32 | 6 | 34.8 | 8 | 20 | 165 | TVKX0202... |
| ASV02N125-4 | 4 | 125 | 8/16 | 58 | 38.1 | 6 | 42.3 | 9.52 | 30 | 168.75 | TVKX0202... |
| ASV02N125-E4 | 4 | 125 | 8/16 | 55 | 40 | 6 | 43.5 | 10 | 30 | 168.75 | TVKX0202... |
| ASV02N160-4 | 4 | 160 | 10/20 | 58 | 38.1 | 6 | 42.3 | 9.52 | 45 | 171 | TVKX0202... |
| ASV02N160-E4 | 4 | 160 | 10/20 | 55 | 40 | 6 | 43.5 | 10 | 45 | 171 | TVKX0202... |
| ASV03N080-5 | 5 | 80 | 5/10 | 41 | 25.4 | 6.5 | 28 | 6.35 | 15 | 162 | TVKX03X3... |
| ASV03N080-E5 | 5 | 80 | 5/10 | 41 | 27 | 6.5 | 29.8 | 7 | 15 | 162 | TVKX03X3... |
| ASV03N100-5 | 5 | 100 | 6/12 | 48 | 31.75 | 6.5 | 35.2 | 7.92 | 20 | 165 | TVKX03X3... |
| ASV03N100-E5 | 5 | 100 | 6/12 | 47 | 32 | 6.5 | 34.8 | 8 | 20 | 165 | TVKX03X3... |
| ASV03N125-5 | 5 | 125 | 8/16 | 58 | 38.1 | 6.5 | 42.3 | 9.52 | 30 | 168.75 | TVKX03X3... |
| ASV03N125-E5 | 5 | 125 | 8/16 | 55 | 40 | 6.5 | 43.5 | 10 | 30 | 168.75 | TVKX03X3... |
| ASV03N160-5 | 5 | 160 | 10/20 | 58 | 38.1 | 6.5 | 42.3 | 9.52 | 45 | 171 | TVKX03X3... |
| ASV03N160-E5 | 5 | 160 | 10/20 | 55 | 40 | 6.5 | 43.5 | 10 | 45 | 171 | TVKX03X3... |
| ASV04N080-6 | 6 | 80 | 4/8 | 41 | 25.4 | 8 | 28 | 6.35 | 17 | 157.5 | TVKX04H3... |
| ASV04N080-E6 | 6 | 80 | 4/8 | 41 | 27 | 8 | 29.8 | 7 | 17 | 157.5 | TVKX04H3... |
| ASV04N100-6 | 6 | 100 | 5/10 | 48 | 31.75 | 8 | 35.2 | 7.92 | 23.5 | 162 | TVKX04H3... |
| ASV04N100-E6 | 6 | 100 | 5/10 | 47 | 32 | 8 | 34.8 | 8 | 23.5 | 162 | TVKX04H3... |
| ASV04N125-6 | 6 | 125 | 6/12 | 58 | 38.1 | 8 | 42.3 | 9.52 | 31 | 165 | TVKX04H3... |
| ASV04N125-E6 | 6 | 125 | 6/12 | 55 | 40 | 8 | 43.5 | 10 | 32.5 | 165 | TVKX04H3... |
| ASV04N160-6 | 6 | 160 | 8/16 | 58 | 38.1 | 8 | 42.3 | 9.52 | 48.5 | 168.75 | TVKX04H3... |
| ASV04N160-E6 | 6 | 160 | 8/16 | 55 | 40 | 8 | 43.5 | 10 | 50 | 168.75 | TVKX04H3... |
| ASV04N200-6 | 6 | 200 | 10/20 | 69 | 50.8 | 8 | 55.8 | 12.7 | 63 | 171 | TVKX04H3... |
| ASV04N200-E6 | 6 | 200 | 10/20 | 69 | 50 | 8 | 53.5 | 12 | 63 | 171 | TVKX04H3... |
| ASV05N080-8 | 8 | 80 | 4/8 | 41 | 25.4 | 10 | 28 | 6.35 | 17 | 157.5 | TVKX0504... |
| ASV05N080-E8 | 8 | 80 | 4/8 | 41 | 27 | 10 | 29.8 | 7 | 17 | 157.5 | TVKX0504... |
| ASV05N100-8 | 8 | 100 | 5/10 | 48 | 31.75 | 10 | 35.2 | 7.92 | 23.5 | 162 | TVKX0504... |
| ASV05N100-E8 | 8 | 100 | 5/10 | 47 | 32 | 10 | 34.8 | 8 | 23.5 | 162 | TVKX0504... |
| ASV05N125-8 | 8 | 125 | 6/12 | 58 | 38.1 | 10 | 42.3 | 9.52 | 31 | 165 | TVKX0504... |
| ASV05N125-E8 | 8 | 125 | 6/12 | 55 | 40 | 10 | 43.5 | 10 | 32.5 | 165 | TVKX0504... |
| ASV05N160-8 | 8 | 160 | 8/16 | 58 | 38.1 | 10 | 42.3 | 9.52 | 48.5 | 168.75 | TVKX0504... |
| ASV05N160-E8 | 8 | 160 | 8/16 | 55 | 40 | 10 | 43.5 | 10 | 50 | 168.75 | TVKX0504... |
| ASV05N200-8 | 8 | 200 | 10/20 | 69 | 50.8 | 10 | 55.8 | 12.7 | 63 | 171 | TVKX0504... |
| ASV05N200-E8 | 8 | 200 | 10/20 | 69 | 50 | 10 | 53.5 | 12 | 63 | 171 | TVKX0504... |

SPARE PARTS

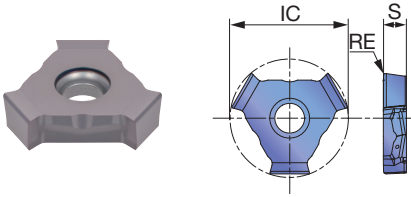
| Designation | Clamping screw | Grip | Lubricant | Torx bit | Mono block type Torx bit |
|--------------|-----------------|--------|-----------|----------|--------------------------|
| ASV02/03N... | SR114-018-L3.40 | - | M-1000 | - | T-6D |
| ASV04N... | SR14-500/L5.1 | H-TB2W | M-1000 | BT15S | - |
| ASV05N... | SR14-500-L7.0 | H-TB2W | M-1000 | BT15S | - |

*Recommended clamping torque (N·m): SR114-018-L3.40=0.7, SR14-500/L5.1=3.5, SR14-500-L7.0=3.5

Reference pages: Inserts, Standard cutting conditions → **H195**

INSERT

TVKX-MJ



| | | | | |
|----------|----------------|---|---|---|
| P | Steel | ☆ | ★ | ★ |
| M | Stainless | | ★ | ☆ |
| K | Cast iron | ★ | | ☆ |
| N | Non-ferrous | | | |
| S | Superalloys | ★ | ☆ | ★ |
| H | Hard materials | | | |

★ : First choice
☆ : Second choice

| Designation | RE | Coated | | | S | IC |
|-----------------|-----|--------|-------|-------|-----|------|
| | | AH120 | AH130 | AH725 | | |
| TVKX020202TN-MJ | 0.2 | ● | | ● | 2.4 | 9.4 |
| TVKX020204TN-MJ | 0.4 | ● | | ● | 2.4 | 9.4 |
| TVKX03X302TN-MJ | 0.2 | ● | | ● | 3.2 | 9.4 |
| TVKX03X304TN-MJ | 0.4 | ● | | ● | 3.2 | 9.4 |
| TVKX04H304TN-MJ | 0.4 | ● | ● | ● | 3.5 | 16.9 |
| TVKX04H308TN-MJ | 0.8 | ● | ● | ● | 3.5 | 16.9 |
| TVKX050404TN-MJ | 0.4 | ● | ● | ● | 4.5 | 16.9 |
| TVKX050408TN-MJ | 0.8 | ● | ● | ● | 4.5 | 16.9 |

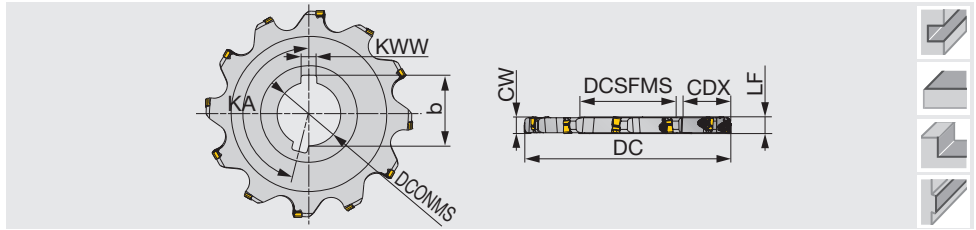
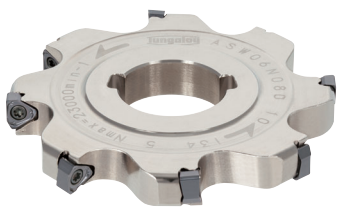
● : Line up

STANDARD CUTTING CONDITIONS

| ISO | Workpiece material | Hardness (HB) | Priority | Grade | Cutting speed Vc (m/min) | Feed per edge line: fz (mm/t) | | | |
|----------|---|---------------|---------------------|-------|--------------------------|-------------------------------|-------------|--------------|-------------|
| | | | | | | ASV | | ASV | |
| | | | | | | ae / DC (mm) | | ae / DC (mm) | |
| | | | | | | 10% | 20% | 30% | ≤ 50% |
| P | Low carbon steels SS400, etc. E275A, etc. | - 200 | First choice | AH725 | 90 - 180 | 0.08 - 0.25 | 0.06 - 0.19 | 0.05 - 0.16 | 0.05 - 0.15 |
| | | - 200 | Fracture resistance | AH130 | 90 - 180 | 0.08 - 0.25 | 0.06 - 0.19 | 0.05 - 0.16 | 0.05 - 0.15 |
| | High carbon steels S45C, etc. C45, etc. | 200 - 300 | First choice | AH725 | 90 - 180 | 0.07 - 0.22 | 0.05 - 0.16 | 0.04 - 0.14 | 0.04 - 0.13 |
| | | 200 - 300 | Fracture resistance | AH130 | 90 - 180 | 0.07 - 0.22 | 0.05 - 0.16 | 0.04 - 0.14 | 0.04 - 0.13 |
| | Alloy steels SCM440, etc. 42CrMo4, etc. | 150 - 300 | First choice | AH725 | 90 - 180 | 0.07 - 0.22 | 0.05 - 0.16 | 0.04 - 0.14 | 0.04 - 0.13 |
| | | 150 - 300 | Fracture resistance | AH130 | 90 - 180 | 0.07 - 0.22 | 0.05 - 0.16 | 0.04 - 0.14 | 0.04 - 0.13 |
| M | Stainless steel SUS304, etc. X5CrNi18-9, etc. | - | | AH130 | 90 - 200 | 0.07 - 0.22 | 0.05 - 0.16 | 0.04 - 0.14 | 0.04 - 0.13 |
| | | | | | | | | | |
| K | Grey cast irons FC250, etc. 250, etc. | 150 - 250 | | AH120 | 120 - 230 | 0.08 - 0.25 | 0.06 - 0.19 | 0.05 - 0.16 | 0.05 - 0.15 |
| | | | | | | | | | |
| S | Ductile cast irons FCD400, etc. 400-15S, etc. | 150 - 250 | | AH120 | 90 - 150 | 0.08 - 0.25 | 0.06 - 0.19 | 0.05 - 0.16 | 0.05 - 0.15 |
| | | | | | | | | | |
| S | Titanium alloys Ti-6Al-4V, etc. | - | First choice | AH725 | 30 - 40 | 0.07 - 0.12 | 0.05 - 0.09 | 0.04 - 0.07 | 0.04 - 0.07 |
| | | - | Fracture resistance | AH130 | 30 - 40 | 0.07 - 0.12 | 0.05 - 0.09 | 0.04 - 0.07 | 0.04 - 0.07 |
| | Nickel-based alloys Inconel 718, etc. | - | First choice | AH725 | 20 - 35 | 0.07 - 0.12 | 0.05 - 0.09 | 0.04 - 0.07 | 0.04 - 0.07 |
| | | - | Fracture resistance | AH130 | 20 - 35 | 0.07 - 0.12 | 0.05 - 0.09 | 0.04 - 0.07 | 0.04 - 0.07 |

- High Feed Milling
- Face Milling
- Shoulder Milling
- Slot Milling
- Profile Milling
- Approach angle
- 10°-20°
- 45°
- 70°
- 85°
- 88°
- 90°
- Others

Axial drive slot mill, for 6-corner double sided inserts



| Designation | CW | DC | ZEFP/CICT | DCSFMS | DCONMS | LF | b | KWW | CDX | KA | Insert |
|---------------|----|-----|-----------|--------|--------|----|------|------|------|--------|-------------|
| ASW06N080-10 | 10 | 80 | 4/8 | 41 | 25.4 | 10 | 28 | 6.35 | 18.5 | 157.5 | WNGU0603... |
| ASW06N080-E10 | 10 | 80 | 4/8 | 41 | 27 | 10 | 29.8 | 7 | 18.5 | 157.5 | WNGU0603... |
| ASW06N100-10 | 10 | 100 | 5/10 | 48 | 31.75 | 10 | 35.2 | 7.92 | 25 | 162 | WNGU0603... |
| ASW06N100-E10 | 10 | 100 | 5/10 | 47 | 32 | 10 | 34.8 | 8 | 25.5 | 162 | WNGU0603... |
| ASW06N125-10 | 10 | 125 | 6/12 | 58 | 38.1 | 10 | 42.3 | 9.52 | 32.5 | 165 | WNGU0603... |
| ASW06N125-E10 | 10 | 125 | 6/12 | 55 | 40 | 10 | 43.5 | 10 | 34 | 165 | WNGU0603... |
| ASW06N160-10 | 10 | 160 | 7/14 | 58 | 38.1 | 10 | 42.3 | 9.52 | 50 | 167.14 | WNGU0603... |
| ASW06N160-E10 | 10 | 160 | 7/14 | 55 | 40 | 10 | 43.5 | 10 | 51.5 | 167.14 | WNGU0603... |
| ASW07N100-12 | 12 | 100 | 5/10 | 48 | 31.75 | 12 | 35.2 | 7.92 | 25 | 162 | WNGU07T3... |
| ASW07N100-E12 | 12 | 100 | 5/10 | 47 | 32 | 12 | 34.8 | 8 | 25.5 | 162 | WNGU07T3... |
| ASW07N125-12 | 12 | 125 | 6/12 | 58 | 38.1 | 12 | 42.3 | 9.52 | 32.5 | 165 | WNGU07T3... |
| ASW07N125-E12 | 12 | 125 | 6/12 | 55 | 40 | 12 | 43.5 | 10 | 34 | 165 | WNGU07T3... |
| ASW07N160-12 | 12 | 160 | 7/14 | 58 | 38.1 | 12 | 42.3 | 9.52 | 50 | 167.14 | WNGU07T3... |
| ASW07N160-E12 | 12 | 160 | 7/14 | 55 | 40 | 12 | 43.5 | 10 | 51.5 | 167.14 | WNGU07T3... |
| ASW09N100-14 | 14 | 100 | 5/10 | 48 | 31.75 | 14 | 35.2 | 7.92 | 25 | 162 | WNGU0904... |
| ASW09N100-E14 | 14 | 100 | 5/10 | 47 | 32 | 14 | 34.8 | 8 | 25.5 | 162 | WNGU0904... |
| ASW09N160-14 | 14 | 160 | 7/14 | 58 | 38.1 | 14 | 42.3 | 9.52 | 50 | 167.14 | WNGU0904... |
| ASW09N160-E14 | 14 | 160 | 7/14 | 55 | 40 | 14 | 43.5 | 10 | 51.5 | 167.14 | WNGU0904... |
| ASW09N160-16 | 16 | 160 | 7/14 | 58 | 38.1 | 16 | 42.3 | 9.52 | 50 | 167.14 | WNGU0904... |
| ASW09N160-E16 | 16 | 160 | 7/14 | 55 | 40 | 16 | 43.5 | 10 | 51.5 | 167.14 | WNGU0904... |

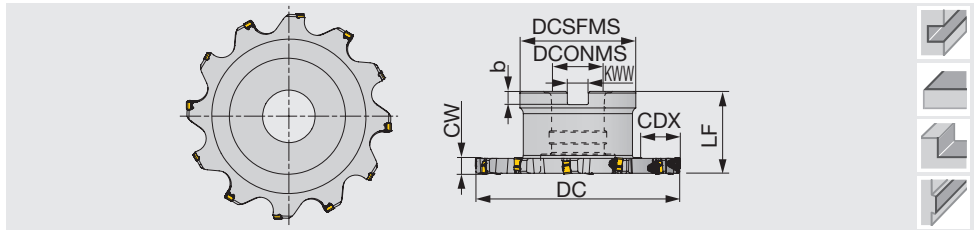
SPARE PARTS

| Designation | Clamping screw1 | Clamping screw2 | Grip 1 | Grip 2 | Lubricant | Torx bit | Wrench |
|-------------------|-----------------|-----------------|--------|--------|-----------|-------------|--------|
| ASW06N... | - | CSPB-2.5 | - | - | M-1000 | - | IP-8D |
| ASW07N100/125-... | - | CSPD-3 | - | SW6-SD | M-1000 | BLD IP10/S7 | - |
| ASW07N160-... | - | CSPD-3 | - | - | M-1000 | - | IP-10D |
| ASW09N100-... | CSPB-3.5 | - | H-TB2W | - | M-1000 | BLDIP15/S7 | - |
| ASW09N160-... | CSPB-3.5 | - | - | - | M-1000 | - | IP-15D |

*Recommended clamping torque N·m): CSPB-2.5=1.3, CSPB-3.5=3.5, CSPD-3=2.5

Reference pages: Inserts, Standard cutting conditions → **H198**

Radial drive slot mill, for 6-corner double sided inserts



| Designation | CW | DC | ZFP/CICT | DCSFMS | DCONMS | LF | b | KWW | CDX | Insert |
|---------------|----|-----|----------|--------|--------|----|----|------|------|-------------|
| TSW06R100-10 | 10 | 100 | 5/10 | 50 | 25.4 | 50 | 6 | 9.5 | 24 | WNGU0603... |
| TSW06R100-E10 | 10 | 100 | 5/10 | 58 | 27 | 50 | 7 | 12.4 | 20 | WNGU0603... |
| TSW06R125-10 | 10 | 125 | 6/12 | 70 | 31.75 | 50 | 8 | 12.7 | 26.5 | WNGU0603... |
| TSW06R125-E10 | 10 | 125 | 6/12 | 66 | 32 | 50 | 8 | 14.4 | 28.5 | WNGU0603... |
| TSW06R160-10 | 10 | 160 | 7/14 | 100 | 38.1 | 63 | 10 | 15.9 | 29 | WNGU0603... |
| TSW06R160-E10 | 10 | 160 | 7/14 | 82 | 40 | 63 | 9 | 16.4 | 38 | WNGU0603... |
| TSW07R100-12 | 12 | 100 | 5/10 | 50 | 25.4 | 50 | 6 | 9.5 | 24 | WNGU07T3... |
| TSW07R100-E12 | 12 | 100 | 5/10 | 58 | 27 | 50 | 7 | 12.4 | 20 | WNGU07T3... |
| TSW07R125-12 | 12 | 125 | 6/12 | 70 | 31.75 | 50 | 8 | 12.7 | 26.5 | WNGU07T3... |
| TSW07R125-E12 | 12 | 125 | 6/12 | 66 | 32 | 50 | 8 | 14.4 | 28.5 | WNGU07T3... |
| TSW07R160-12 | 12 | 160 | 7/14 | 100 | 38.1 | 63 | 10 | 15.9 | 29 | WNGU07T3... |
| TSW07R160-E12 | 12 | 160 | 7/14 | 82 | 40 | 63 | 9 | 16.4 | 38 | WNGU07T3... |
| TSW09R160-16 | 16 | 160 | 7/14 | 100 | 38.1 | 63 | 10 | 15.9 | 29 | WNGU0904... |
| TSW09R160-E16 | 16 | 160 | 7/14 | 82 | 40 | 63 | 9 | 16.4 | 38 | WNGU0904... |

SPARE PARTS

| Designation | Clamping screw1 | Clamping screw2 | Grip | Lubricant | Torx bit | Mono block type Torx bit |
|-------------------|-----------------|-----------------|--------|-----------|-------------|--------------------------|
| TSW06R... | - | CSPB-2.5 | - | M-1000 | - | IP-8D |
| TSW07R100/125-... | - | CSPD-3 | SW6-SD | M-1000 | BLD IP10/S7 | - |
| TSW07R160-... | - | CSPD-3 | - | M-1000 | - | IP-10D |
| TSW09R160-... | CSPB-3.5 | - | - | M-1000 | - | IP-15D |

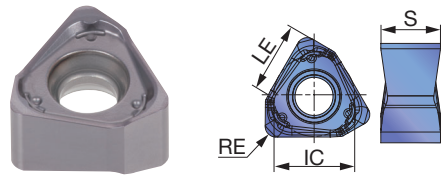
*Recommended clamping torque (N·m): CSPB-2.5=1.3, CSPB-3.5=3.5, CSPD-3=2.5





INSERT

WNGU-MJ



| | | | | |
|-------------------------|---|---|---|---|
| P Steel | ☆ | ★ | ★ | |
| M Stainless | | ★ | ☆ | ★ |
| K Cast iron | ★ | | ☆ | |
| N Non-ferrous | | | | |
| S Superalloys | ★ | ☆ | ★ | |
| H Hard materials | | | | |

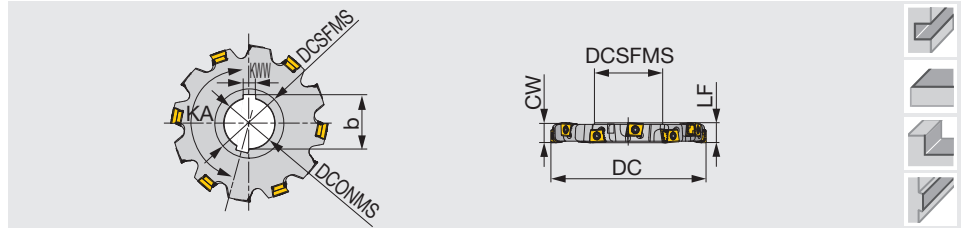
★ : First choice
☆ : Second choice

| Designation | RE | Coated | | | | LE | IC | S |
|-----------------|-----|--------|-------|-------|--------|-----|-----|-----|
| | | AH120 | AH130 | AH725 | AH3135 | | | |
| WNGU060304TN-MJ | 0.4 | ● | | | ● | 5.6 | 6.1 | 4.4 |
| WNGU060308TN-MJ | 0.8 | ● | ● | ● | ● | 5.6 | 6.1 | 4.4 |
| WNGU060310TN-MJ | 1 | ● | | | ● | 5.6 | 6.1 | 4.4 |
| WNGU060316TN-MJ | 1.6 | ● | ● | ● | | 5.6 | 6.1 | 4.4 |
| WNGU060320TN-MJ | 2 | ● | | | ● | 5.6 | 6.1 | 4.4 |
| WNGU07T304TN-MJ | 0.4 | ● | | | ● | 6.8 | 7.4 | 5.5 |
| WNGU07T308TN-MJ | 0.8 | ● | ● | ● | | 6.8 | 7.4 | 5.5 |
| WNGU07T310TN-MJ | 1 | ● | | | ● | 6.8 | 7.4 | 5.5 |
| WNGU07T316TN-MJ | 1.6 | ● | ● | ● | | 6.8 | 7.4 | 5.5 |
| WNGU07T320TN-MJ | 2 | ● | | | ● | 6.8 | 7.4 | 5.5 |
| WNGU090404TN-MJ | 0.4 | ● | | | ● | 8.5 | 8.6 | 6.5 |
| WNGU090408TN-MJ | 0.8 | ● | ● | ● | | 8.5 | 8.6 | 6.5 |
| WNGU090410TN-MJ | 1 | ● | | | ● | 8.5 | 8.6 | 6.5 |
| WNGU090416TN-MJ | 1.6 | ● | ● | ● | | 8.5 | 8.6 | 6.5 |
| WNGU090420TN-MJ | 2 | ● | | | ● | 8.5 | 8.6 | 6.5 |

● : Line up

STANDARD CUTTING CONDITIONS

| ISO | Workpiece material | Hardness (HB) | Priority | Grade | Cutting speed Vc (m/min) | Feed per edge line: fz (mm/t) | | | |
|---|---|---------------------|---------------------|----------|--------------------------|-------------------------------|-------------|-------------|-------------|
| | | | | | | TSW / ASW | | | |
| | | | | | | ae / DC (mm) | | | |
| | | | | | | 10% | 20% | 30% | ≤ 50% |
| P | Low carbon steels SS400, etc. E275A, etc. | - 200 | First choice | AH725 | 90 - 180 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 |
| | | - 200 | Fracture resistance | AH130 | 90 - 180 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 |
| | High carbon steels S45C, etc. C45, etc. | 200 - 300 | First choice | AH725 | 90 - 180 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 |
| | | 200 - 300 | Fracture resistance | AH130 | 90 - 180 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 |
| | Alloy steels SCM440, etc. 42CrMo4, etc. | 150 - 300 | First choice | AH725 | 90 - 180 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 |
| | | 150 - 300 | Fracture resistance | AH130 | 90 - 180 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 |
| Tool steels SKD61, etc. X40CrMoV5-1, etc. | - 300 | First choice | AH725 | 90 - 180 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 | |
| | - 300 | Fracture resistance | AH130 | 90 - 180 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 | |
| M | Stainless steel SUS304, etc. X5CrNi18-9, etc. | - | - | AH130 | 90 - 200 | 0.12 - 0.33 | 0.09 - 0.25 | 0.07 - 0.21 | 0.07 - 0.2 |
| K | Grey cast irons FC250, etc. 250, etc. | 150 - 250 | - | AH120 | 120 - 230 | 0.12 - 0.42 | 0.09 - 0.31 | 0.07 - 0.27 | 0.07 - 0.25 |
| | Ductile cast irons FCD400, etc. 400-15S, etc. | 150 - 250 | - | AH120 | 90 - 150 | 0.12 - 0.42 | 0.09 - 0.31 | 0.07 - 0.27 | 0.07 - 0.25 |
| S | Titanium alloys Ti-6Al-4V, etc. | - | First choice | AH725 | 30 - 40 | 0.1 - 0.17 | 0.08 - 0.13 | 0.06 - 0.11 | 0.06 - 0.1 |
| | | - | Fracture resistance | AH130 | 30 - 40 | 0.1 - 0.17 | 0.08 - 0.13 | 0.06 - 0.11 | 0.06 - 0.1 |
| | Nickel-based alloys Inconel 718, etc. | - | First choice | AH725 | 20 - 35 | 0.1 - 0.17 | 0.08 - 0.13 | 0.06 - 0.11 | 0.06 - 0.1 |
| | | - | Fracture resistance | AH130 | 20 - 35 | 0.1 - 0.17 | 0.08 - 0.13 | 0.06 - 0.11 | 0.06 - 0.1 |



| Designation | CW | DC | ZEFP | CICT | DCSFMS | DCONMS | LF | b | KWW | CDX | KA | Insert |
|----------------------|----|-----|------|------|--------|--------|----|------|------|------|--------|-------------------|
| ASN10R100M31.7-16-05 | 16 | 100 | 5 | 10 | 48 | 31.75 | 16 | 35.2 | 7.92 | 25 | 162 | LMEU1008**ZNEN-MJ |
| ASN10R100M32.0E16-05 | 16 | 100 | 5 | 10 | 47 | 32 | 16 | 34.8 | 8 | 25.5 | 162 | LMEU1008**ZNEN-MJ |
| ASN10R125M38.1-16-06 | 16 | 125 | 6 | 12 | 58 | 38.1 | 16 | 42.3 | 9.52 | 32.5 | 165 | LMEU1008**ZNEN-MJ |
| ASN10R125M40.0E16-06 | 16 | 125 | 6 | 12 | 55 | 40 | 16 | 43.5 | 10 | 34 | 165 | LMEU1008**ZNEN-MJ |
| ASN10R160M38.1-16-07 | 16 | 160 | 7 | 14 | 58 | 38.1 | 16 | 42.3 | 9.52 | 50 | 167.14 | LMEU1008**ZNEN-MJ |
| ASN10R160M40.0E16-07 | 16 | 160 | 7 | 14 | 55 | 40 | 16 | 43.5 | 10 | 51.5 | 167.14 | LMEU1008**ZNEN-MJ |
| ASN10R200M50.0E16-08 | 16 | 200 | 8 | 16 | 69 | 50 | 16 | 53.6 | 12 | 64.5 | 168.75 | LMEU1008**ZNEN-MJ |
| ASN12R100M31.7-19-05 | 19 | 100 | 5 | 10 | 48 | 31.75 | 19 | 35.2 | 7.92 | 25 | 162 | LMEU1206**ZNEN-MJ |
| ASN12R100M32.0E19-05 | 19 | 100 | 5 | 10 | 47 | 32 | 19 | 34.8 | 8 | 25.5 | 162 | LMEU1208**ZNEN-MJ |
| ASN12R125M38.1-19-06 | 19 | 125 | 6 | 12 | 58 | 38.1 | 19 | 42.3 | 9.52 | 32.5 | 165 | LMEU1206**ZNEN-MJ |
| ASN12R125M40.0E19-06 | 19 | 125 | 6 | 12 | 55 | 40 | 19 | 43.5 | 10 | 34 | 165 | LMEU1208**ZNEN-MJ |
| ASN12R160M38.1-19-07 | 19 | 160 | 7 | 14 | 58 | 38.1 | 19 | 42.3 | 9.52 | 50 | 167.14 | LMEU1206**ZNEN-MJ |
| ASN12R160M40.0E19-07 | 19 | 160 | 7 | 14 | 55 | 40 | 19 | 43.5 | 10 | 51.5 | 167.14 | LMEU1208**ZNEN-MJ |
| ASN12R200M50.0E19-08 | 19 | 200 | 8 | 16 | 69 | 50 | 19 | 53.6 | 12 | 64.5 | 168.75 | LMEU1208**ZNEN-MJ |
| ASN12R250M50.0E19-09 | 19 | 250 | 9 | 18 | 84 | 50 | 19 | 53.6 | 12 | 82 | 170 | LMEU1208**ZNEN-MJ |
| ASN15R125M38.1-25-05 | 25 | 125 | 5 | 10 | 58 | 38.1 | 25 | 42.3 | 9.52 | 32.5 | 162 | LMEU1509**ZNEN-MJ |
| ASN15R125M40.0E25-05 | 25 | 125 | 5 | 10 | 55 | 40 | 25 | 43.5 | 10 | 34 | 165 | LMEU1509**ZNEN-MJ |
| ASN15R160M38.1-25-06 | 25 | 160 | 6 | 12 | 58 | 38.1 | 25 | 42.3 | 9.52 | 50 | 165 | LMEU1509**ZNEN-MJ |
| ASN15R160M40.0E25-06 | 25 | 160 | 6 | 12 | 55 | 40 | 25 | 43.5 | 10 | 51.5 | 167.14 | LMEU1509**ZNEN-MJ |
| ASN15R200M50.0E25-07 | 25 | 200 | 7 | 14 | 69 | 50 | 25 | 53.6 | 12 | 64.5 | 168.75 | LMEU1509**ZNEN-MJ |
| ASN15R250M50.0E25-08 | 25 | 250 | 8 | 16 | 84 | 50 | 25 | 53.6 | 12 | 82 | 170 | LMEU1509**ZNEN-MJ |

SPARE PARTS

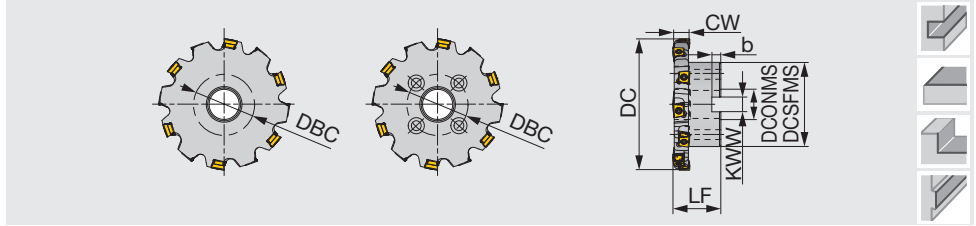
| Designation | Clamping screw | Grip | Torx bit |
|--------------|----------------|------|----------|
| ASN10/12R... | SM40-143-H0 | H-TB | BT15S |
| ASN15R... | CSTB-5L159 | H-TB | BT20S |

*Recommended clamping torque (N·m): SM40-143-H0=1.3, CSTB-5L159=5



- High Feed Milling
- Face Milling
- Shoulder Milling
- Slot Milling
- Profile Milling
- Approach angle
- Others

Radial drive slot mill, for tangentially mounted inserts



| Designation | CW | DC | ZEFP | CICT | DCSFMS | DCONMS | LF | b | KWW | CDX | DBC | Insert |
|----------------------|----|-----|------|------|--------|--------|----|----|------|------|-------|-------------------|
| TSN10R100M25.4-16-05 | 16 | 100 | 5 | 10 | 50 | 25.4 | 50 | 6 | 9.5 | 24 | - | LMEU1008**ZNEN-MJ |
| TSN10R100M27.0E16-05 | 16 | 100 | 5 | 10 | 58 | 27 | 50 | 7 | 12.4 | 20 | - | LMEU1008**ZNEN-MJ |
| TSN10R125M31.7-16-06 | 16 | 125 | 6 | 12 | 70 | 31.75 | 50 | 8 | 12.7 | 26.5 | - | LMEU1008**ZNEN-MJ |
| TSN10R125M32.0E16-06 | 16 | 125 | 6 | 12 | 66 | 32 | 50 | 8 | 14.4 | 28.5 | - | LMEU1008**ZNEN-MJ |
| TSN10R160M38.1-16-07 | 16 | 160 | 7 | 14 | 100 | 38.1 | 63 | 10 | 15.9 | 29 | - | LMEU1008**ZNEN-MJ |
| TSN10R160M40.0E16-07 | 16 | 160 | 7 | 14 | 82 | 40 | 63 | 9 | 16.4 | 38 | - | LMEU1008**ZNEN-MJ |
| TSN10R200M40.0E16-08 | 16 | 200 | 8 | 16 | 95 | 40 | 63 | 9 | 16.4 | 55 | 66.7 | LMEU1008**ZNEN-MJ |
| TSN10R200M47.6-16-08 | 16 | 200 | 8 | 16 | 135 | 47.625 | 63 | 14 | 25.4 | 31.5 | 101.6 | LMEU1008**ZNEN-MJ |
| TSN12R100M25.4-19-05 | 19 | 100 | 5 | 10 | 50 | 25.4 | 50 | 6 | 9.5 | 24 | - | LMEU1208**ZNEN-MJ |
| TSN12R100M27.0E19-05 | 19 | 100 | 5 | 10 | 58 | 27 | 50 | 7 | 12.4 | 20 | - | LMEU1208**ZNEN-MJ |
| TSN12R125M31.7-19-06 | 19 | 125 | 6 | 12 | 70 | 31.75 | 50 | 8 | 12.7 | 26.5 | - | LMEU1208**ZNEN-MJ |
| TSN12R125M32.0E19-06 | 19 | 125 | 6 | 12 | 66 | 32 | 50 | 8 | 14.4 | 28.5 | - | LMEU1208**ZNEN-MJ |
| TSN12R160M38.1-19-07 | 19 | 160 | 7 | 14 | 100 | 38.1 | 63 | 10 | 15.9 | 29 | - | LMEU1208**ZNEN-MJ |
| TSN12R160M40.0E19-07 | 19 | 160 | 7 | 14 | 82 | 40 | 63 | 9 | 16.4 | 38 | - | LMEU1208**ZNEN-MJ |
| TSN12R200M40.0E19-08 | 19 | 200 | 8 | 16 | 95 | 40 | 63 | 9 | 16.4 | 55 | 66.7 | LMEU1208**ZNEN-MJ |
| TSN12R200M47.6-19-08 | 19 | 200 | 8 | 16 | 135 | 47.625 | 63 | 14 | 25.4 | 31.5 | 101.6 | LMEU1208**ZNEN-MJ |
| TSN12R250M47.6-19-09 | 19 | 250 | 9 | 18 | 140 | 47.625 | 63 | 14 | 25.4 | 54 | 101.6 | LMEU1208**ZNEN-MJ |
| TSN12R250M60.0E19-09 | 19 | 250 | 9 | 18 | 135 | 60 | 63 | 14 | 25.7 | 60 | 101.6 | LMEU1208**ZNEN-MJ |
| TSN15R125M31.7-25-05 | 25 | 125 | 5 | 10 | 70 | 31.75 | 50 | 8 | 12.7 | 26.5 | - | LMEU1509**ZNEN-MJ |
| TSN15R125M32.0E25-05 | 25 | 125 | 5 | 10 | 66 | 32 | 50 | 8 | 14.4 | 28.5 | - | LMEU1509**ZNEN-MJ |
| TSN15R160M38.1-25-06 | 25 | 160 | 6 | 12 | 100 | 38.1 | 63 | 10 | 15.9 | 29 | - | LMEU1509**ZNEN-MJ |
| TSN15R160M40.0E25-06 | 25 | 160 | 6 | 12 | 82 | 40 | 63 | 9 | 16.4 | 38 | - | LMEU1509**ZNEN-MJ |
| TSN15R200M40.0E25-07 | 25 | 200 | 7 | 14 | 95 | 40 | 63 | 9 | 16.4 | 55 | 66.7 | LMEU1509**ZNEN-MJ |
| TSN15R200M47.6-25-07 | 25 | 200 | 7 | 14 | 135 | 47.625 | 63 | 14 | 25.4 | 31.5 | 101.6 | LMEU1509**ZNEN-MJ |
| TSN15R250M47.6-25-08 | 25 | 250 | 8 | 16 | 140 | 47.625 | 63 | 14 | 25.4 | 54 | 101.6 | LMEU1509**ZNEN-MJ |
| TSN15R250M60.0E25-08 | 25 | 250 | 8 | 16 | 135 | 60 | 63 | 14 | 25.7 | 60 | 101.6 | LMEU1509**ZNEN-MJ |

SPARE PARTS

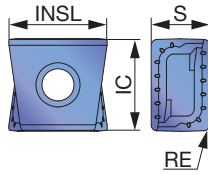
| Designation | Clamping screw | Grip | Torx bit |
|--------------|----------------|------|----------|
| TSN10/12R... | SM40-143-H0 | H-TB | BT15S |
| TSN15R... | CSTB-5L159 | H-TB | BT20S |

*Recommended clamping torque (N·m): SM40-143-H0=1.3, CSTB-5L159=5

Reference pages: Inserts, Standard cutting conditions → **H201**

INSERT

LMEU-MJ



| | | | |
|-------------------------|---|---|---|
| P Steel | ☆ | ☆ | ★ |
| M Stainless | | ☆ | ★ |
| K Cast iron | ★ | ☆ | |
| N Non-ferrous | | | |
| S Superalloys | ★ | ★ | |
| H Hard materials | | | |

★ : First choice
☆ : Second choice

| Designation | RE | Coated | | | | INSL | IC | S |
|--------------------|-----|--------|-------|-------|--------|------|------|-----|
| | | AH120 | AH140 | AH725 | AH3135 | | | |
| LMEU100808ZNEN-MJ | 0.8 | ● | ● | ● | ● | 12.7 | 10.5 | 8 |
| LMEU100810ZNEN-MJ | 1 | ● | | | ● | 12.7 | 10.5 | 8 |
| LMEU100816ZNEN-MJ | 1.6 | ● | ● | ● | ● | 12.5 | 10.5 | 8 |
| LMEU100820ZNEN-MJ | 2 | ● | | | ● | 12.4 | 10.5 | 8 |
| LMEU100824ZNEN-MJ | 2.4 | ● | ● | ● | ● | 12.4 | 10.5 | 8 |
| LMEU100830ZNEN-MJ | 3 | ● | | | ● | 12.2 | 10.5 | 8 |
| LMEU100832ZNEN-MJ | 3.2 | ● | ● | ● | ● | 12.2 | 10.5 | 8 |
| LMEU120808ZNEN-MJ | 0.8 | ● | ● | ● | ● | 13.6 | 12.7 | 8 |
| LMEU120816ZNEN-MJ | 1.6 | ● | ● | ● | ● | 13.4 | 12.7 | 8 |
| LMEU120820ZNEN-MJ | 2 | ● | | | ● | 13.3 | 12.7 | 8 |
| LMEU120824ZNEN-MJ | 2.4 | ● | ● | ● | ● | 13.2 | 12.7 | 8 |
| LMEU120830ZNEN-MJ | 3 | ● | | | ● | 13.1 | 12.7 | 8 |
| LMEU120832ZNEN-MJ | 3.2 | ● | ● | ● | ● | 13.1 | 12.7 | 8 |
| LMEU150908ZNEN-MJ | 0.8 | ● | ● | ● | ● | 15.6 | 15 | 9.5 |
| LMEU150916ZNEN-MJ | 1.6 | ● | ● | ● | ● | 15.4 | 15 | 9.5 |
| LMEU150920ZNEN-MJ | 2 | ● | | | ● | 15.4 | 15 | 9.5 |
| LMEU150924ZNEN-MJ | 2.4 | ● | ● | ● | ● | 15.3 | 15 | 9.5 |
| LMEU150930ZNEN-MJ | 3 | ● | | | ● | 15.2 | 15 | 9.5 |
| LMEU150932ZNEN-MJ | 3.2 | ● | ● | ● | ● | 15.1 | 15 | 9.5 |
| LMEU150940ZNEN-MJ* | 4 | ● | | | ● | 14.9 | 15 | 9.5 |
| LMEU150950ZNEN-MJ* | 5 | ● | | | ● | 14.7 | 15 | 9.5 |

* Please note that LMEU150940 and LMEU150950 inserts are for special cutter bodies only and do not fit standard versions.

● : Line up

STANDARD CUTTING CONDITIONS

| ISO | Workpiece material | Hardness (HB) | Priority | Grade | Cutting speed Vc (m/min) | Feed per edge line: fz (mm/t) | | | |
|---|---|---------------------|---------------------|----------|--------------------------|-------------------------------|-------------|-------------|-------------|
| | | | | | | TSN / ASN | | | |
| | | | | | | 10% | 20% | 30% | ≤ 50% |
| P | Low carbon steels SS400, etc. E275A, etc. | - 200 | First choice | AH3135 | 90 - 180 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 |
| | | - 200 | Fracture resistance | AH725 | 90 - 180 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 |
| | High carbon steels S45C, etc. C45, etc. | 200 - 300 | First choice | AH3135 | 90 - 180 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 |
| | | 200 - 300 | Fracture resistance | AH725 | 90 - 180 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 |
| | Alloy steels SCM440, etc. 42CrMo4, etc. | 150 - 300 | First choice | AH3135 | 90 - 180 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 |
| | | 150 - 300 | Fracture resistance | AH725 | 90 - 180 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 |
| Tool steels SKD61, etc. X40CrMoV5-1, etc. | - 300 | First choice | AH3135 | 90 - 180 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 | |
| | - 300 | Fracture resistance | AH725 | 90 - 180 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 | |
| M | Stainless steel SUS304, etc. X5CrNi18-9, etc. | - | - | AH3135 | 90 - 200 | 0.22 - 0.42 | 0.16 - 0.31 | 0.14 - 0.27 | 0.13 - 0.25 |
| K | Grey cast irons FC250, etc. 250, etc. | 150 - 250 | - | AH120 | 120 - 230 | 0.22 - 0.5 | 0.16 - 0.38 | 0.14 - 0.32 | 0.13 - 0.3 |
| | | 150 - 250 | - | AH120 | 90 - 150 | 0.22 - 0.33 | 0.16 - 0.25 | 0.14 - 0.21 | 0.13 - 0.2 |
| S | Titanium alloys Ti-6Al-4V, etc. | - | First choice | AH725 | 30 - 40 | 0.12 - 0.22 | 0.09 - 0.16 | 0.07 - 0.14 | 0.07 - 0.13 |
| | | - | First choice | AH725 | 20 - 35 | 0.12 - 0.22 | 0.09 - 0.16 | 0.07 - 0.14 | 0.07 - 0.13 |