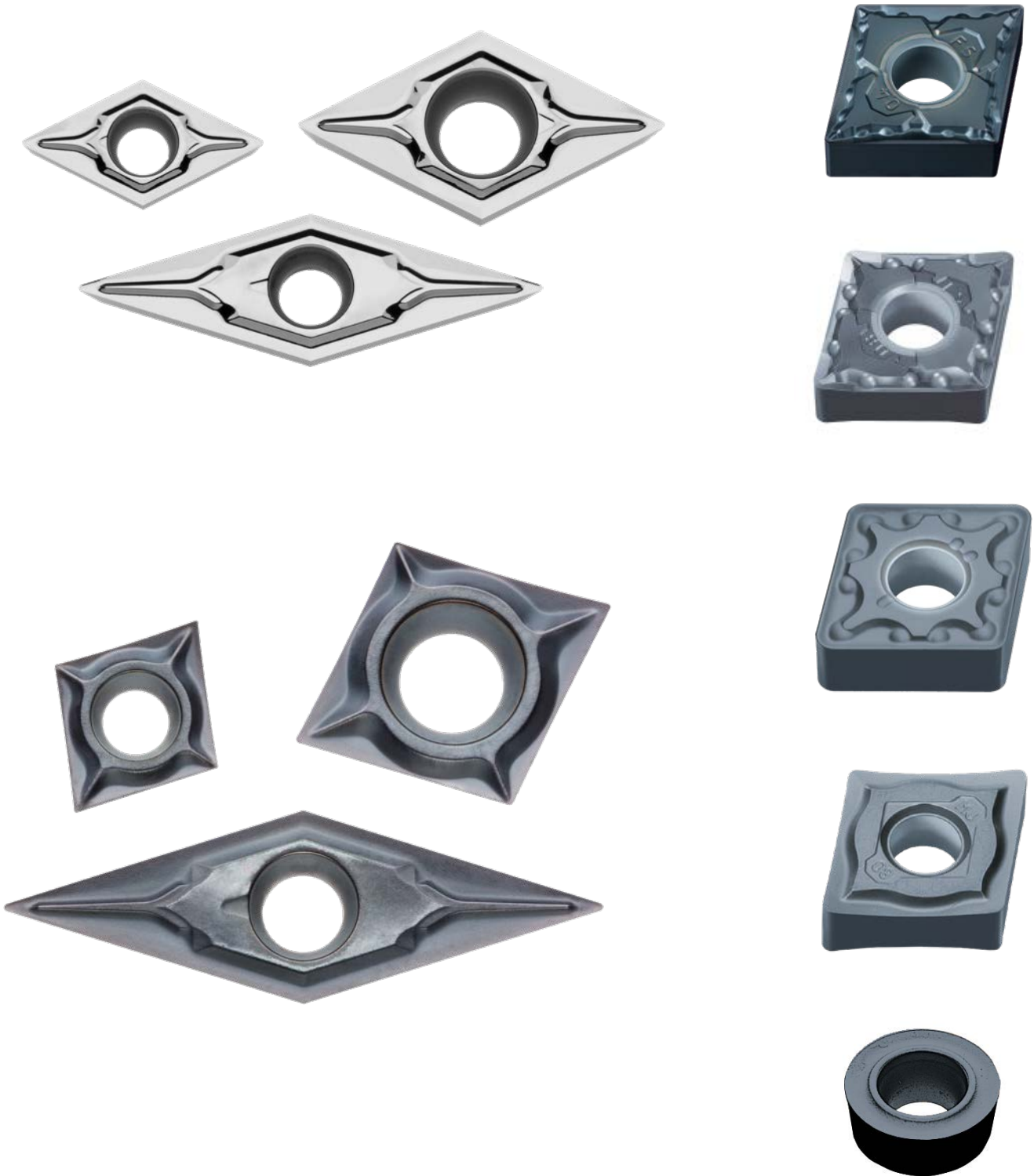


# MP/MT9000

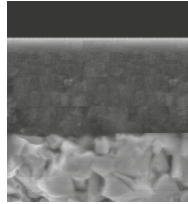
ISO-DREH-WSP

FÜR SCHWER ZU BEARBEITENDE WERKSTOFFE



# MP9005 / MP9015 / MP9025

## PVD-BESCHICHTETE SORTE ZUM DREHEN

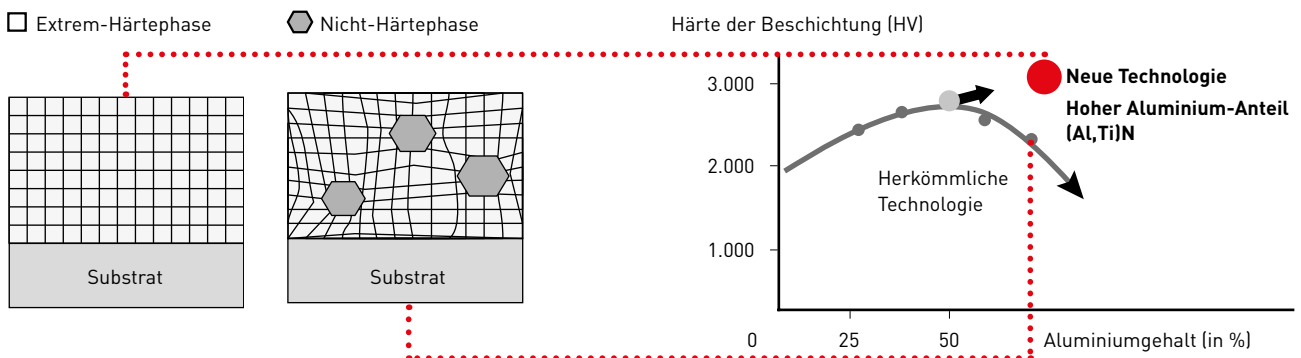


(Al,Ti)N-Monolayer-Beschichtung mit hohem Aluminiumanteil

Spezielles Hartmetallsubstrat

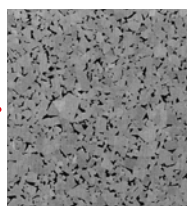
### VERGLEICH DER BESCHICHTUNG MIT HOHEM ALUMINIUMANTEIL UND EINER HERKÖMLICHEN BESCHICHTUNG

Die neue Technologie der (Al, Ti)N-Monolayer-Beschichtung mit hohem Aluminiumanteil bewirkt eine Stabilisierung der Härtingsphase und verbessert dadurch Verschleiß-, Kolkverschleiß- und Aufschweißwiderstand erheblich.



# MT9005 / MT9015

## HARTMETALLSORTE (UNBESCHICHTET)



MT9015

| ISO | Sorte | Konzept              | Anwendung                                                                                      |
|-----|-------|----------------------|------------------------------------------------------------------------------------------------|
| S   | S05   | <b>MP9005/MP9005</b> | Erstklassige Sorte mit hohem Verschleißwiderstand                                              |
|     |       | <b>MP9015</b>        | Erste Wahl für allgemeine Anwendungen                                                          |
|     | S15   | <b>MP9025</b>        | Verhinderung von Ausbrüchen zur Erhöhung der Stabilität                                        |
|     |       | <b>MT9015</b>        | Neues Hartmetall mit scharfer Schneidkante und ausgezeichneter Verschleiß- und Bruchfestigkeit |
|     |       |                      | Hitzebeständige Legierung<br>Schlichtbearbeitung – mittlere Zerspanung                         |
|     |       |                      | Hitzebeständige Legierung<br>Mittlere Zerspanung – Schrappzerspanung                           |
|     |       |                      | Hitzebeständige Legierungen<br>Unterbrochen/Leicht/Schrappbearbeitung                          |
|     |       |                      | Titanlegierung<br>Allgemeine Zerspanung                                                        |

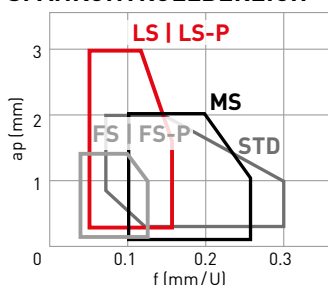
| ISO | PVD    |
|-----|--------|
| S   | S01    |
|     | S10    |
|     | S20    |
|     | S30    |
|     | MP9005 |
|     | MP9015 |
|     | MP9025 |
|     | MT9005 |
|     | MT9015 |

# SPANBRECHERSYSTEM

## POSITIVE WSP / POSITIVE PRÄZISIONS-WSP

| Toleranz            |  | Eigenschaften                                                                                                                                                                                                                                                                                                                                                                                                              | Querschnitt Geometrie |
|---------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| ENDBEARBEITUNG      |  |                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |
| G                   |  | <b>FS</b><br><i>POSITIVE WSP</i><br><b>ERSTE EMPFEHLUNG FÜR DAS SCHLICHTEN VON SCHWER ZERSPANBAREN WERKSTOFFEN</b><br>Ideal für hitzebeständige Titanlegierungen und Kobalt-Chromlegierungen. Scharfe Schneidkanten sorgen für hervorragende Oberflächenqualität und Formtoleranz.<br>Hocheffiziente Spanabfuhr dank geschwungener Schneidkanten.                                                                          |                       |
|                     |  | <b>FS-P</b><br><i>POSITIVE WSP</i><br><b>ERSTE EMPFEHLUNG FÜR DAS SCHLICHTEN VON TITANLEGIERUNGEN</b><br>Ideal für Titan- und Kupferlegierungen. Scharfe Schneidkanten sorgen für hervorragende Oberflächenqualität und Formtoleranz.<br>Hocheffiziente Spanabfuhr dank geschwungener Schneidkanten.<br>Polierte Hochglanzoberflächen der WSP verbessern den Schweißwiderstand enorm und verlängern die Werkzeugstandzeit. |                       |
| LEICHTZERSPANUNG    |  |                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |
| M                   |  | <b>LS</b><br><i>POSITIVE WSP / POSITIVE PRÄZISIONS-WSP</i><br><b>ERSTE EMPFEHLUNG FÜR DIE LEICHTE ZERSPANUNG SCHWER ZERSPANBARER WERKSTOFFE</b><br>Ideal für hitzebeständige Materialien, Titanlegierungen und Kobalt-Chromlegierungen.<br>Ausgezeichnete Spankontrolle bei geringen bis mittleren Schnitttiefen.                                                                                                          |                       |
|                     |  | <b>LS-P</b><br><i>POSITIVE WSP</i><br><b>ERSTE EMPFEHLUNG FÜR DIE LEICHTE ZERSPANUNG VON TITANLEGIERUNGEN</b><br>Ideal für Titan- und Kupferlegierungen.<br>Ausgezeichnete Spankontrolle bei geringen bis mittleren Schnitttiefen.<br>Polierte Hochglanzoberflächen der WSP verbessern die Aufbauschneidenbildung enorm und verlängern die Werkzeugstandzeit.                                                              |                       |
| MITTLERE ZERSPANUNG |  |                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |
| M                   |  | <b>MS</b><br><i>POSITIVE PRÄZISIONS-WSP</i><br><b>ERSTE EMPFEHLUNG FÜR DIE MITTLERE ZERSPANUNG SCHWER ZERSPANBARER WERKSTOFFE</b><br>Der breite Spanbrecher kann Schwankungen beim Schnittwiderstand bewältigen und verhindert Vibrationen und Spanstau auch bei stark variierenden Schnitttiefen.                                                                                                                         |                       |
|                     |  | <b>STD</b><br><i>POSITIVE WSP</i><br><b>ERSTE EMPFEHLUNG FÜR DIE MITTLERE ZERSPANUNG SCHWER ZERSPANBARER WERKSTOFFE</b><br>Gute Balance zwischen Schneidkantenschärfe und Stabilität.                                                                                                                                                                                                                                      |                       |

### SPANKONTROLLBEREICH



# SPANBRECHERSYSTEM – NEGATIVE WSP / POSITIVE PRÄZISIONS-WSP

Toleranz



Eigenschaften

Querschnitt Geometrie

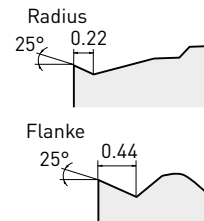
## ENDBEARBEITUNG

FS

NEGATIVE PRÄZISIONS-WSP

**ERSTE EMPFEHLUNG FÜR DAS SCHLICHTEN VON SCHWER ZERSPANBAREN WERKSTOFFEN**

Hervorragender Spanbruch auch bei sehr geringen Schnitttiefen.  
Durch den großen Spanwinkel und die hohe Präzisionsklasse ergibt sich eine ausgezeichnete Schärfe.



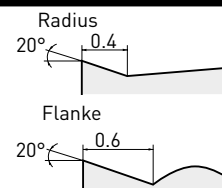
## LEICHTZERSPANUNG

LS

NEGATIVE PRÄZISIONS-WSP

**ERSTE EMPFEHLUNG FÜR DIE LEICHTZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN**

Geometrie mit hoher Schärfe für eine verbesserte Spanabfuhr.  
Ideal für Bearbeitungen mit kleinen Schnitttiefen.

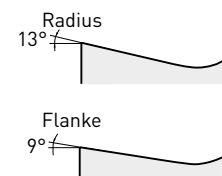


MJ

NEGATIVE WSP

**ERSTE EMPFEHLUNG FÜR DIE LEICHTZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN**

Doppelseitiger Spanbrecher (WSP in D/V-Ausführung).  
Die scharfe Schneidkante sorgt für eine gute Oberflächengüte.  
Ideal für warmfeste Legierungen und Titanlegierungen.  
Die geschwungene Schneidkante ermöglicht einen weichen Schnitt.



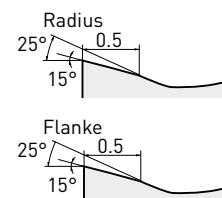
## MITTLERE ZERSPANUNG

MS

NEGATIVE WSP

**ERSTE EMPFEHLUNG FÜR DIE MITTLERE ZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN**

Doppelseitiger Spanbrecher.  
Scharfe Schneidkante ermöglicht einen weichen Schnitt.

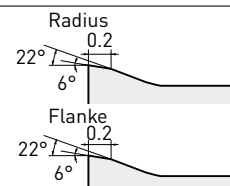


MA

NEGATIVE WSP

**ALLROUNDER-GEOMETRIE ZUR MITTLEREN ZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN**

Doppelseitiger Spanbrecher.  
Positive Primärfase ermöglicht einen weichen Schneidvorgang.



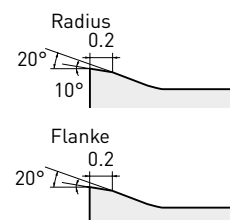
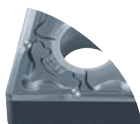
## SCHRUPPZERSPANUNG

RS

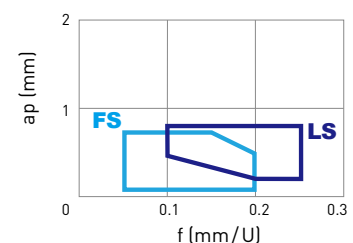
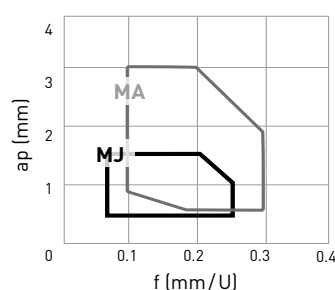
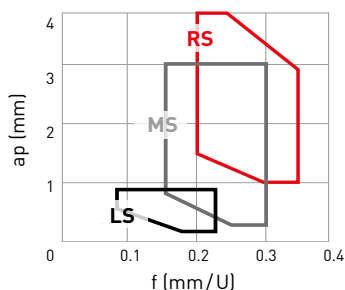
NEGATIVE WSP

**ERSTE EMPFEHLUNG FÜR DIE SCHRUPPZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN**

Doppelseitiger Spanbrecher.  
Hohe Schneidkantenstabilität für eine prozesssichere Bearbeitung.



## SPANKONTROLLBEREICH



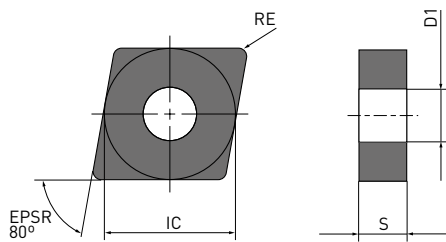
# CNGG, DNGG

## NEGATIVE WSP (MIT BOHRUNG)

S

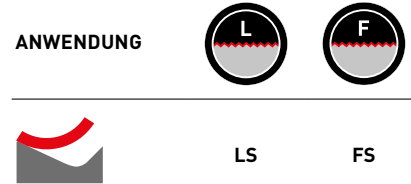
### G-Toleranz

#### CNGG

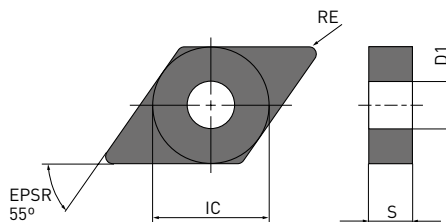


#### SPANBRECHER-IDENTIFIKATION

#### ANWENDUNG



#### DNGG



| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9015 | IC   | S    | RE   | D1   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|------|------|------|------|
| CNGG1204V5-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.05 | 5.16 |
| CNGG120401-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.1  | 5.16 |
| CNGG120402-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.2  | 5.16 |
| CNGG120404-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.4  | 5.16 |
| CNGG120408-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.8  | 5.16 |
| CNGG120402-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.2  | 5.16 |
| CNGG120404-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.4  | 5.16 |
| CNGG120408-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.8  | 5.16 |
| DNGG150402-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.2  | 5.16 |
| DNGG150404-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.4  | 5.16 |
| DNGG150408-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.8  | 5.16 |
| DNGG150604-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 6.35 | 0.4  | 5.16 |
| DNGG150608-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 6.35 | 0.8  | 5.16 |
| DNGG150402-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.2  | 5.16 |
| DNGG150404-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.4  | 5.16 |
| DNGG150408-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 0.8  | 5.16 |
| DNGG150604-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 6.35 | 0.4  | 5.16 |
| DNGG150608-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 12.7 | 6.35 | 0.8  | 5.16 |

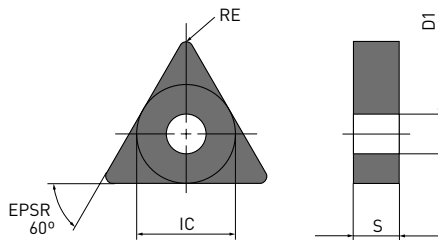
# TNGG, VNGG

## NEGATIVE WSP (MIT BOHRUNG)

S

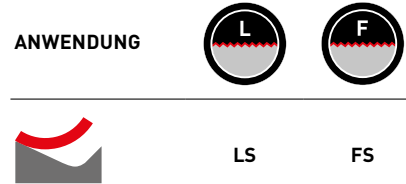
### G-Toleranz

#### TNGG

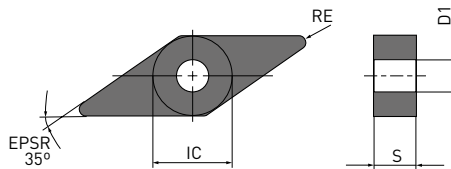


#### SPANBRECHER-IDENTIFIKATION

#### ANWENDUNG



#### VNGG



| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9015 | IC    | S    | RE   | D1   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|------|------|------|
| TNGG160402-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.2  | 3.81 |
| TNGG160404-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.4  | 3.81 |
| TNGG160408-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.8  | 3.81 |
| TNGG160402-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.2  | 3.81 |
| TNGG160404-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.4  | 3.81 |
| TNGG160408-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.8  | 3.81 |
| VNGG1604V5-FS | F                                                                                                                                                                       | ●      | ●      |        | ★      | 9.525 | 4.76 | 0.05 | 3.81 |
| VNGG160401-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.1  | 3.81 |
| VNGG160402-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.2  | 3.81 |
| VNGG160404-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.4  | 3.81 |
| VNGG160408-FS | F                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.8  | 3.81 |
| VNGG160402-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.2  | 3.81 |
| VNGG160404-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.4  | 3.81 |
| VNGG160408-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ★      | 9.525 | 4.76 | 0.8  | 3.81 |

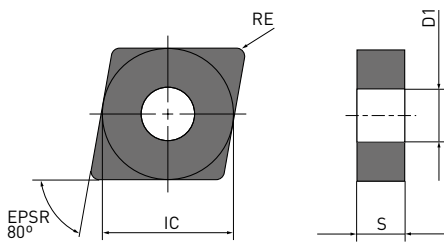
# CNMG

## NEGATIVE WSP (MIT BOHRUNG)

S

M-Toleranz

CNMG



### SPANBRECHER-IDENTIFIKATION

ANWENDUNG



LS

MA, MJ, MS

RS

| Bestellnummer |    | MP9005 | MP9015 | MP9025 | MT9015 | IC     | S    | RE  | D1   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|------|-----|------|
|               |                                                                                                                                                                                                                                                       |        |        |        |        |        |      |     |      |
| CNMG090304-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      |        | 9.525  | 3.18 | 0.4 | 3.81 |
| CNMG090308-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      |        | 9.525  | 3.18 | 0.8 | 3.81 |
| CNMG120402-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.2 | 5.16 |
| CNMG120404-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.4 | 5.16 |
| CNMG120408-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.8 | 5.16 |
| CNMG090304-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      |        | 9.525  | 3.18 | 0.4 | 3.81 |
| CNMG090308-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      |        | 9.525  | 3.18 | 0.8 | 3.81 |
| CNMG120404-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.4 | 5.16 |
| CNMG120408-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.8 | 5.16 |
| CNMG120412-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 1.2 | 5.16 |
| CNMG160612-MS | M                                                                                                                                                                                                                                                     | ★      | ★      | ●      | ★      | 15.875 | 6.35 | 1.2 | 6.35 |
| CNMG160616-MS | M                                                                                                                                                                                                                                                     | ★      | ★      | ●      | ★      | 15.875 | 6.35 | 1.6 | 6.35 |
| CNMG120404-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7   | 4.76 | 0.4 | 5.16 |
| CNMG120408-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7   | 4.76 | 0.8 | 5.16 |
| CNMG120412-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7   | 4.76 | 1.2 | 5.16 |
| CNMG120416-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7   | 4.76 | 1.6 | 5.16 |
| CNMG120404-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7   | 4.76 | 0.4 | 5.16 |
| CNMG120408-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7   | 4.76 | 0.8 | 5.16 |
| CNMG120412-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7   | 4.76 | 1.2 | 5.16 |
| CNMG120416-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7   | 4.76 | 1.6 | 5.16 |
| CNMG120408-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ●      | 12.7   | 4.76 | 0.8 | 5.16 |
| CNMG120412-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ●      | 12.7   | 4.76 | 1.2 | 5.16 |
| CNMG120416-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ★      | 12.7   | 4.76 | 1.6 | 5.16 |
| CNMG160612-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ★      | 15.875 | 6.35 | 1.2 | 6.35 |
| CNMG160616-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ★      | 15.875 | 6.35 | 1.6 | 6.35 |
| CNMG190612-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ★      | 19.05  | 6.35 | 1.2 | 7.93 |
| CNMG190616-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ★      | 19.05  | 6.35 | 1.6 | 7.93 |

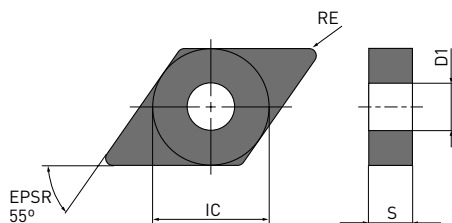
# DNMG

## NEGATIVE WSP (MIT BOHRUNG)

S

M-Toleranz

DNMG



### SPANBRECHER-IDENTIFIKATION

ANWENDUNG



LS

MA, MJ, MS

RS

| Bestellnummer |    | MP9005 | MP9015 | MP9025 | MT9015 | IC   | S    | RE  | D1   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|------|------|-----|------|
|               |                                                                                                                                                                                                                                                       |        |        |        |        |      |      |     |      |
| DNMG150402-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 4.76 | 0.2 | 5.16 |
| DNMG150404-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150604-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-LS | L                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150404-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ★      | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150604-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ●      | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-MS | M                                                                                                                                                                                                                                                     | ●      | ●      | ●      | ★      | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150404-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150604-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-MA | M                                                                                                                                                                                                                                                     |        | ●      | ●      |        | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150404-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150416-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7 | 4.76 | 1.6 | 5.16 |
| DNMG150604-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150616-MJ | M                                                                                                                                                                                                                                                     | ●      | ●      |        |        | 12.7 | 6.35 | 1.6 | 5.16 |
| DNMG150408-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ●      | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ●      | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150416-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ★      | 12.7 | 4.76 | 1.6 | 5.16 |
| DNMG150608-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ●      | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ●      | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150616-RS | R                                                                                                                                                                                                                                                     |        | ●      | ●      | ★      | 12.7 | 6.35 | 1.6 | 5.16 |

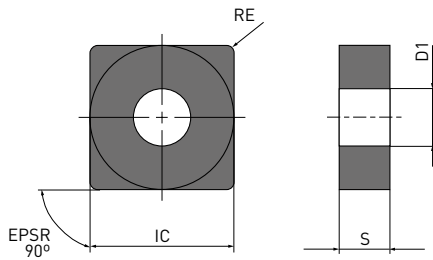
# SNMG, TNMG

## NEGATIVE WSP (MIT BOHRUNG)

S

### M-Toleranz

#### SNMG



#### SPANBRECHER-IDENTIFIKATION

#### ANWENDUNG

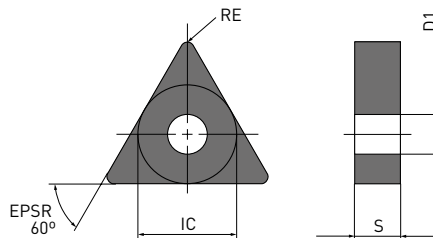


LS

MA, MJ, MS

RS

#### TNMG



| Bestellnummer |  <br> | MP9005 | MP9015 | MP9025 | MT9015 | IC     | S    | RE  | D1   |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|------|-----|------|
|               |                                                                                                                                                                                                                                                                |        |        |        |        |        |      |     |      |
| SNMG120404-MS | M                                                                                                                                                                                                                                                              | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.4 | 5.16 |
| SNMG120408-MS | M                                                                                                                                                                                                                                                              | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.8 | 5.16 |
| SNMG120412-MS | M                                                                                                                                                                                                                                                              | ●      | ●      | ●      | ★      | 12.7   | 4.76 | 1.2 | 5.16 |
| SNMG150612-MS | M                                                                                                                                                                                                                                                              | ★      | ★      | ●      | ★      | 15.875 | 6.35 | 1.2 | 6.35 |
| SNMG150616-MS | M                                                                                                                                                                                                                                                              | ★      | ★      | ●      | ★      | 15.875 | 6.35 | 1.6 | 6.35 |
| SNMG190612-MS | M                                                                                                                                                                                                                                                              | ●      | ●      | ●      |        | 19.05  | 6.35 | 1.2 | 7.93 |
| SNMG120404-MA | M                                                                                                                                                                                                                                                              |        | ●      | ●      |        | 12.7   | 4.76 | 0.4 | 5.16 |
| SNMG120408-MA | M                                                                                                                                                                                                                                                              |        | ●      | ●      |        | 12.7   | 4.76 | 0.8 | 5.16 |
| SNMG120412-MA | M                                                                                                                                                                                                                                                              |        | ●      | ●      |        | 12.7   | 4.76 | 1.2 | 5.16 |
| SNMG120416-MA | M                                                                                                                                                                                                                                                              |        | ●      | ●      |        | 12.7   | 4.76 | 1.6 | 5.16 |
| SNMG120408-RS | R                                                                                                                                                                                                                                                              |        | ●      | ●      | ●      | 12.7   | 4.76 | 0.8 | 5.16 |
| SNMG120412-RS | R                                                                                                                                                                                                                                                              |        | ●      | ●      | ●      | 12.7   | 4.76 | 1.2 | 5.16 |
| SNMG120416-RS | R                                                                                                                                                                                                                                                              |        | ●      | ●      | ★      | 12.7   | 4.76 | 1.6 | 5.16 |
| SNMG150616-RS | R                                                                                                                                                                                                                                                              |        | ★      | ●      | ★      | 15.875 | 6.35 | 1.6 | 6.35 |
| SNMG190612-RS | R                                                                                                                                                                                                                                                              |        | ●      | ●      |        | 19.05  | 6.35 | 1.2 | 7.93 |
| SNMG190616-RS | R                                                                                                                                                                                                                                                              |        | ★      | ●      | ★      | 19.05  | 6.35 | 1.6 | 7.93 |

## SNMG, TNMG – NEGATIVE WSP (MIT BOHRUNG)

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9015 | IC     | S    | RE  | D1   |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|------|-----|------|
|               |                                                                                                                                                                     |        |        |        |        |        |      |     |      |
| TNMG160402-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525  | 4.76 | 0.2 | 3.81 |
| TNMG160404-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525  | 4.76 | 0.4 | 3.81 |
| TNMG160408-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525  | 4.76 | 0.8 | 3.81 |
| TNMG160404-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525  | 4.76 | 0.4 | 3.81 |
| TNMG160408-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525  | 4.76 | 0.8 | 3.81 |
| TNMG160412-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ★      | 9.525  | 4.76 | 1.2 | 3.81 |
| TNMG220408-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ★      | 12.7   | 4.76 | 0.8 | 5.16 |
| TNMG220412-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ★      | 12.7   | 4.76 | 1.2 | 5.16 |
| TNMG160404-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 9.525  | 4.76 | 0.4 | 3.81 |
| TNMG160408-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 9.525  | 4.76 | 0.8 | 3.81 |
| TNMG160412-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 9.525  | 4.76 | 1.2 | 3.81 |
| TNMG220408-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 12.7   | 4.76 | 0.8 | 5.16 |
| TNMG220412-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 12.7   | 4.76 | 1.2 | 5.16 |
| TNMG220416-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 12.7   | 4.76 | 1.6 | 5.16 |
| TNMG270616-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 15.875 | 6.35 | 1.6 | 6.35 |
| TNMG330924-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 19.05  | 9.52 | 2.4 | 7.93 |
| TNMG160404-MJ | M                                                                                                                                                                   | ●      | ●      |        |        | 9.525  | 4.76 | 0.4 | 3.81 |
| TNMG160408-MJ | M                                                                                                                                                                   | ●      | ●      |        |        | 9.525  | 4.76 | 0.8 | 3.81 |
| TNMG160412-MJ | M                                                                                                                                                                   | ●      | ●      |        |        | 9.525  | 4.76 | 1.2 | 3.81 |
| TNMG160408-RS | R                                                                                                                                                                   |        | ●      | ●      | ●      | 9.525  | 4.76 | 0.8 | 3.81 |
| TNMG160412-RS | R                                                                                                                                                                   |        | ●      | ●      | ●      | 9.525  | 4.76 | 1.2 | 3.81 |
| TNMG220408-RS | R                                                                                                                                                                   |        | ●      | ●      | ★      | 12.7   | 4.76 | 0.8 | 5.16 |
| TNMG220412-RS | R                                                                                                                                                                   |        | ●      | ●      | ★      | 12.7   | 4.76 | 1.2 | 5.16 |

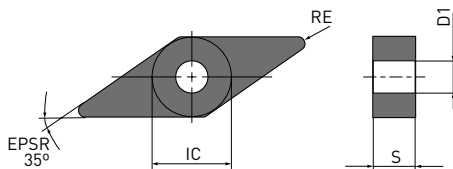
# VNMG, WNMG

## NEGATIVE WSP (MIT BOHRUNG)

S

### M-Toleranz

#### VNMG



#### SPANBRECHER-IDENTIFIKATION

#### ANWENDUNG

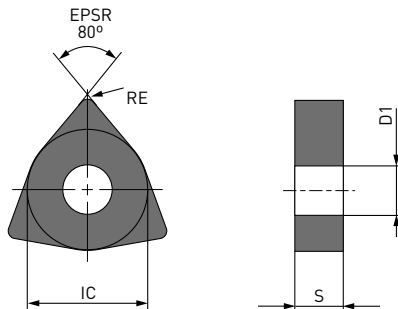


LS

MA, MJ, MS

RS

#### WNMG



| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9015 | IC    | S    | RE  | D1   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|------|-----|------|
|               |                                                                                                                                                                         |        |        |        |        |       |      |     |      |
| VNMG160402-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.2 | 3.81 |
| VNMG160404-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.4 | 3.81 |
| VNMG160408-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.8 | 3.81 |
| VNMG160404-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.4 | 3.81 |
| VNMG160408-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.8 | 3.81 |
| VNMG160404-MJ | M                                                                                                                                                                       | ●      | ●      |        |        | 9.525 | 4.76 | 0.4 | 3.81 |
| VNMG160408-MJ | M                                                                                                                                                                       | ●      | ●      |        |        | 9.525 | 4.76 | 0.8 | 3.81 |
| VNMG160412-MJ | M                                                                                                                                                                       | ●      | ●      |        |        | 9.525 | 4.76 | 1.2 | 3.81 |

## VNMG, WNMG – NEGATIVE WSP (MIT BOHRUNG)

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9015 | IC     | S    | RE  | D1   |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|------|-----|------|
|               |                                                                                    |        |        |        |        |        |      |     |      |
| WNMG080402-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.2 | 5.16 |
| WNMG080404-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.4 | 5.16 |
| WNMG080408-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.8 | 5.16 |
| WNMG080404-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.4 | 5.16 |
| WNMG080408-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 12.7   | 4.76 | 0.8 | 5.16 |
| WNMG080412-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ★      | 12.7   | 4.76 | 1.2 | 5.16 |
| WNMG080404-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 12.7   | 4.76 | 0.4 | 5.16 |
| WNMG080408-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 12.7   | 4.76 | 0.8 | 5.16 |
| WNMG080412-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 12.7   | 4.76 | 1.2 | 5.16 |
| WNMG080416-MA | M                                                                                                                                                                   |        | ●      | ●      |        | 12.7   | 4.76 | 1.6 | 5.16 |
| WNMG080408-MJ | M                                                                                                                                                                   | ●      | ●      |        |        | 12.7   | 4.76 | 0.8 | 5.16 |
| WNMG080412-MJ | M                                                                                                                                                                   | ●      | ●      |        |        | 12.7   | 4.76 | 1.2 | 5.16 |
| WNMG080416-MJ | M                                                                                                                                                                   | ●      | ●      |        |        | 12.7   | 4.76 | 1.6 | 5.16 |
| WNMG080408-RS | R                                                                                                                                                                   |        | ●      | ●      | ●      | 12.7   | 4.76 | 0.8 | 5.16 |
| WNMG080412-RS | R                                                                                                                                                                   |        | ●      | ●      | ●      | 12.7   | 4.76 | 1.2 | 5.16 |
| WNMG080416-RS | R                                                                                                                                                                   |        | ●      | ●      | ★      | 12.7   | 4.76 | 1.6 | 5.16 |
| WNMG100612-RS | R                                                                                                                                                                   |        | ●      | ●      | ★      | 15.875 | 6.35 | 1.2 | 6.35 |

# MP / MT9000

## SCHNITTDATENEMPFEHLUNGEN

### NEGATIVE WSP

| Material                                                                               | Schnitt-<br>bedingungen |  |  | Sorte  | Vc        | f           | ap        |
|----------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-----------|-------------|-----------|
| M<br>PH rostfreier Stahl<br>(DIN X5CrNiCuNb17-4)                                       | ●                       | L                                                                                 | LS                                                                                | MP9005 | 125 – 175 | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9005 | 115 – 160 | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9015 | 105 – 150 | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        | ●                       | L                                                                                 | LS                                                                                | MP9015 | 120 – 165 | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9015 | 110 – 150 | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9015 | 100 – 140 | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        | ✱                       | L                                                                                 | LS                                                                                | MP9025 | 80 – 95   | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9025 | 75 – 90   | 0.16 – 0.50 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9025 | 70 – 85   | 0.20 – 0.35 | 1.0 – 4.0 |
| S<br>Titanlegierung (Ti-6Al-4V)                                                        | ●                       | L                                                                                 | LS                                                                                | MT9015 | 40 – 85   | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MT9015 | 40 – 80   | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MT9015 | 35 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        | ●                       | L                                                                                 | LS                                                                                | MT9015 | 40 – 85   | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MT9015 | 40 – 80   | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MT9015 | 35 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        | ●                       | L                                                                                 | LS                                                                                | MP9005 | 30 – 110  | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9005 | 30 – 100  | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9015 | 20 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
| S<br>Hitzebeständige Nickelbasis-Legierung<br>(Inconel®718, Hastelloy®,<br>WASPALLOY®) | ●                       | L                                                                                 | LS                                                                                | MP9015 | 25 – 85   | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9015 | 25 – 80   | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9015 | 20 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        | ●                       | L                                                                                 | LS                                                                                | MP9015 | 20 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9015 | 20 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9015 | 20 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        | ✱                       | L                                                                                 | LS                                                                                | MP9025 | 20 – 30   | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9025 | 20 – 30   | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9025 | 20 – 30   | 0.20 – 0.35 | 1.0 – 4.0 |
| S<br>Legierung auf Kobaltbasis<br>(Tribaloy®, Stellite®)                               | ●                       | L                                                                                 | LS                                                                                | MP9005 | 30 – 110  | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9005 | 30 – 100  | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9015 | 20 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        | ●                       | L                                                                                 | LS                                                                                | MP9015 | 25 – 85   | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9015 | 25 – 80   | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9015 | 20 – 75   | 0.20 – 0.35 | 1.0 – 4.0 |
|                                                                                        | ✱                       | L                                                                                 | LS                                                                                | MP9025 | 20 – 30   | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        |                         | M                                                                                 | MS                                                                                | MP9025 | 20 – 30   | 0.10 – 0.25 | 0.5 – 4.0 |
|                                                                                        |                         | R                                                                                 | RS                                                                                | MP9025 | 20 – 30   | 0.20 – 0.35 | 1.0 – 4.0 |

Bei instabiler Bearbeitung folgen Sie bitte der Empfehlung auf Seite 4 bezüglich Spanbrecher und Hartmetallsorte.

Passen Sie die empfohlenen Schnittbedingungen für die Bohrstange an, da diese bei der Innenbearbeitung von der Länge des Überhangs abhängen.

Die Hartmetallsorten MC7015, MC7025 und MP7035 sind ebenfalls zur Bearbeitung von PH-Stählen geeignet.

### NEGATIVE PRÄZISIONS-WSP

| Material                                                                               | Schnitt-<br>bedingungen |  |  | Sorte  | Vc       | f           | ap        |
|----------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------|----------|-------------|-----------|
| S<br>Titanlegierung (Ti-6Al-4V)                                                        | ●                       | F                                                                                   | FS                                                                                  | MT9015 | 45 – 95  | 0.05 – 0.20 | 0.1 – 0.7 |
|                                                                                        |                         | L                                                                                   | LS                                                                                  | MT9015 | 40 – 85  | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        | ●                       | F                                                                                   | FS                                                                                  | MT9015 | 45 – 95  | 0.05 – 0.20 | 0.1 – 0.7 |
|                                                                                        |                         | L                                                                                   | LS                                                                                  | MT9015 | 40 – 85  | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        | ✱                       | F                                                                                   | FS                                                                                  | MT9015 | 45 – 95  | 0.05 – 0.20 | 0.1 – 0.7 |
|                                                                                        |                         | L                                                                                   | LS                                                                                  | MT9015 | 40 – 85  | 0.10 – 0.25 | 0.2 – 0.8 |
| S<br>Hitzebeständige Nickelbasis-Legierung<br>(Inconel®718, Hastelloy®,<br>WASPALLOY®) | ●                       | F                                                                                   | FS                                                                                  | MP9005 | 60 – 120 | 0.05 – 0.20 | 0.1 – 0.7 |
|                                                                                        |                         | L                                                                                   | LS                                                                                  | MP9005 | 55 – 110 | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        | ●                       | F                                                                                   | FS                                                                                  | MP9015 | 45 – 95  | 0.05 – 0.20 | 0.1 – 0.7 |
|                                                                                        |                         | L                                                                                   | LS                                                                                  | MP9015 | 40 – 85  | 0.10 – 0.25 | 0.2 – 0.8 |
|                                                                                        | ✱                       | F                                                                                   | FS                                                                                  | MP9025 | 35 – 50  | 0.05 – 0.20 | 0.1 – 0.7 |
|                                                                                        |                         | L                                                                                   | LS                                                                                  | MP9025 | 30 – 45  | 0.10 – 0.25 | 0.2 – 0.8 |

Schnittbedingungen: ●: Stabile Bearbeitung ●: Allgemeine Zerspanung ✱: Instabile Bearbeitung

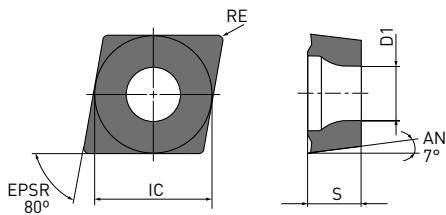
# CCMT, DCMT, SCMT

## 7° POSITIVE WSP (MIT BOHRUNG)

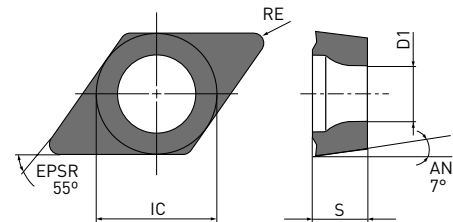
S

### M-Toleranz

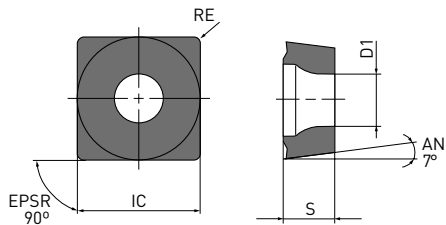
#### CCMT



#### DCMT



#### SCMT



### SPANBRECHER-IDENTIFIKATION

#### ANWENDUNG



LS

MS

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9005 | IC    | S    | RE  | D1  |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|------|-----|-----|
| CCMT060202-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.2 | 2.8 |
| CCMT060204-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.4 | 2.8 |
| CCMT060202-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.2 | 2.8 |
| CCMT060204-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.4 | 2.8 |
| CCMT060208-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.8 | 2.8 |
| CCMT09T302-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.2 | 4.4 |
| CCMT09T304-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.4 | 4.4 |
| CCMT09T308-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.8 | 4.4 |
| CCMT09T302-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.2 | 4.4 |
| CCMT09T304-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.4 | 4.4 |
| CCMT09T308-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.8 | 4.4 |
| CCMT120404-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 12.7  | 4.76 | 0.4 | 5.5 |
| CCMT120408-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 12.7  | 4.76 | 0.8 | 5.5 |
| CCMT120412-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 12.7  | 4.76 | 1.2 | 5.5 |

## CCMT, DCMT, SCMT – 7° POSITIVE WSP (MIT BOHRUNG)

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9005 | IC    | S    | RE  | D1    |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|------|-----|-------|
| DCMT070202-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.2 | 2.8   |
| DCMT070204-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.4 | 2.8   |
| DCMT11T302-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.2 | 4.4   |
| DCMT11T304-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.4 | 4.4   |
| DCMT11T308-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.8 | 4.4   |
| DCMT11T312-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 1.2 | 4.4   |
| DCMT070204-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.4 | 2.8   |
| DCMT070208-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.8 | 2.8   |
| DCMT11T304-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.4 | 4.4   |
| DCMT11T308-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.8 | 4.4   |
| SCMT09T304-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.4 | 4.4   |
| SCMT09T308-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.8 | 4.4   |
| SCMT120404-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 12.7  | 4.76 | 0.4 | 5.5   |
| SCMT120408-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 12.7  | 4.76 | 0.8 | 5.5   |
| SCMT120412-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 12.7  | 4.76 | 1.2 | 5.5   |
|               |                                                                                                                                                                     |        |        |        |        |       |      |     | 2 / 2 |

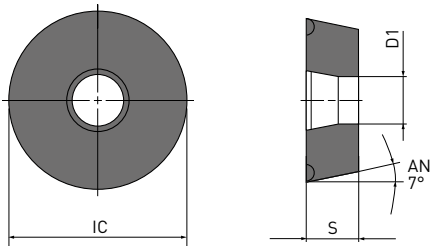
# RCMT

## 7° POSITIVE WSP (MIT BOHRUNG)

S

M-Toleranz

RCMT

SPANBRECHER-  
IDENTIFIKATION

ANWENDUNG



STD

| Bestellnummer |  | MP9005 | MP9015 | MP9025 | MT9005 | MT9015 | IC | S    | RE | D1  |
|---------------|-----------------------------------------------------------------------------------|--------|--------|--------|--------|--------|----|------|----|-----|
| RCMT0602M0    | M                                                                                 | ●      | ●      | ●      | ●      | ●      | 6  | 2.38 | –  | 2.8 |
| RCMT0803M0    | M                                                                                 | ●      | ●      | ●      | ●      | ●      | 8  | 3.18 | –  | 3.4 |
| RCMT10T3M0    | M                                                                                 | ●      | ●      | ●      | ●      | ●      | 10 | 3.97 | –  | 4.4 |
| RCMT1204M0    | M                                                                                 | ●      | ●      | ●      | ●      | ●      | 12 | 4.76 | –  | 4.4 |
| RCMT1606M0    | M                                                                                 | ●      | ●      | ●      | ●      | ●      | 16 | 6.35 | –  | 5.5 |

23 

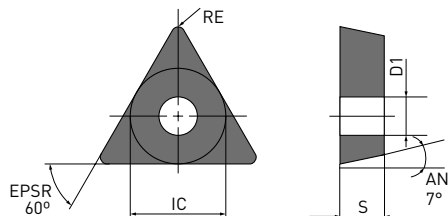
# TCMT, VBMT, VCMT

## 5° / 7° POSITIVE WSP (MIT BOHRUNG)

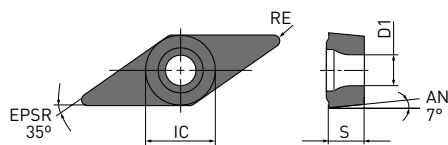
S

### M-Toleranz

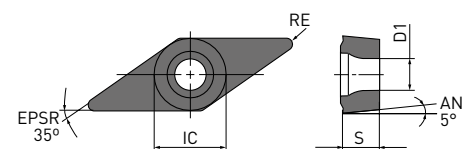
#### TCMT



#### VCMT



#### VBMT



### SPANBRECHER-IDENTIFIKATION

#### ANWENDUNG



LS



MS

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9005 | IC    | S    | RE  | D1   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|------|-----|------|
| TCMT090202-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 5.56  | 2.38 | 0.2 | 2.5  |
| TCMT090204-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 5.56  | 2.38 | 0.4 | 2.5  |
| TCMT090208-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 5.56  | 2.38 | 0.8 | 2.5  |
| TCMT110202-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.2 | 2.8  |
| TCMT110204-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.4 | 2.8  |
| TCMT110208-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 2.38 | 0.8 | 2.8  |
| TCMT16T304-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.4 | 4.4  |
| TCMT16T308-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 0.8 | 4.4  |
| TCMT16T312-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 3.97 | 1.2 | 4.4  |
| VBMT110302-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 3.18 | 0.2 | 2.85 |
| VBMT110304-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 3.18 | 0.4 | 2.85 |
| VBMT110308-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 6.35  | 3.18 | 0.8 | 2.85 |
| VBMT160404-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.4 | 4.4  |
| VBMT160408-LS | L                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.8 | 4.4  |
| VBMT160402-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.2 | 4.43 |
| VBMT160404-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.4 | 4.4  |
| VBMT160408-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.8 | 4.4  |
| VBMT160412-MS | M                                                                                                                                                                       | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 1.2 | 4.43 |

**TCMT, VBMT, VCMT – 5°/7° POSITIVE WSP (MIT BOHRUNG)**

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9005 | IC    | S    | RE  | D1  |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|------|-----|-----|
| VCMT110302-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 3.18 | 0.2 | 2.8 |
| VCMT110304-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 3.18 | 0.4 | 2.8 |
| VCMT110302-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 3.18 | 0.2 | 2.8 |
| VCMT110304-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 3.18 | 0.4 | 2.8 |
| VCMT110308-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 6.35  | 3.18 | 0.8 | 2.8 |
| VCMT160404-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.4 | 4.4 |
| VCMT160408-LS | L                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.8 | 4.4 |
| VCMT160404-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.4 | 4.4 |
| VCMT160408-MS | M                                                                                                                                                                   | ●      | ●      | ●      | ●      | 9.525 | 4.76 | 0.8 | 4.4 |

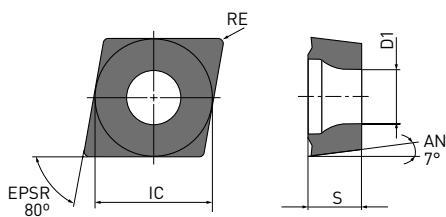
# CCGT, DCGT, VCGT

7° POSITIVE PRÄZISIONS-WSP  
MINUS TOLERANZ (MIT BOHRUNG)

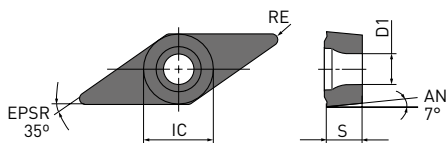
S

## G-Toleranz

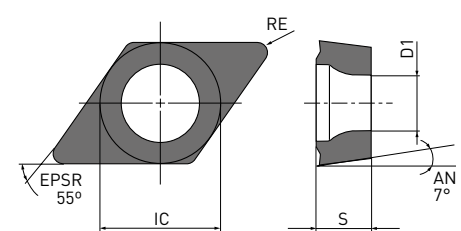
### CCGT



### VCGT



### DCGT



## SPANBRECHER-IDENTIFIKATION

### ANWENDUNG



FS

LS

| Bestellnummer  |   | MP9005 | MP9015 | MP9025 | IC    | S    | RE   | D1  |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|-------|------|------|-----|
| CCGT060201M-FS | F                                                                                                                                                                       | ●      | ●      | ●      | 6.35  | 2.38 | 0.08 | 2.8 |
| CCGT060201M-LS | L                                                                                                                                                                       | ●      | ●      | ●      | 6.35  | 2.38 | 0.08 | 2.8 |
| CCGT060202M-FS | F                                                                                                                                                                       | ●      | ●      | ●      | 6.35  | 2.38 | 0.18 | 2.8 |
| CCGT060202M-LS | L                                                                                                                                                                       | ●      | ●      | ●      | 6.35  | 2.38 | 0.18 | 2.8 |
| CCGT09T301M-FS | F                                                                                                                                                                       | ●      | ●      | ●      | 9.525 | 3.97 | 0.08 | 4.4 |
| CCGT09T301M-LS | L                                                                                                                                                                       | ●      | ●      | ●      | 9.525 | 3.97 | 0.08 | 4.4 |
| CCGT09T302M-FS | F                                                                                                                                                                       | ●      | ●      | ●      | 9.525 | 3.97 | 0.18 | 4.4 |
| CCGT09T302M-LS | L                                                                                                                                                                       | ●      | ●      | ●      | 9.525 | 3.97 | 0.18 | 4.4 |
| CCGT09T304M-FS | F                                                                                                                                                                       | ●      | ●      | ●      | 9.525 | 3.97 | 0.38 | 4.4 |
| CCGT09T304M-LS | L                                                                                                                                                                       | ●      | ●      | ●      | 9.525 | 3.97 | 0.38 | 4.4 |

## CCGT, DCGT, VCGT – 7° POSITIVE PRÄZISIONS-WSP MINUS TOLERANZ (MIT BOHRUNG)

| Bestellnummer  |  | MP9005 | MP9015 | MP9025 | IC    | S    | RE   | D1  |
|----------------|-----------------------------------------------------------------------------------|--------|--------|--------|-------|------|------|-----|
|                |                                                                                   |        |        |        |       |      |      |     |
| DCGT070201M-FS | F                                                                                 | ●      | ●      | ●      | 6.35  | 2.38 | 0.08 | 2.8 |
| DCGT070201M-LS | L                                                                                 | ●      | ●      | ●      | 6.35  | 2.38 | 0.08 | 2.8 |
| DCGT070202M-FS | F                                                                                 | ●      | ●      | ●      | 6.35  | 2.38 | 0.18 | 2.8 |
| DCGT070202M-LS | L                                                                                 | ●      | ●      | ●      | 6.35  | 2.38 | 0.18 | 2.8 |
| DCGT070204M-FS | F                                                                                 | ●      | ●      | ●      | 6.35  | 2.38 | 0.38 | 2.8 |
| DCGT070204M-LS | L                                                                                 | ●      | ●      | ●      | 6.35  | 2.38 | 0.38 | 2.8 |
| DCGT11T301M-FS | F                                                                                 | ●      | ●      | ●      | 9.525 | 3.97 | 0.08 | 4.4 |
| DCGT11T301M-LS | L                                                                                 | ●      | ●      | ●      | 9.525 | 3.97 | 0.08 | 4.4 |
| DCGT11T302M-FS | F                                                                                 | ●      | ●      | ●      | 9.525 | 3.97 | 0.18 | 4.4 |
| DCGT11T302M-LS | L                                                                                 | ●      | ●      | ●      | 9.525 | 3.97 | 0.18 | 4.4 |
| DCGT11T304M-FS | F                                                                                 | ●      | ●      | ●      | 9.525 | 3.97 | 0.38 | 4.4 |
| DCGT11T304M-LS | L                                                                                 | ●      | ●      | ●      | 9.525 | 3.97 | 0.38 | 4.4 |
| VCGT110301M-LS | L                                                                                 | ●      | ●      | ●      | 6.35  | 3.18 | 0.08 | 2.8 |
| VCGT110302M-LS | L                                                                                 | ●      | ●      | ●      | 6.35  | 3.18 | 0.18 | 2.8 |
| VCGT110304M-LS | L                                                                                 | ●      | ●      | ●      | 6.35  | 3.18 | 0.38 | 2.8 |
| VCGT130301M-LS | L                                                                                 | ●      | ●      | ●      | 7.94  | 3.18 | 0.08 | 3.4 |
| VCGT130302M-LS | L                                                                                 | ●      | ●      | ●      | 7.94  | 3.18 | 0.18 | 3.4 |
| VCGT130304M-LS | L                                                                                 | ●      | ●      | ●      | 7.94  | 3.18 | 0.38 | 3.4 |

# CCGT, DCGT, VCGT

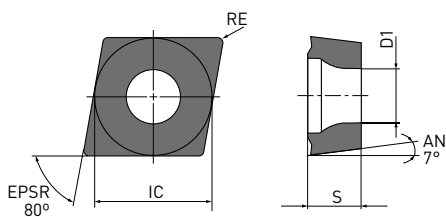
7° POSITIVE PRÄZISIONS-WSP

MINUS TOLERANZ / POLIERT (MIT BOHRUNG)

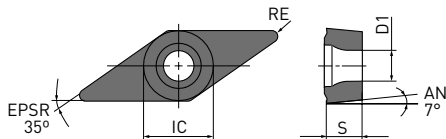
S

## G-Toleranz

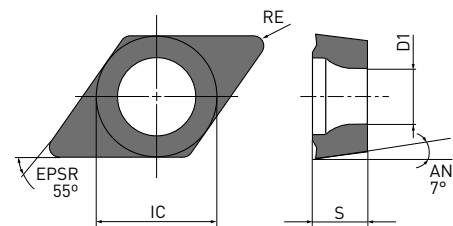
### CCGT



### VCGT



### DCGT



## SPANBRECHER-IDENTIFIKATION

### ANWENDUNG



FS-P

LS-P

| Bestellnummer    |   | MT9005 | IC    | S    | RE   | D1  |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|------|------|-----|
| CCGT060201M-FS-P | F                                                                                                                                                                       | ●      | 6.35  | 2.38 | 0.08 | 2.8 |
| CCGT060202M-FS-P | F                                                                                                                                                                       | ●      | 6.35  | 2.38 | 0.18 | 2.8 |
| CCGT09T301M-FS-P | F                                                                                                                                                                       | ●      | 9.525 | 3.97 | 0.08 | 4.4 |
| CCGT09T302M-FS-P | F                                                                                                                                                                       | ●      | 9.525 | 3.97 | 0.18 | 4.4 |
| CCGT09T304M-FS-P | F                                                                                                                                                                       | ●      | 9.525 | 3.97 | 0.38 | 4.4 |
| DCGT070201M-FS-P | F                                                                                                                                                                       | ●      | 6.35  | 2.38 | 0.08 | 2.8 |
| DCGT070202M-FS-P | F                                                                                                                                                                       | ●      | 6.35  | 2.38 | 0.18 | 2.8 |
| DCGT070204M-FS-P | F                                                                                                                                                                       | ●      | 6.35  | 2.38 | 0.38 | 2.8 |
| DCGT11T301M-FS-P | F                                                                                                                                                                       | ●      | 9.525 | 3.97 | 0.08 | 4.4 |
| DCGT11T302M-FS-P | F                                                                                                                                                                       | ●      | 9.525 | 3.97 | 0.18 | 4.4 |
| DCGT11T304M-FS-P | F                                                                                                                                                                       | ●      | 9.525 | 3.97 | 0.38 | 4.4 |

## CCGT, DCGT, VCGT – 7° POSITIVE PRÄZISIONS-WSP MINUS TOLERANZ / POLIERT (MIT BOHRUNG)

| Bestellnummer    |  | MT9005 | IC    | S    | RE   | D1  |
|------------------|-----------------------------------------------------------------------------------|--------|-------|------|------|-----|
| CCGT060201M-LS-P | L                                                                                 | ●      | 6.35  | 2.38 | 0.08 | 2.8 |
| CCGT060202M-LS-P | L                                                                                 | ●      | 6.35  | 2.38 | 0.18 | 2.8 |
| CCGT09T301M-LS-P | L                                                                                 | ●      | 9.525 | 3.97 | 0.08 | 4.4 |
| CCGT09T302M-LS-P | L                                                                                 | ●      | 9.525 | 3.97 | 0.18 | 4.4 |
| CCGT09T304M-LS-P | L                                                                                 | ●      | 9.525 | 3.97 | 0.38 | 4.4 |
| DCGT070201M-LS-P | L                                                                                 | ●      | 6.35  | 2.38 | 0.08 | 2.8 |
| DCGT070202M-LS-P | L                                                                                 | ●      | 6.35  | 2.38 | 0.18 | 2.8 |
| DCGT070204M-LS-P | L                                                                                 | ●      | 6.35  | 2.38 | 0.38 | 2.8 |
| DCGT11T301M-LS-P | L                                                                                 | ●      | 9.525 | 3.97 | 0.08 | 4.4 |
| DCGT11T302M-LS-P | L                                                                                 | ●      | 9.525 | 3.97 | 0.18 | 4.4 |
| DCGT11T304M-LS-P | L                                                                                 | ●      | 9.525 | 3.97 | 0.38 | 4.4 |
| VCGT110301M-LS-P | L                                                                                 | ●      | 6.35  | 3.18 | 0.08 | 2.8 |
| VCGT110302M-LS-P | L                                                                                 | ●      | 6.35  | 3.18 | 0.18 | 2.8 |
| VCGT110304M-LS-P | L                                                                                 | ●      | 6.35  | 3.18 | 0.38 | 2.8 |
| VCGT130301M-LS-P | L                                                                                 | ●      | 7.94  | 3.18 | 0.08 | 3.4 |
| VCGT130302M-LS-P | L                                                                                 | ●      | 7.94  | 3.18 | 0.18 | 3.4 |
| VCGT130304M-LS-P | L                                                                                 | ●      | 7.94  | 3.18 | 0.38 | 3.4 |

FS-P/LS-P: Polierter Spanbrecher für verbesserte Spanabfuhr.

# MP / MT9000

## SCHNITTDATENEMPFEHLUNGEN

### POSITIVE PRÄZISIONS-WSP

| Material                                                                                                                                                                                                                                                                        | Schnitt-<br>bedingungen |  |  | Sorte  | Vc    | f         | ap      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------|---------|
| M<br>PH rostfreier Stahl<br>(DIN X5CrNiCuNb17-4)                                                                                                                                                                                                                                | ●                       | F                                                                                 | FS                                                                                | MP9005 | 40–80 | 0.04–0.10 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 |                         | L                                                                                 | LS                                                                                | MP9005 | 40–80 | 0.04–0.15 | 0.3–2.0 |
|                                                                                                                                                                                                                                                                                 | ●                       | F                                                                                 | FS                                                                                | MP9015 | 40–80 | 0.04–0.10 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 |                         | L                                                                                 | LS                                                                                | MP9015 | 40–80 | 0.04–0.15 | 0.3–2.0 |
|                                                                                                                                                                                                                                                                                 | ✱                       | L                                                                                 | LS                                                                                | MP9015 | 30–60 | 0.04–0.10 | 0.3–1.0 |
| S<br>Titanlegierung (Ti-6Al-4V)<br><br>Kobalt-Chrom-Legierungen<br>(Co-Cr-Mo-Legierungen)<br><br>PH rostfreier Stahl<br>(X5CrNiCuNb17-4)<br><br>Hitzebeständige Legierung auf<br>Nickelbasis<br>(Inconel <sup>®</sup> 718, Hastelloy <sup>®</sup> ,<br>WASPALLOY <sup>®</sup> ) | ●                       | F                                                                                 | FS-P                                                                              | MT9005 | 40–80 | 0.04–0.12 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 |                         | L                                                                                 | LS-P                                                                              | MT9005 | 40–80 | 0.04–0.20 | 0.3–3.0 |
|                                                                                                                                                                                                                                                                                 | ●                       | F                                                                                 | FS-P                                                                              | MT9005 | 40–80 | 0.04–0.12 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 |                         | L                                                                                 | LS-P                                                                              | MT9005 | 40–80 | 0.04–0.12 | 0.3–2.0 |
|                                                                                                                                                                                                                                                                                 | ✱                       | L                                                                                 | LS-P                                                                              | MT9005 | 30–60 | 0.04–0.10 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 | ●                       | F                                                                                 | FS                                                                                | MP9005 | 40–80 | 0.04–0.10 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 |                         | L                                                                                 | LS                                                                                | MP9005 | 40–80 | 0.04–0.15 | 0.2–2.0 |
|                                                                                                                                                                                                                                                                                 | ●                       | F                                                                                 | FS                                                                                | MP9015 | 40–80 | 0.04–0.10 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 |                         | L                                                                                 | LS                                                                                | MP9015 | 40–80 | 0.04–0.15 | 0.3–2.0 |
|                                                                                                                                                                                                                                                                                 | ✱                       | L                                                                                 | LS                                                                                | MP9015 | 30–60 | 0.04–0.10 | 0.3–1.0 |
|                                                                                                                                                                                                                                                                                 | ●                       | F                                                                                 | FS                                                                                | MP9015 | 25–95 | 0.04–0.12 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 |                         | L                                                                                 | LS                                                                                | MP9015 | 25–95 | 0.04–0.12 | 0.3–2.0 |
|                                                                                                                                                                                                                                                                                 | ●                       | F                                                                                 | FS                                                                                | MP9015 | 20–75 | 0.04–0.12 | 0.2–1.4 |
|                                                                                                                                                                                                                                                                                 |                         | L                                                                                 | LS                                                                                | MP9015 | 20–75 | 0.04–0.12 | 0.3–2.0 |
|                                                                                                                                                                                                                                                                                 | ✱                       | L                                                                                 | LS                                                                                | MP9015 | 20–60 | 0.04–0.10 | 0.3–1.0 |

Überprüfen Sie die empfohlenen Schnittdaten für jede Bohrstange, da die Schnittdaten für die Innenbearbeitung je nach Länge der Auskrugung voneinander abweichen.

### POSITIVE WSP

Schnittbedingungen : ●: Stabile Bearbeitung ●: Allgemeine Zerspanung ✱: Instabile Bearbeitung

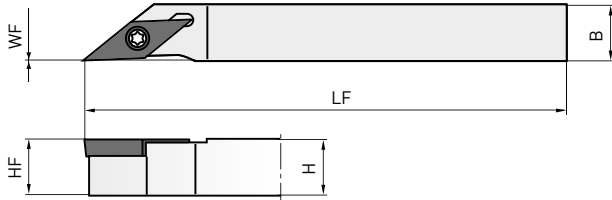
| Material                                                                                                                                                               | Schnitt-<br>bedingungen |  |  | Sorte  | Vc      | f         | ap      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------|---------|-----------|---------|
| M<br>PH rostfreier Stahl<br>(DIN X5CrNiCuNb17-4)                                                                                                                       | ●                       | L                                                                                   | LS                                                                                  | MP9015 | 105–140 | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        |                         | M                                                                                   | MS                                                                                  | MP9015 | 85–120  | 0.08–0.25 | 0.3–2.0 |
|                                                                                                                                                                        | ●                       | L                                                                                   | LS                                                                                  | MP9015 | 105–140 | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        |                         | M                                                                                   | MS                                                                                  | MP9015 | 85–120  | 0.08–0.25 | 0.3–2.0 |
|                                                                                                                                                                        | ✱                       | L                                                                                   | LS                                                                                  | MP9025 | 70–80   | 0.06–0.20 | 0.2–1.0 |
| S<br>Titanlegierung (Ti-6Al-4V)<br><br>Hitzebeständige Legierung auf<br>Nickelbasis<br>(Inconel <sup>®</sup> 718, Hastelloy <sup>®</sup> ,<br>WASPALLOY <sup>®</sup> ) | ●                       | L                                                                                   | LS                                                                                  | MT9005 | 40–80   | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        |                         | M                                                                                   | MS                                                                                  | MT9005 | 35–65   | 0.08–0.25 | 0.3–2.0 |
|                                                                                                                                                                        | ●                       | L                                                                                   | LS                                                                                  | MT9005 | 40–80   | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        |                         | M                                                                                   | MS                                                                                  | MT9005 | 35–65   | 0.08–0.25 | 0.3–2.0 |
|                                                                                                                                                                        | ✱                       | L                                                                                   | LS                                                                                  | MT9005 | 40–80   | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        |                         | M                                                                                   | MS                                                                                  | MT9005 | 35–65   | 0.08–0.25 | 0.3–2.0 |
|                                                                                                                                                                        | ●                       | L                                                                                   | LS                                                                                  | MP9005 | 25–95   | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        |                         | M                                                                                   | MS                                                                                  | MP9005 | 20–80   | 0.08–0.25 | 0.3–2.0 |
|                                                                                                                                                                        | ●                       | L                                                                                   | LS                                                                                  | MP9015 | 20–75   | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        |                         | M                                                                                   | MS                                                                                  | MP9015 | 20–75   | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        | ✱                       | L                                                                                   | LS                                                                                  | MP9025 | 15–25   | 0.06–0.20 | 0.2–1.0 |
|                                                                                                                                                                        |                         | M                                                                                   | MS                                                                                  | MP9025 | 15–30   | 0.08–0.25 | 0.3–2.0 |

Überprüfen Sie die empfohlenen Schnittdaten für jede Bohrstange, da die Schnittdaten für die Innenbearbeitung je nach Länge der Auskrugung voneinander abweichen.

Schnittbedingungen : ●: Stabile Bearbeitung ●: Allgemeine Zerspanung ✱: Instabile Bearbeitung

# SVJC

## DREHHALTER FÜR VCGT WSP



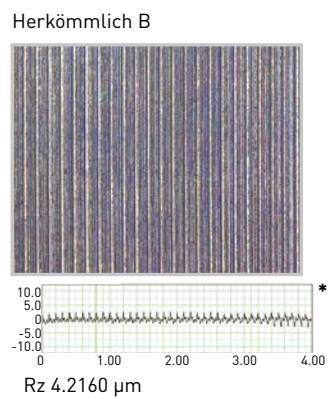
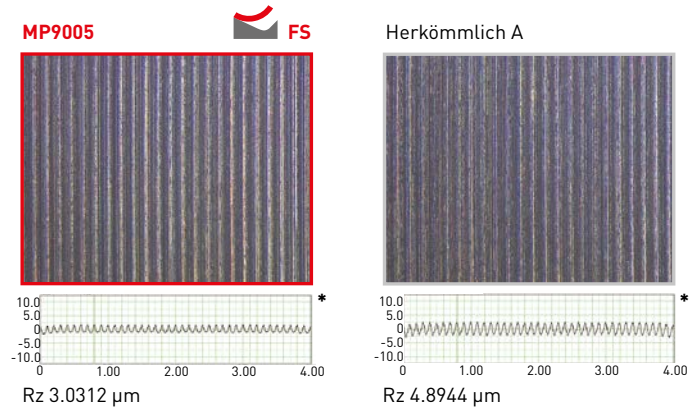
| Bestellnummer      | Lager |   | WSP  | H  | B  | LF  | HF | LH | WF | WSP-<br>Klemm-<br>schraube | Schlüssel |
|--------------------|-------|---|------|----|----|-----|----|----|----|----------------------------|-----------|
|                    | R     | L |      |    |    |     |    |    |    |                            |           |
| SVJCR/L1010JX11-SM | ●     | ● | VCGT | 10 | 10 | 120 | 10 | 22 | 0  | TS255                      | TKY08R    |
| SVJCR/L1212JX11-SM | ●     | ● |      | 12 | 12 | 120 | 12 | 22 | 0  |                            |           |
| SVJCR/L1616JX11-SM | ●     | ● |      | 16 | 16 | 120 | 16 | 22 | 0  |                            |           |
| SVJCR/L1010JX13-SM | ●     | ● | VCGT | 10 | 10 | 120 | 10 | 26 | 0  | TS32                       | TKY08R    |
| SVJCR/L1212JX13-SM | ●     | ● |      | 12 | 12 | 120 | 12 | 26 | 0  |                            |           |
| SVJCR/L1616JX13-SM | ●     | ● |      | 16 | 16 | 120 | 16 | 26 | 0  |                            |           |

# SCHNITTLLEISTUNG

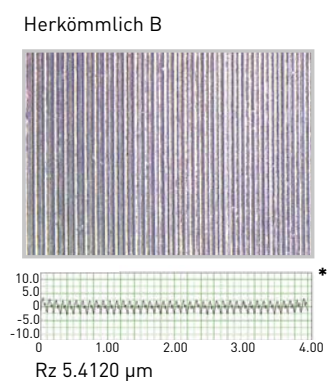
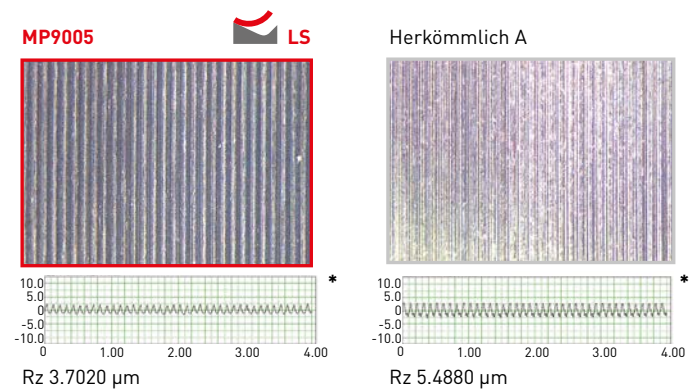
## VERGLEICH DER OBERFLÄCHENGÜTE BEI INCONEL® 718

Gute Zerspanungsbedingungen und Spanbrucheigenschaften sorgen für hohe Oberflächengüten.

|              |                 |
|--------------|-----------------|
| Material     | Inconel® 718    |
| WSP          | CNGG120404      |
| Vc (m/min)   | 50              |
| f (mm/U)     | 0.1             |
| ap (mm)      | 0.2             |
| Schnittmodus | Nassbearbeitung |



|              |                 |
|--------------|-----------------|
| Material     | Inconel® 718    |
| WSP          | CNGG120404      |
| Vc (m/min)   | 50              |
| f (mm/U)     | 0.1             |
| ap (mm)      | 0.5             |
| Schnittmodus | Nassbearbeitung |



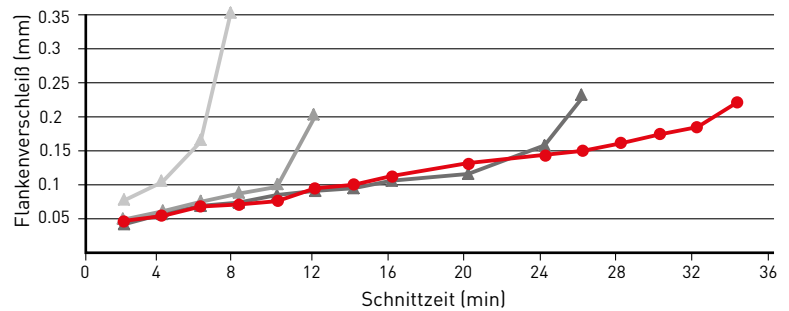
\* Rauheitsprofil  
Vertikale Skala: x 2.000.00  
Horizontale Skala: x 50.00

# SCHNITTLEISTUNG

## INCONEL®718, KONTINUIERLICHE ZERSPANUNG

|              |                 |
|--------------|-----------------|
| Material     | Inconel®718     |
| WSP          | CNMG120408-MS   |
| Vc (m/min)   | 60              |
| f (mm/U)     | 0.15            |
| ap (mm)      | 0.75            |
| Schnittmodus | Nassbearbeitung |

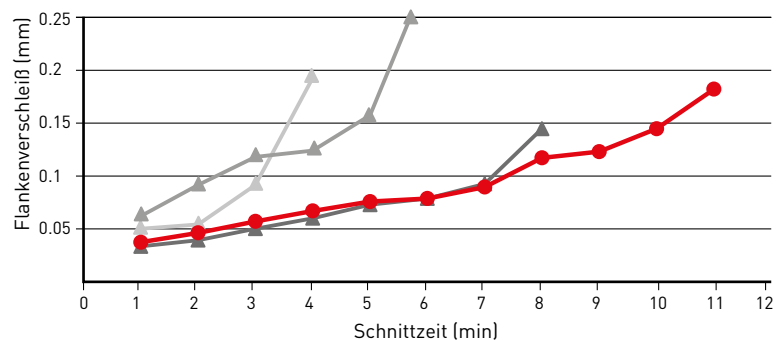
**Um 28 % verbesserte Werkzeugstandzeit**



## INCONEL®718, KONTINUIERLICHE ZERSPANUNG

|              |                 |
|--------------|-----------------|
| Material     | Inconel®718     |
| WSP          | CNMG120408-MS   |
| Vc (m/min)   | 100             |
| f (mm/U)     | 0.15            |
| ap (mm)      | 0.5             |
| Schnittmodus | Nassbearbeitung |

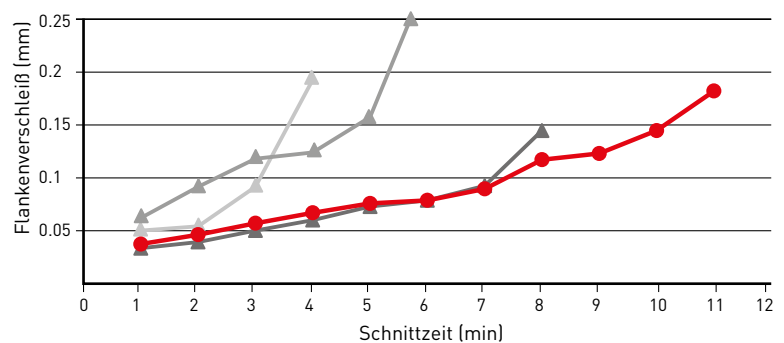
**Um 37 % verbesserte Werkzeugstandzeit**



## INCONEL®718, KONTINUIERLICHE BEARBEITUNG

|              |                 |
|--------------|-----------------|
| Material     | Inconel®718     |
| WSP          | CNMG120408-RS   |
| Vc (m/min)   | 40              |
| f (mm/U)     | 0.2             |
| ap (mm)      | 2.0             |
| Schnittmodus | Nassbearbeitung |

**Um 33 % verbesserte Werkzeugstandzeit**



—●— MP9005/15 —▲— Herkömmlich A

—▲— Herkömmlich B

—▲— Herkömmlich C

# WASPALLOY®-BEARBEITUNG

## MP9015 MIT SPANBRECHER RS WIES DEN GERINGSTEN VERSCHLEISS AUF

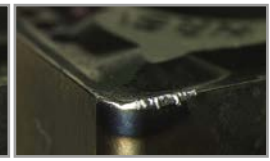
|                   |                 |
|-------------------|-----------------|
| Werkstoff         | WASPALLOY®      |
| WSP               | CNMG120408-RS   |
| Vc (m/min)        | 29              |
| f (mm/U)          | 0.22            |
| ap (mm)           | 4.0             |
| Schnittzeit (min) | 7               |
| Schnittmodus      | Nassbearbeitung |



MP9015 - RS



Herkömmlich A

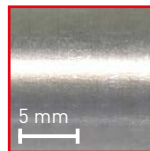


Herkömmlich B

## TITANLEGIERUNG, VERGLEICH DER OBERFLÄCHENGÜTE

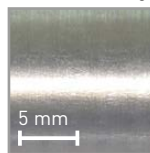
|              |                  |
|--------------|------------------|
| Werkstoff    | Ti-6Al-6V(325HB) |
| WSP          | CNMG120408-LS    |
| Vc (m/min)   | 70               |
| f (mm/U)     | 0.05             |
| ap (mm)      | 0.25             |
| Schnittmodus | Nassbearbeitung  |

Glanzoberfläche

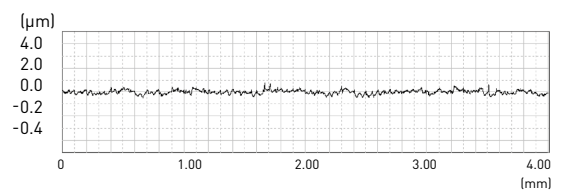


MT9015 - LS

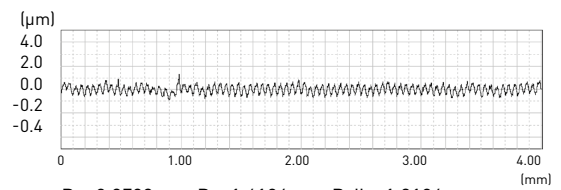
Weiße Trübung



Herkömmlich



Ra: 0.1347 µm Rz: 0.9480 µm Rzjis: 0.6240 µm

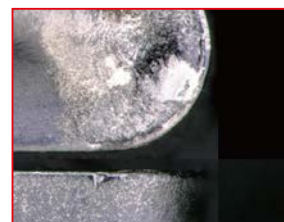


Ra: 0.2792 µm Rz: 1.6104 µm Rzjis: 1.3104 µm

### Hervorragende Oberflächenqualität

## MP9015 MIT SPANBRECHER LS WIES DEN GERINGSTEN VERSCHLEISS AUF

|              |                            |
|--------------|----------------------------|
| Werkstoff    | Hitzebeständiger Stahlguss |
| WSP          | DCMT11T304-LS              |
| Vc (m/min)   | 100                        |
| f (mm/U)     | 0.1                        |
| ap (mm)      | 0.25                       |
| Schnittmodus | Nassbearbeitung            |



MP9015 - LS

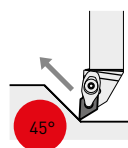


Herkömmlich

## SPANKONTROLLE BEIM KEGELDREHEN

Kein Verhaken der Späne beim Hinterdrehen von Inconel®718.

|              |                 |
|--------------|-----------------|
| Werkstoff    | Inconel®718     |
| WSP          | DNMG150408-MS   |
| Vc (m/min)   | 40              |
| f (mm/U)     | 0.2             |
| ap (mm)      | 1.0             |
| Schnittmodus | Nassbearbeitung |

MS Spanbrecher  
(neuartiges Design)

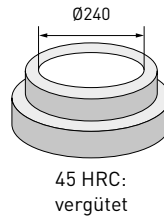
Herkömmlich

# ANWENDUNGSBEISPIELE

|              |                                     |
|--------------|-------------------------------------|
| WSP          | DNMG150408-MS (MP9005)              |
| Material     | Inconel®718 (Nickel-basislegierung) |
| Schnittmodus | Nassbearbeitung                     |
| Vc (m/min)   | 60                                  |
| f (mm/U)     | 0.15                                |
| ap (mm)      | 0.25                                |
| Bauteil      | Scheibe-Luft-/Raumfahrtbauteil      |

Ergebnisse

MP9005 – stabile Zerspanung und weniger Verschleiß bei langer Werkzeugstandzeit und ohne Spanverhaken.



**MP9005 + MS**

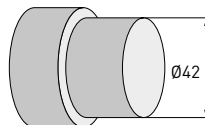


Herkömmliches  
System (S10)

|              |                                                    |
|--------------|----------------------------------------------------|
| WSP          | CNMG120408-RS (MP9015)                             |
| Material     | HAYNES®-Legierung 25 (Nickel-Kobaltbasislegierung) |
| Schnittmodus | Nassbearbeitung                                    |
| Vc (m/min)   | 34                                                 |
| f (mm/U)     | 0.20                                               |
| ap (mm)      | 1.5                                                |
| Bauteil      | Abdeckblende-Luft-/Raumfahrtbauteil                |

Ergebnisse

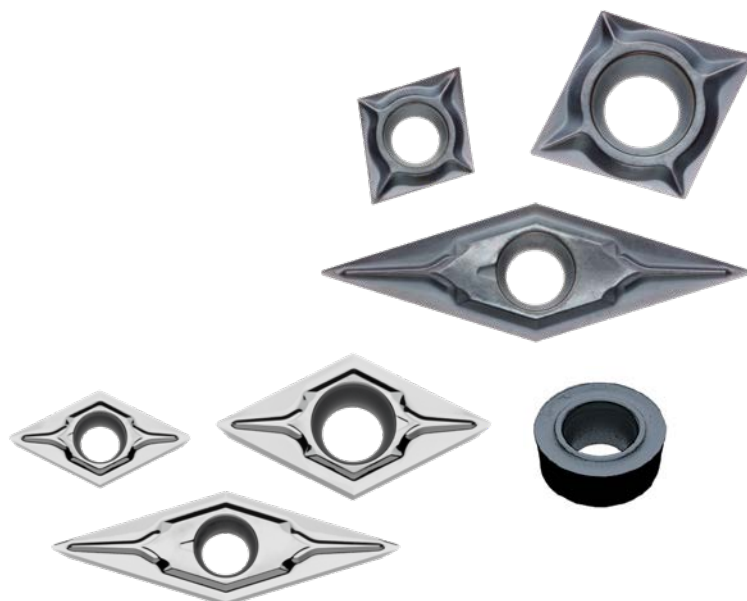
Sowohl das herkömmliche Werkzeug als auch MP9015 zeigen Kerbverschleiß, wobei der Verschleiß beim Herkömmlichen größer war und das Substrat hervortrat.



**MP9015 + RS**



Herkömmliches  
System (S10)





## EUROPÄISCHE VERTRIEBSGESELLSCHAFTEN

### GERMANY

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