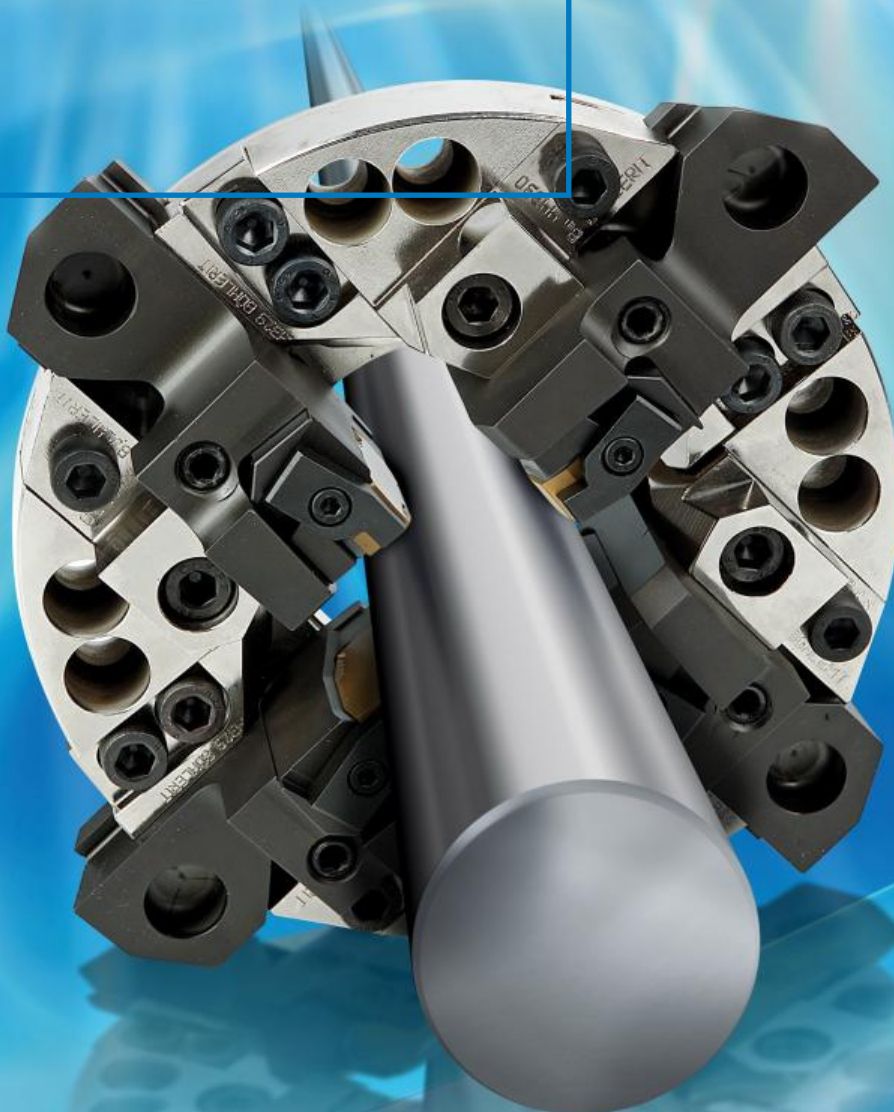


boehlerit

剥皮刀
Bar peeling



技術優勢，客戶受益	Technological advantages, customer benefits	3
剝皮刀頭、刀座和刀匣模型	Peeling head, holders and cartridges-model	4
可轉位刀片標識系統	Designation system for indexable inserts	6
剝皮刀幾何形狀	Geometries for bar peeling	8
可轉位刀片	Indexable inserts	9
剝皮刀座和刀匣	Bar Peeling Tools	15
標識系統	Designation system	18
剝皮刀匣	Bar peeling cartridges	19
進出料導向系統	Entry- and exit guide system	32
棒材端部倒角及銑削	Bar end machining chamfering and milling	34
牌號總覽	Grade overview	35
推薦的鎢鋼牌號	Recommended carbide grades	36
建議應用領域	Recommended application areas	37
公式	Formulars	38
可達到的表面質量	Attainable surface qualities	39
剝皮應用的問題和解決方法	Problems and solutions associated with bar peeling applications	40
硬度對照表	Hardness-comparison table	41
材質對照表	Comparison table of materials to be machined	42
線材剝皮的拉絲環和模具	Shaving rings and casings	50
代理商	Sales organisations	52



Kapfenberg BOEHLERIT Österreich, Austria

Technische Änderungen und Druckfehler vorbehalten.
Subject to changes from technical development and printing errors.



Boehlerit 是歐洲最重要的鎢鋼製造商之一。自 1932 年以來，Boehlerit 憑藉豐富的專業知識為冶金工程生產硬金屬和高度專業化的刀具。

Boehlerit is one of Europe's major carbide producers. It has been producing carbides and very special tools for the steel mill industry with great expertise since 1932.

Boehlerit 的全面承諾一方面體現在創新、持續的品質發展和專業知識上，另一方面體現在冶金技術的悠久傳統上。隨著 1991 年 Boehlerit 併入 Leitz 集團，Boehlerit 成為了切削材料能力中心。現在可以充分利用新服務和新生產技術所帶來的綜效。

Boehlerit's total commitment stands on the one hand for innovation, permanent qualitative development and know-how, and on the other hand for its long tradition in steel industry mill. Following its incorporation in the Leitz Group in 1991, Boehlerit has established itself as the cutting materials competence centre. By now the company has been able to take full advantage of the resulting synergies of new services and new production technologies.

豐富的經驗和精深的專業知識是我們服務和產品的核心。作為冶金領域的重點關注對象，Boehlerit 已擴大其剝皮刀系列，包括剝皮頭、刀匣、可轉位刀片和工程服務。

This extensive experience and concentrated know-how is the core of services and products. As a main focus in steel mill industry Boehlerit has extended the tool programme for bar peeling with bar peeling heads, cartridges, indexable inserts and engineering performance.

除了標準計劃外，Boehlerit 還以中型私人公司的靈活性而脫穎而出。這意味著可以為客戶快速且經濟地實施特定的特殊解決方案。

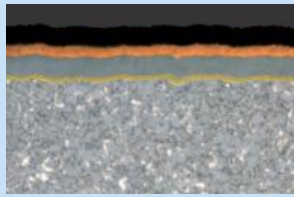


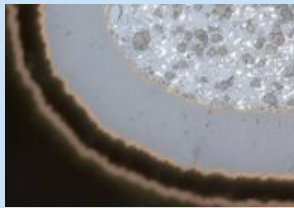
In addition to its standard programme Boehlerit has the extra advantage of having the flexibility that comes from a medium-sized company. As a result specific special solutions can be realized for the customer quickly and economically.

技術優勢

Technological advantage

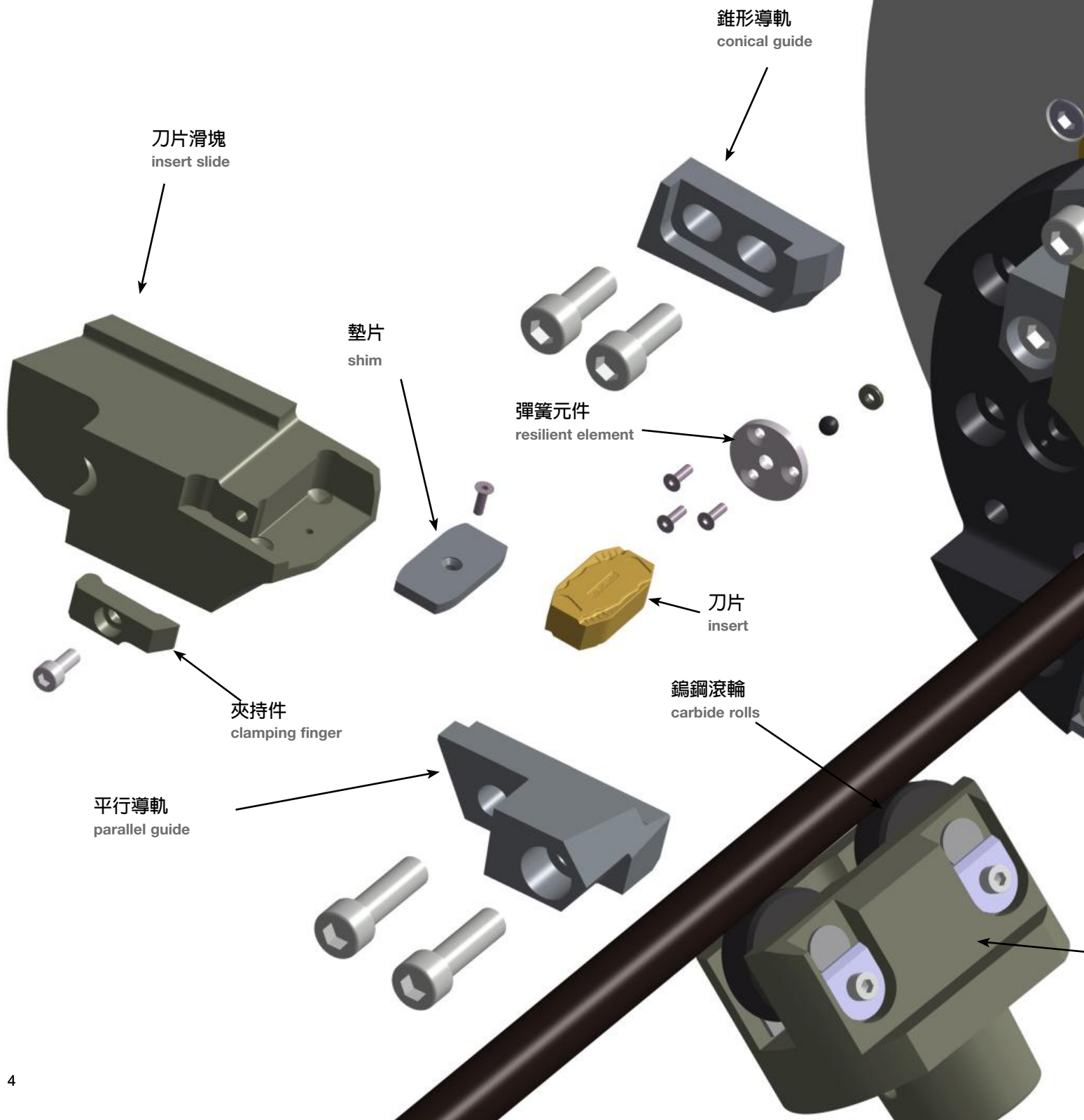
客戶受益

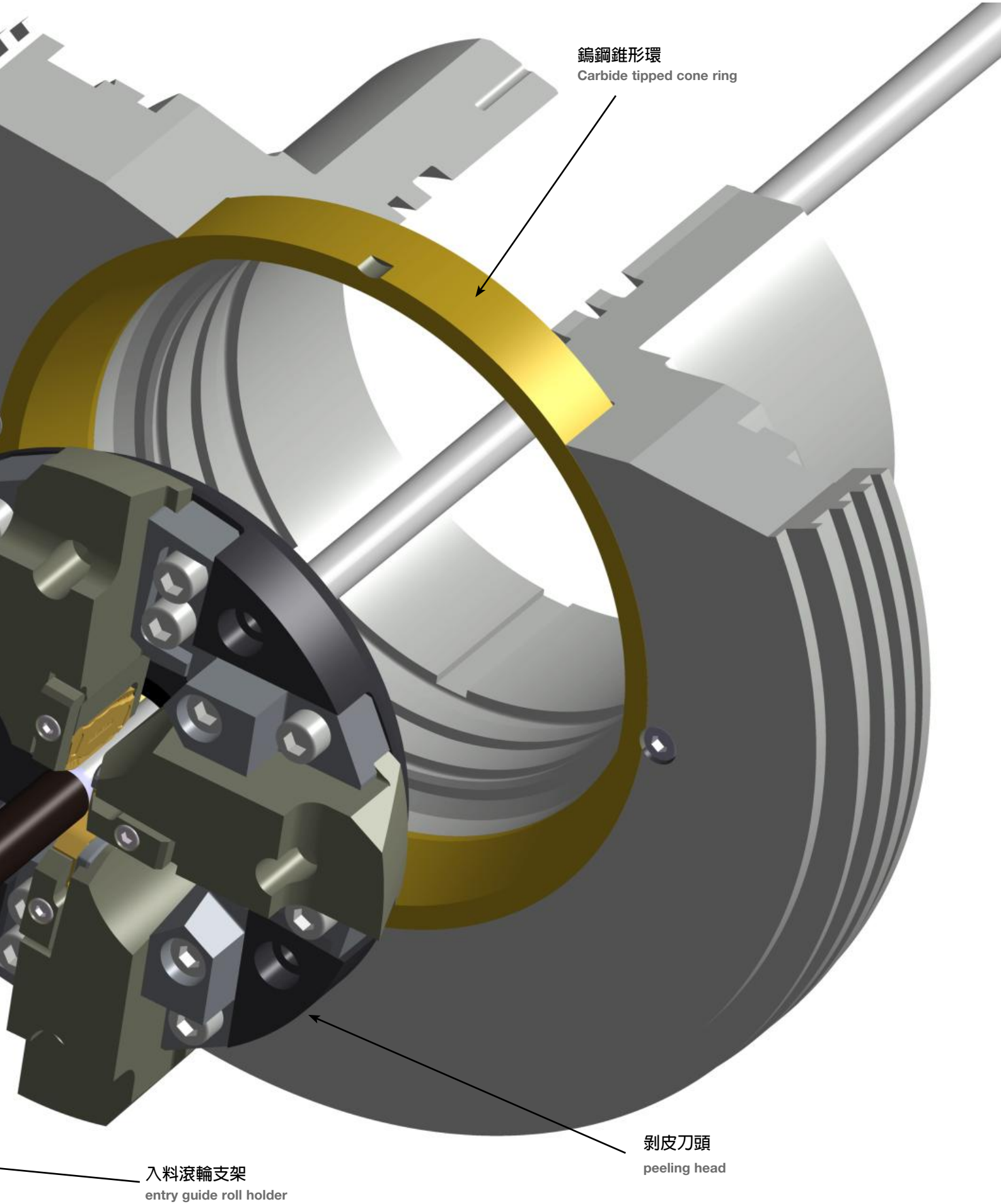
Customer benefits

<p>適用於不鏽鋼和高溫合金 Nanolock 黏合層 - 層過渡的互鎖設計 Specially for stainless materials and superalloys. Nanolock adhesion layer- interlocked design of cross-over between layers</p>		<p>更好的層附著力和極光滑的表面粗糙度確保更好的切屑去除（不易沾黏）而延長使用壽命 Optimised adhesion of layers as well as extreme smooth surface condition guarantees a better chip flow (lower sticking tendency) and increased tool life.</p>
<p>適用於不同應用的 P10 - P45 母材 P10 - P45 substrates for different applications areas</p>		<p>穩定的母材確保了不同鋼材的最大加工可靠性 Stable substrates ensure highest machining security with different steel qualities.</p>
<p>採用特殊的可轉位刀片設計，實現最佳切屑和熱量去除 Optimal chip- and heat flow with special insert designs</p>		<p>不同幾何形狀能夠實現多種鋼材的最佳加工 Different geometries enable an optimal machining of different types of steel qualities.</p>
<p>用於加工低合金碳鋼和高合金碳鋼的特殊塗層（黃色） Special layer for machining of low and high alloyed carbon steels (yellow)</p>		<p>特殊厚度的 CVD 層，適用於高切削速度和硬質材料 LCP15P LCP15P with especially thick CVD layer for high cutting speeds and hard materials</p>

注意：其他版本也可以客製化！

Hint: Other designs are also possible!





鎢鋼錐形環
Carbide tipped cone ring


入料滾輪支架
entry guide roll holder

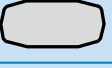
剥皮刀頭
peeling head


顏色僅供示意可能與實體不符！
Color illustration does not have to correspond to the original!


Designation system for indexable inserts for bar peeling
(Boehlerit standard)


L
基本形式
Ground form


I  --


J  --


L  90°


R  --

S  --

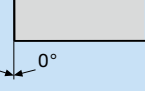
T  60°

U  --

W  75°

X  85°

N
間隙角
Clearance angle

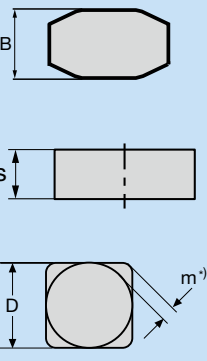
N  0°

G
公差等級
Tolerance class

Zulässige Abweichung für Tolerances

	m	s	d
A	±0,005 ¹⁾	±0,025	±0,025
C	±0,013	±0,025	±0,025
E	±0,025	±0,025	±0,025
F	±0,005 ¹⁾	±0,025	±0,013
G	±0,025	±0,13	±0,025
H	±0,013	±0,025	±0,013
J	±0,005 ¹⁾	±0,025	±0,05 - ±0,15
K	±0,013 ¹⁾	±0,025	±0,05 - ±0,15
L	±0,025	±0,025	±0,05 - ±0,15
M	±0,08 - ±0,20	±0,13	±0,05 - ±0,15
U	±0,13 - ±0,38	±0,13	±0,08 - ±0,25

	D	m	d
M	6,35	±0,08	±0,05
	9,52	±0,08	±0,05
	12,7	±0,13	±0,08
	15,88	±0,15	±0,10
	19,05	±0,15	±0,10
U	6,35	±0,13	±0,08
	9,52	±0,13	±0,08
	12,7	±0,20	±0,13
	15,88	±0,27	±0,18
	19,05	±0,27	±0,18
	25,4	±0,38	±0,25





Wendeschneidplatte mit gerader Seitenanzahl
Indexable insert with equal number of sides


1) gelten in der Regel für Wendeschneidplatten mit geschliffenen Planschneiden.
*) Der Berechnung der „m“- Maße liegt der genaue Zoll-Radius zugrunde.


1) generally used for ground indexable inserts.
*) The calculation for the “m” measurement is based on the precise radius in inches.


F
刀片型式
Insert type


C  --
Ohne Spanformrinne, mit Kegelloch beidseitig
Without chip breaker, with cone hole double-sided


F  --
Mit Spanformrinne beidseitig,
With chip breaker double-sided,


H  --
Kegelloch 90° einseitig und Spanformrinne
With cone hole 90° one-sided and chip breaker

J  --
Kegelloch 70° - 90° und Spanformrinne beidseitig
Cone hole 70° - 90° and chip breaker double-sided

N  --
Ohne Spanformrinne, ohne Kegelloch
Without chip breaker, without cone hole

R  --
Mit Spanformrinne, ohne Kegelloch
With chip breaker, without cone hole

U  --
Kegelloch 40° - 60° und Spanformrinne beidseitig
Cone hole 40° - 60° and chip breaker double-sided

X  --
Mit Besonderheiten nach Zeichnung.
With special features according drawing.

用於剝皮刀的可轉位刀片標識系統
(Boehlerit 標準)

Designation system for indexable inserts for bar peeling
(Boehlerit standard)

20

切削刃長度

Length of cutting edge

切削刃長度是副切削刃的長度（單位mm），不取小數位。對於圓形可轉位刀片，直徑以mm為單位。

The length of the secondary cutting edge is indicated in mm, figures behind the comma not shown.

For round carbide inserts the diameter in mm is given.

$l_n = 09 \text{ mm}$
 $l_n = 10 \text{ mm}$
 $l_n = 13 \text{ mm}$
 $l_n = 14 \text{ mm}$
 $l_n = 15 \text{ mm}$
 $l_n = 17 \text{ mm}$
 $l_n = 20 \text{ mm}$
 $l_n = 28 \text{ mm}$
 $l_n = 38 \text{ mm}$
 $l_n = 50 \text{ mm}$

10

厚度

Thickness

可轉位刀片的厚度以mm為單位；小數點後的數字不予考慮。如果結果是一位數，則在前面放置0（零）。

The thickness of the indexable insert in mm is given as the identification code. Figures after the comma are not included.

If a single-figure identification code is calculated, a zero is placed in front.

05 s = 05,94 mm
 06 s = 06,35 mm
 07 s = 07,14 mm
 07 s = 07,45 mm
 07 s = 07,54 mm
 07 s = 07,94 mm
 08 s = 08,00 mm
 09 s = 09,52 mm
 10 s = 10,00 mm
 10 s = 10,20 mm
 10 s = 10,54 mm
 11 s = 11,25 mm
 12 s = 12,00 mm
 12 s = 12,20 mm
 12 s = 12,70 mm
 13 s = 13,00 mm
 14 s = 14,00 mm
 17 s = 17,96 mm
 18 s = 18,00 mm

BML

斷屑槽

Chip groove

依據Boehlerit幾何

Chip groove according to Boehlerit geometries of chip grooves

BS = Boehlerit **S**pecial
BSF = Boehlerit **S**mall **F**inishing
BF = Boehlerit **F**inishing
BFM = Boehlerit **F**inishing **M**edium
BM = Boehlerit **M**edium
BML = Boehlerit **M**edium **L**arge
BL = Boehlerit **L**arge
BU = Boehlerit **U**niversal
BX = Boehlerit **E**xtra
BMS = Boehlerit **M**edium **S**mall

H10/M10/W10

刃口倒角

Edge preparation

根據Boehlerit標準的刃口倒角






















Edge preparation according to Boehlerit standard

H10 = hart / hard
 M10 = mittel / medium
 W10 = weich / soft

剥皮刀片幾何總覽

Geometries for bar peeling overview

www.boehlerit.com

<p>幾何 Geometry</p> <p>-BF 精加工</p> <p>BF = Boehlerit Finishing</p>	<p>JNGF-....-BF</p> 	<p>LNGF-....-BF</p> 	<p>UNGF-....-BF</p> 
<p>幾何 Geometry</p> <p>-BF 精加工</p> <p>BF = Boehlerit Finishing</p>	<p>TNGJ-....-BF</p> 	<p>XNGJ-....-BF</p> 	<p>XNMF-....-BF</p> 
<p>幾何 Geometry</p> <p>-BFM 精到半精加工</p> <p>BFM = Boehlerit Finishing Medium</p>	<p>JNGF-....-BFM</p> 	<p>幾何 Geometry</p> <p>-BMS 半精加工</p> <p>BM = Boehlerit Medium</p>	<p>JNGF-....-BMS</p> 
<p>Geometrie Geometry</p> <p>-BM 半精加工</p> <p>BM = Boehlerit Medium</p>	<p>TNGJ-....-BM</p> 	<p>WNGU-....-BM</p> 	<p>XNMU-....-BM</p> 
<p>Geometrie Geometry</p> <p>-BM 半精加工</p> <p>BM = Boehlerit Medium</p>	<p>XNMF-....-BM</p> 		
<p>Geometrie Geometry</p> <p>-BML 半粗加工</p> <p>BML = Boehlerit Medium Large</p>	<p>JNGF-....-BML</p> 	<p>LNGF-....-BML</p> 	<p>RNMH-....-BML</p> 
<p>Geometrie Geometry</p> <p>-BML 半粗加工</p> <p>BML = Boehlerit Medium Large</p>	<p>TNGJ-....-BML</p> 	<p>XNMF-....-BML</p> 	<p>XNMU-....-BML</p> 
<p>Geometrie Geometry</p> <p>-BL 粗加工</p> <p>BL = Boehlerit Large</p>	<p>RNMH-....-BL</p> 	<p>XNGJ-....-BL</p> 	<p>XNGF-....-BL</p> 

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Color illustration does not have to correspond to the original!

JNGF 								Sorten Grades						
	Bestellbezeichnung Ordering code	l	ln	B	s	a	k	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
 4 切削刃 4 cutting edges	JNGF-2008-BF-H20	20	30,12	12	7,54	1,8	20°	●		○				
	JNGF-2008-BF-M20	20	30,12	12	7,54	1,8	20°	○	●	○				
	JNGF-2008-BF-W30	20	30,12	12	7,54	1,8	20°				●			
 4 切削刃 4 cutting edges	JNGF-2008-BFM-H10	20	30,12	12	7,54	1,5	20°	●		○				
	JNGF-2008-BFM-H20	20	30,12	12	7,54	1,5	20°	●	●					
	JNGF-2008-BFM-M20	20	30,12	12	7,54	1,5	20°	○	●					
	JNGF-2008-BFM-W20	20	30,12	12	7,54	1,5	20°		●	○				
 4 切削刃 4 cutting edges	JNGF-2008-BMS-9S-H20	20	30,12	12	7,54	1,5	20°	●	●					
	JNGF-2008-BMS-9S-M20	20	30,12	12	7,54	1,5	20°	●	●		●			
	JNGF-2008-BMS-9S-W20	20	301,12	12	7,54	1,5	20°		●		●			
 4 切削刃 4 cutting edges	JNGF-2012-BML-H10	20	36,5	18	12	2	20°	●						
	JNGF-2012-BML-H20	20	36,5	18	12	2	20°	●		●				
	JNGF-2012-BML-M20	20	36,5	18	12	2	20°		●	○		○		
	JNGF-2012-BML-W30	20	36,5	18	12	2	20°			●	●			●
	JNGF-2012-BML-W50	20	36,5	18	12	2	20°		●					

Bestellbeispiel Order example: 10 Stück 10 pieces JNGF-2008-BF-H20 LC218E

根據需求可提供其他版本，我們將很樂意為您提供建議。
Further executions available on request. We will be happy to advise you.

● Verfügbar ab Lager Available from stock
○ kurzfristig lieferbar shortly available

LNGF	Abmessungen [mm] Dimensions [mm]	Abmessungen [mm] Dimensions [mm]						Sorten Grades						
		l _n	l	B	s	a	κ	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
	Bestellbezeichnung Ordering Code													
<p>4 切削刃 4 cutting edges</p>	LNGF-2010-BML-H20	20	40	20	10,2	3	25°	●		●				
	LNGF-2010-BML-M20	20	40	20	10,2	3	25°		●	●		○		
	LNGF-2010-BML-W20	20	40	20	10,2	3	25°				●			●
	LNGF-2012-BML-H20	20	40	20	10,2	3	25°	●						
	LNGF-2012-BML-M20	20	40	20	10,2	3	25°		●					
	LNGF-2812-BML-M20	28	46	20	12,7	3	25°	●						
	LNGF-2812-BML-W30	28	46	20	12,7	3	25°							●
<p>4 切削刃 4 cutting edges</p>	LNGF-2010-BF-H20	20	40	20	10,2	3	25°			●				
	LNGF-2010-BF-M20	20	40	20	10,2	3	25°	●		○				
	LNGF-2012-BF-M20	20	40	20	12,7	3	25°		○					
	LNGF-2012-BF-W30	20	40	20	12,7	3	25°					○		○

RN..	Abmessungen [mm] Dimensions [mm]	Abmessungen [mm] Dimensions [mm]						Sorten Grades						
		D	s	d ₁	a	-	-	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
	Bestellbezeichnung Ordering Code													
	RNMH-5018-BL	50	18	12,7	9	-	-							●
	RNMH-2008-BML	20	8	7	3	-	-	●	●					
	RNMH-2810-BML	28,57	10,54	8,8	5			●	●					
	RNMH-3812-BML	38,1	12,7	12,7	7				●			●	○	●
	RNMH-5013-BML	50	13	12,7	9									●
	RNMH-5018-BML	50	18	12,7	9			●				●	●	●

Bestellbeispiel Order example: 10 Stück 10 pieces LNGF-2010-BML-H20 LC218E

根據需求可提供其他版本，我們將很樂意為您提供建議。
Further executions available on request. We will be happy to advise you.

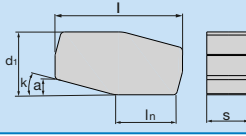

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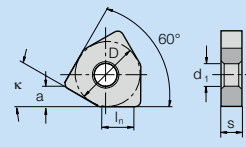

TNGJ 	Bestellbezeichnung Ordering code	Abmessungen [mm] Dimensions [mm]						Sorten Grades						
		ln	D	d1	s	a	κ	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
 6 切削刃 6 cutting edges	TNGJ-1407-BF-H20	14	21,96	7	7,94	1,8	20°	●		○				
 6 切削刃 6 cutting edges	TNGJ-1407-BML-H20	14	21,96	7	7,94	1,8	20°	●						
	TNGJ-1407-BML-M20	14	21,96	7	7,94	1,8	20°		○	○	○			
	TNGJ-1407-BML-W30	14	21,96	7	7,94	1,8	20°				○	●		
	TNGJ-1407-BML-W60										●	●		
 6 切削刃 6 cutting edges	TNGJ-2010-BM-H20	20	28,5	7	10	2,5	20°					●		
	TNGJ-2010-BM-M20	20	28,5	7	10	2,5	20°		●			●		
 6 切削刃 6 cutting edges	TNGJ-2010-BML-H20	20	28,5	7	10	2,5	20°	○		●				
	TNGJ-2010-BML-M20	20	28,5	7	10	2,5	20°	○	●	○		●		
	TNGJ-2010-BML-W30	20	28,5	7	10	2,5	20°	○						○
 3 切削刃 3 cutting edges	TNGJ-2208-BML-H10	22,8	19,05	6,5	7,95	1,3	15°	○						
	TNGJ-2208-BML-M10	22,8	19,05	6,5	7,95	1,3	15°		○		○			

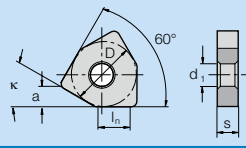


Bestellbeispiel Order example: 10 Stück 10 pieces TNGJ-1407-BF-H20 LC218E

根據需求可提供其他版本，我們將很樂意為您提供建議。
Further executions available on request. We will be happy to advise you.

● Verfügbar ab Lager Available from stock
○ kurzfristig lieferbar shortly available

UNGF- 	Bestellbezeichnung Ordering Code	Abmessungen [mm] Dimensions [mm]						Sorten Grades						
		l _n	D	d ₁	s	a	κ	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
 4 切削刃 4 cutting edges	UNGF-1712-BF-H10	17	36,5	18	12	4	15°	●						
	UNGF-1712-BF-H20	17	36,5	18	12	4	15°	●				●		
	UNGF-1712-BF-M20	17	36,5	18	12	4	15°		●			●		
	UNGF-1712-BF-W30	17	36,5	18	12	4	15°!		●					●

WNGU- 	Bestellbezeichnung Ordering Code	Abmessungen [mm] Dimensions [mm]						Sorten Grades						
		l _n	D	d ₁	s	a	κ	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
 6 切削刃 6 cutting edges	WNGU-0906-BM-W10	9	15,88	5,5	6,4	2,5	15°	●				●		
	WNGU-1309-BX-M10	13	22,23	7,93	9,52	3,0	15°	●	●	●		●		

XNGJ- 	Bestellbezeichnung Ordering Code	Abmessungen [mm] Dimensions [mm]						Sorten Grades						
		l _n	D	d ₁	s	a	κ	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
 6 切削刃 6 cutting edges	XNGJ-1010-BF-M10	10	22,23	6	10	4	25°	●	●	●		●		
	XNGJ-1010-BL-M20	10	22,23	6	10	4	25°		●					
 6 切削刃 6 cutting edges	XNGJ-1010-BF-M20	10	22,23	-	10	4	25°					●		

Bestellbeispiel Order example: 10 Stück 10 pieces UNGF-1712-BF-H10 LC218E

根據需求可提供其他版本，我們將很樂意為您提供建議。
Further executions available on request. We will be happy to advise you.

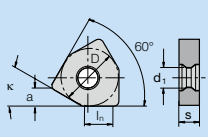



● Verfügbar ab Lager Available from stock
○ kurzfristig lieferbar shortly available

XN.F- 	Bestellbezeichnung Ordering code	Abmessungen [mm] Dimensions [mm]						Sorten Grades						
		l _n	D	d ₁	s	a	k	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
 6 切削刃 6 cutting edges	XNGF-1010-BL-M20	10	22,23	-	10	4	25°	○	●			●		
 6 切削刃 6 cutting edges	XNMF-1513-BF-H40	15	31,75	-	13	8	25°	●	●			●		
	XNMF-1513-BF-M20	15	31,75	-	13	8	25°							●
 6 切削刃 6 cutting edges	XNMF-1513-BML-H40	15	31,75	-	13	8	25°	●	●			●		
	XNMF-1513-BML-W20	15	31,75	-	13	8	25°						●	●
 6 切削刃 6 cutting edges	XNMF-1513-BM-H40	15	31,75	-	13	8	25°	○	○	○		○		
	XNMF-1513-BM-W30	15	31,75	-	13	8	25°						○	○
 6 切削刃 6 cutting edges	XNMF-1609-BML-W20	15	28,58	-	9,5	6	30°	●	●	○		○		○

Bestellbeispiel Order example: 10 Stück 10 pieces XNGF-1010-BL-M20 LC228E

根據需求可提供其他版本，我們將很樂意為您提供建議。
Further executions available on request. We will be happy to advise you.

● Verfügbar ab Lager Available from stock
○ kurzfristig lieferbar shortly available

XNMU- 	Bestellbezeichnung Ordering code	Abmessungen [mm] Dimensions [mm]						Sorten Grades						
		l _n	D	d ₁	s	a	κ	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
 6 切削刃 6 cutting edges	XNMU-1513-BM-H40	15	31,75	9	13	8	25°		●			●		
	XNMU-1513-BM-W30	15	31,75	9	13	8	25°							●
 6 切削刃 6 cutting edges	XNMU-1513-BML-H40	15	31,75	9	13	8	25°	●	●			●		
	XNMU-1513-BML-W20	15	31,75	9	13	8	25°							●
 6 切削刃 6 cutting edges	XNMU-1514-BML-H40	15	31,75	9	14	8	25°		●					

Bestellbeispiel Order example: 10 Stück 10 pieces XNMU-1513-BM-H40 BCM25P

剥皮刀座和刀匣

Bar peeling tools





剥皮刀頭

Peeling head



刀片滑塊

Insert slide



刀匣滑塊

Cartridge slide



刀匣

Cartridge



雙刀匣

Tandem cartridge



三刀匣

Tripple cartridge

每台剥皮機都使用自己的刀具系統，因此沒有標準的刀座或刀匣。Boehlerit 提供特殊的刀座和刀匣，無需進行調整，設定時間和相關成本顯著減少。能夠實現更好的表面粗糙度和更嚴格的公差。

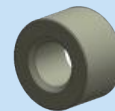
根據訂單製造和供應所有類型剥皮機的刀座、刀匣和磨損零件。與客戶進行討論後，使用最新的CAD設計新的刀具系統。

Individual tooling systems are in use on bar peeling machines. Therefore no standard holders and cartridges are on the market. Boehlerit offers special holders and cartridges with better accuracy to avoid continuous adjustment. Set-up times and costs can be minimised. With Boehlerit bar peeling tooling systems you also enjoy the advantage for better results in surface and tolerances quality. Any customer design carbide holders, cartridge holders and wear parts are produced and delivered to order. Design of new tooling systems considering customers present situation including advice in application to optimize production processes.

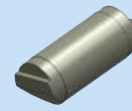
進出料導向系統的滾輪和軸

Rolls and axles for entry- and exit guide system

BM48863



BM45087



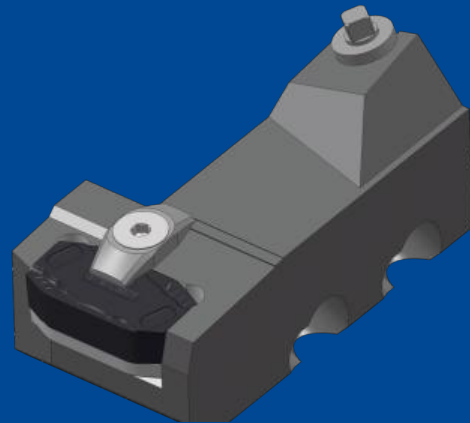
入料滾輪支架

Lead in roller holder

在世界各地，您會發現各種專門從事剥皮領域的機床製造商。隨著時間的推移，每個 OEM 都逐漸客製化適合其需求的刀具系統。下面您可以找到來自不同機床製造商及其剥皮領域刀具系統的摘錄。

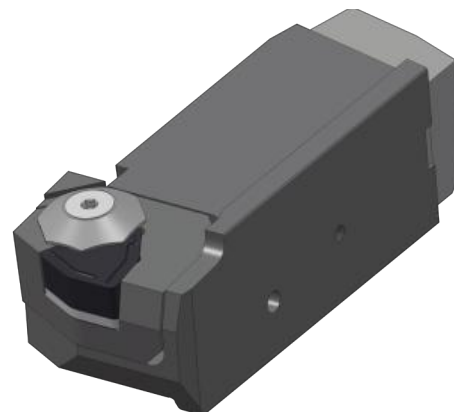
You meet world-wide different machine producers, who are specialized in the area of bar peeling. In the course of time each of these OEMs have specialised on customized tooling systems. Below you can find an extract from the different machine producers and its tooling systems for bar peeling.

Bültmann



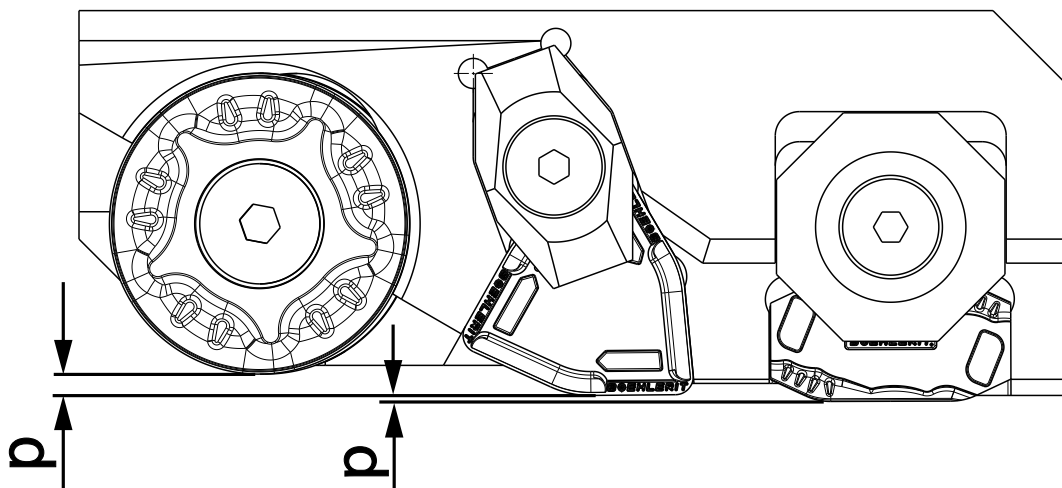
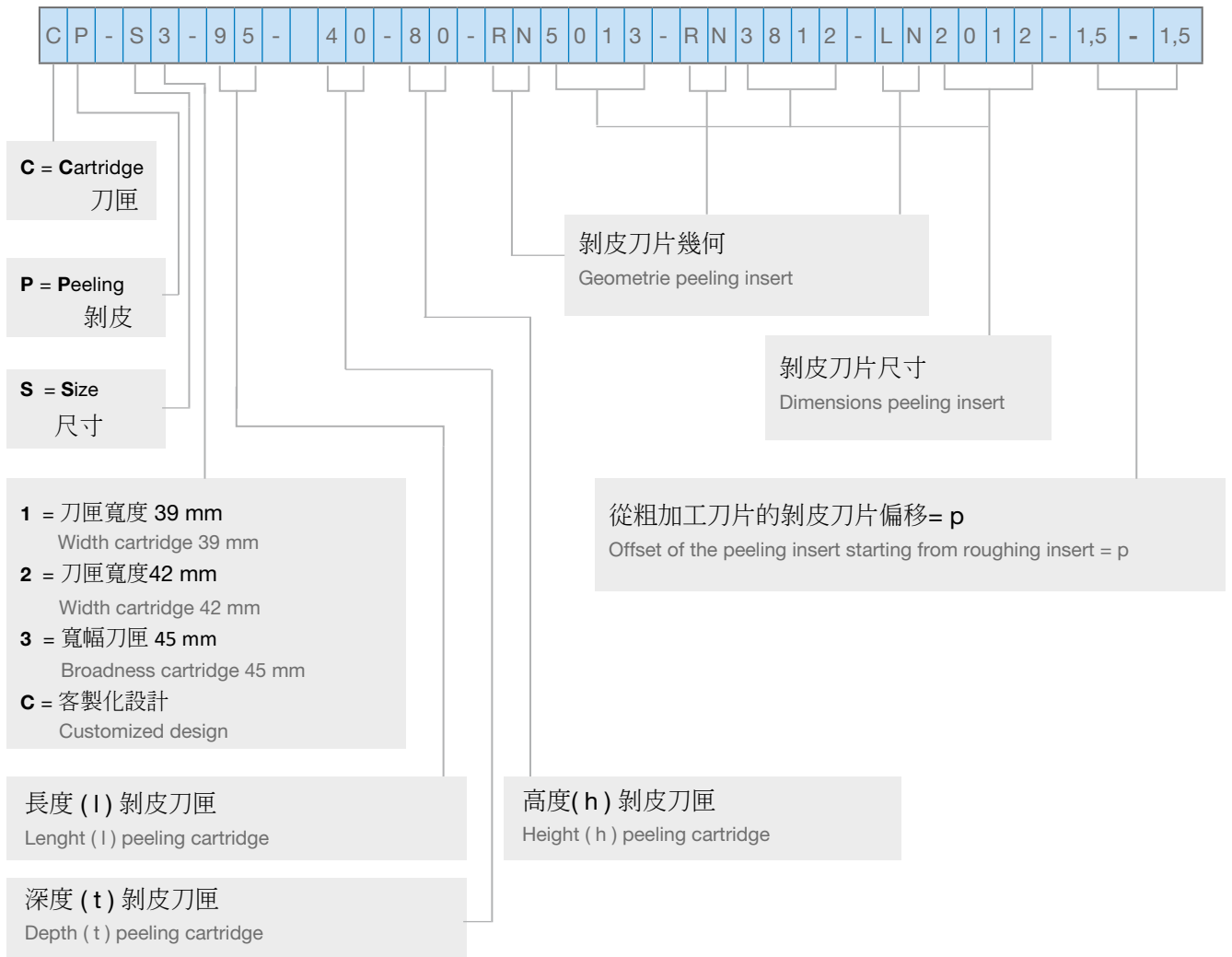
Danieli


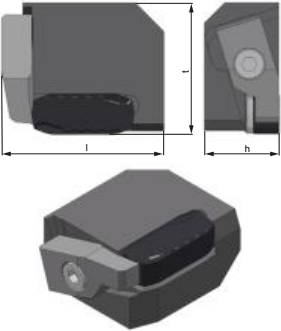
MAIR Research




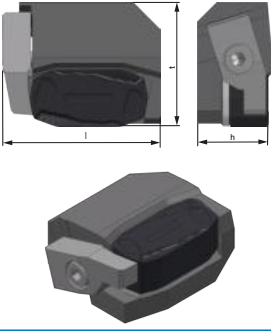
Kieserling / SMS Group

剝皮刀匣標識系統
Designation system bar peeling cartridges




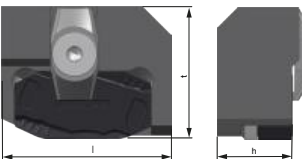

刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-S1-48-39-22-JN-2008	9104889	48,3	39	22		JNGF-2008-...	9
備品零件 Spare parts		Bestellbezeichnung Ordering codes						
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM44373	BM44351	M3x10 DIN 7991	V01-A0020	BM42991	M5x12 DIN 912	V01-A0040		
SAP-Nr.								
9104889	6401748	9114505	6407824	9114674	6406151	6407828		

Bestellbeispiel: 1 Stück CP-S1-48-39-22-JN-2008 Order example: 1 piece CP-S1-48-39-22-JN-2008


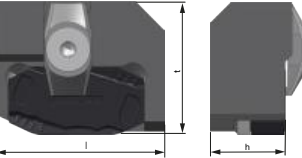

刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-S1-50-39-22-JN-2012	9010556	49,6	39	22		JNGF-2012-...	9
備品零件 Spare parts		Bestellbezeichnung Ordering codes						
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM 44040	BM 44046	M3x8 DIN 7991	V01-A0020	BM42991	M5x12 DIN 912	V01-A0040		
SAP-Nr.								
9010556	6401742	6425813	6407824	9114674	6406151	6407828		

Bestellbeispiel: 1 Stück CP-S1-50-39-22-JN-2012 Order example: 1 piece CP-S1-50-39-22-JN-2012

有現貨。可根據客戶要求客製化產品。
Available from stock. Special designs can be supplied by customer request.


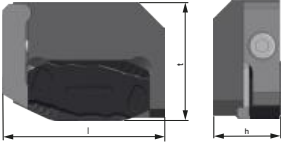

刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
 	CP-S1-48-39-22-LN-2010	5035004	48	39	22		LNGF-2010-...	10
備品零件 Spare parts		Bestellbezeichnung Ordering codes						
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM 44087	BM 44088	M3x10 DIN 7991	V01-A0020	BM38093/5	M612 DIN 7991	V01-A0040		
SAP-Nr.								
5035004	9002955	9114505	6407824	9010087	6412649	6407828		

Bestellbeispiel: 1 Stück CP-S1-48-39-22-LN-2010 Order example: 1 piece CP-S1-48-39-22-LN-2010


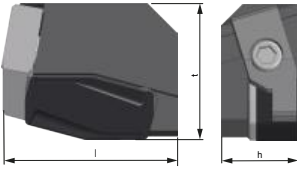

刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
 	CP-S1-50-39-22-LN2010	9165965	50	39	22		LNGF-2010-...	10
備品零件 Spare parts		Bestellbezeichnung Ordering codes						
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM48274	BM44088	M3x10 DIN 7991	V01-A0020	BM39093/5	M6x12 DIN 7991	V01-A0040		
SAP-Nr.								
9165965	9002955	9114505	6407824	9010087	6412649	6407828		

Bestellbeispiel: 1 Stück CP-S1-50-39-22-LN2010 Order example: 1 piece CP-S1-50-39-22-LN2010

有現貨。可根據客戶要求客製化產品。
Available from stock. Special designs can be supplied by customer request.


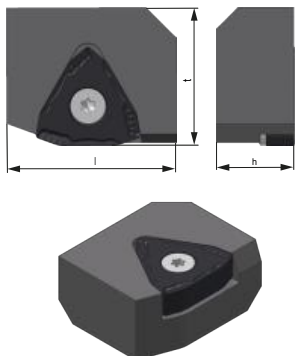
刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
 	CP-S1-54-39-22-LN2010	9091873	54	39	22		LNGF-2010-...	10
備品零件 Spare parts								
Bestellbezeichnung Ordering codes								
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM48275	BM44088	M3x10 DIN 7991	V01-A0020	BM45951	M5x12 DIN 912	V01-A0040		
SAP-Nr.								
9091873	9002955	9114505	6407824	9005287	6406151	6407828		

Bestellbeispiel: 1 Stück CP-S1-54-39-22-LN2010 Order example: 1 piece CP-S1-54-39-22-LN2010


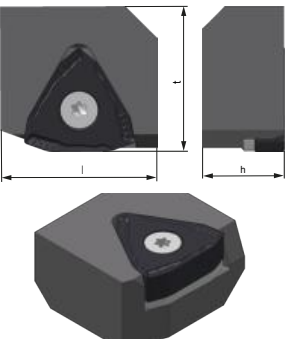
刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
 	CP-S1-50-39-22-UN1712	9003770	50	39	22		UNGF-1712-...	12
備品零件 Spare parts								
Bestellbezeichnung Ordering codes								
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM44106	BM44107	M3x10 DIN 7991	V01-A0020	BM42991	M5x12 DIN 912	V01-A0040		
SAP-Nr.								
9003770	9003563	9114505	6407824	9114674	6406151	6407828		

Bestellbeispiel: 1 Stück CP-S1-50-39-22-UN-1712 Order example: 1 piece CP-S1-50-39-22-UN-1712

剥皮刀匣
Bar peeling cartridges


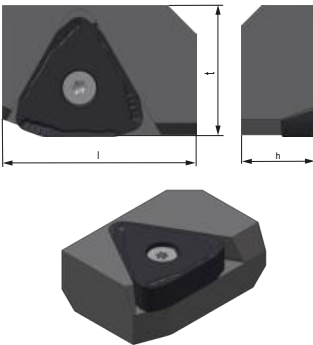
刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-S1-48-39-22-TN1407	9105933	48	39	22		TNGJ-1407-...	11
備品零件 Spare parts		Bestellbezeichnung Ordering codes						
刀匣 For cartridge	鎢鋼墊片 Carbide shim	固定螺絲 Fixation screw	Torx 扳手 Torx key	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM46263	BM41449	A07-60180	V04-T2000					
SAP-Nr.	SAP-Nr.	SAP-Nr.	SAP-Nr.	SAP-Nr.	SAP-Nr.	SAP-Nr.		
9105933	9119038	6401296	6407847					

Bestellbeispiel: 1 Stück CP-S1-48-39-22-TN-1407 Order example: 1 piece CP-S1-48-39-22-TN-1407

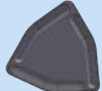
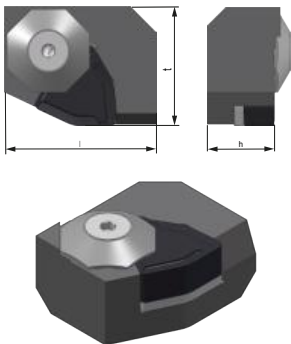
刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-S1-42-39-22-TN1407	5020895	42	39	22		TNGJ-1407-...	11
備品零件 Spare parts		Bestellbezeichnung Ordering codes						
刀匣 For cartridge	鎢鋼墊片 Carbide shim	固定螺絲 Fixation screw	Torx 扳手 Torx key	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM39345	BM39394	A07-60180	V04-T2000					
SAP-Nr.	SAP-Nr.	SAP-Nr.	SAP-Nr.	SAP-Nr.	SAP-Nr.	SAP-Nr.		
5020895	6401725	6401296	6407847					

Bestellbeispiel: 1 Stück CP-S1-42-39-22-TN-1407 Order example: 1 piece CP-S1-42-39-22-TN-1407


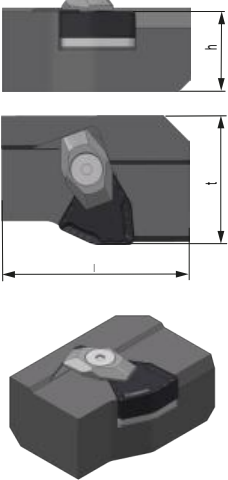
有現貨。可根據客戶要求客製化產品。
Available from stock. Special designs can be supplied by customer request.

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-S1-58-39-22-TN2010	5040347	58	39	22		TNGJ-2010-...	11
備品零件 Spare parts								
Bestellbezeichnung Ordering codes								
刀匣 For cartridge	鎢鋼墊片 Carbide shim	固定螺絲 Fixation screw	Torx 扳手 Torx key	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM38658		A07-60180	V04-T2000					
SAP-Nr.								
5040347		6401296	6407847					

Bestellbeispiel: 1 Stück CP-S1-58-39-22-TN-2010 Order example: 1 piece CP-S1-58-39-22-TN-2010


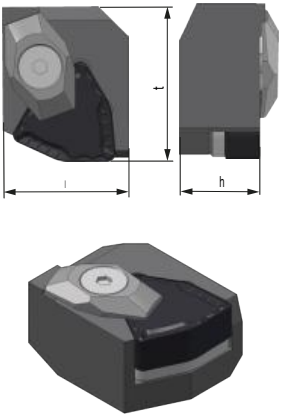
刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-S1-50-39-22-XN1010	6413804	50	39	22		XNMF-1010-...	13
備品零件 Spare parts								
Bestellbezeichnung Ordering codes								
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger		
BM48722	Bm47916	M5x10 DIN 7991	V01-A0030	D04-OF276	M6x16 DIN7991	V01-A0040		
SAP-Nr.								
6413804	6424978	6413194	6407826	6403970	9133102	6407828		

Bestellbeispiel: 1 Stück CP-S1-50-39-22-XN-1010 Order example: 1 piece CP-S1-50-39-22-XN-1010

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-S2-95-65-40-XN1513	6448825	95	65	40		XNMF-1513-...	13


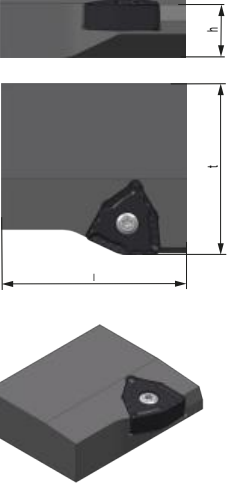
備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM50627	BM47736	M8x16 DIN7991	V01-A0050	BM38961-7	M8x12 DIN7991	V01-A0050
SAP-Nr.						
6448825	6401772	6412660	6407829	6401719	6412657	6407829

Bestellbeispiel: 1 Stück CP-S2-95-65-40-XN-1513 Order example: 1 piece CP-S2-95-65-40-XN-1513

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-SC-47-58-30-XN1513	5017354	47	58	30		XNMF-1513-...	13


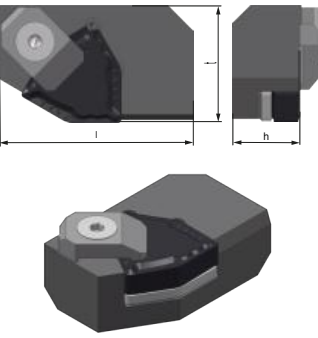
備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM39198	BM47736	M8x16 DIN7991	V01-A0050	BM38961-7	M8x20 DIN7991	V01-A0050
SAP-Nr.						
5017354	6401772	6412660	6407829	6401719	9133104	6407829

Bestellbeispiel: 1 Stück CP-SC-47-58-30-XN-1513 Order example: 1 piece CP-SC-47-58-30-XN-1513

刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-SC-95-88-30-XN1513	5019093	95	88	26,6		XNMU-1513-...	14

備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim	固定螺絲 Clamping Screw	Torx 扳手 Torx key	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM52067		A02-80250	V04-T3000			
SAP-Nr.						
5019053		6401272	6418647			


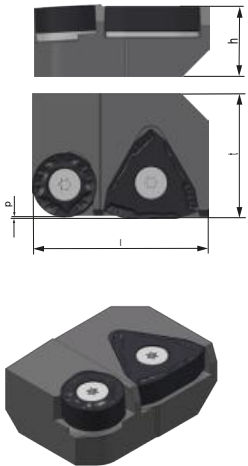

Bestellbeispiel: 1 Stück CP-SC-95-88-30-XN1513 Order example: 1 piece CP-SC-95-88-30-XN1513

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h			
	CP-S1-65-39-22-XN1609	5052758	65	39	22		XNMF-1609-...	13

備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cart- ridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM50162	BM49379	M6x12 DIN 7991	V01-A0040	BM50162-FT-2	M6x16 DIN 7991	V01-A0040
SAP-Nr.						
5052758	6427337	6412649	6407828	6424980	9133102	6407828


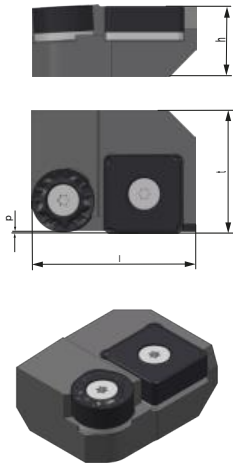

Bestellbeispiel: 1 Stück CP-S1-65-39-22-XN-1609 Order example: 1 piece CP-S1-65-39-22-XN-1609

有現貨。可根據客戶要求客製化產品。
Available from stock. Special designs can be supplied by customer request.

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-S1-55-39-22-RN2008-TN1407-0,5	6401751	55	39	22	0,5	RNMH-2008-...	10
								11

備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim	鎢鋼墊片 RNMH 2008 Carbide shim for RNMH-2008	固定螺絲 Fixation screw	Torx 扳手 Torx key	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM44996	BM41449	BM45011	A07-60180	V04-T1500		
SAP-Nr.						
6401751	9119038	9003286	6401296	6407846		

Bestellbeispiel: 1 Stück CP-S1-55-39-22-RN-2008-TN1407-0,5 Order example: 1 piece CP-S1-55-39-22-RN-2008-TN1407-0,5

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-S1-52-39-22-RN2008-SN2008-0,5	9002971	52	39	22	0,5	RNMH-2008-...	10
								

備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim RNMH-2008	鎢鋼墊片 Carbide shim SNGJ-2008	固定螺絲 Fixation screw	Torx 扳手 Torx key	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM46271	BM45011	BM46317	A07-60180	V04-T2000		
SAP-Nr.						
9002971	9003286	9007449	6401296	6407847		

Bestellbeispiel: 1 Stück CP-S1-52-39-22-RN-2008-SN2008-0,5 Order example: 1 piece CP-S1-52-39-22-RN-2008-SN2008-0,5

有現貨。可根據客戶要求客製化產品。

Available from stock. Special designs can be supplied by customer request.

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP- Nummer SAP- Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
 	CP-S1-58-39-22-RN2810-XN1010-1	5026441	58	39	22	1	RNMH-2810-...	10
							XNGJ-1010-...	12
							XNGF-1010-...	13


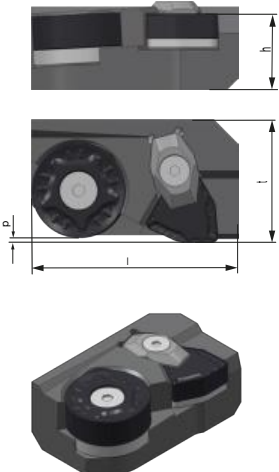


備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim XNGJ 1010	鎢鋼墊片 RNMH 2810 Carbide shim for RNMH-2810	夾持件 Clamping finger	六角扳手 / SAP-No. Hexagon wrench / SAP-No.	沉頭螺絲 DIN7991 / SAP-No. Flat head screw DIN7991 / SAP-No.	
BM52030	Bm47916	BM38418	Bm39093-5	V01-A0050 / 6407829	Senkschraube M5x12 / 6406151	
SAP-Nr.				V01-A0040 / 6407828	Senkschraube M8x20 / 9133104	
5026441	6424978	6410041	9010087	V01-A0030 / 6407826	Senkschraube M6x16 / 9133102	

Bestellbeispiel: 1 Stück CP-S1-58-39-22-RN-2810-XN1010-1 Order example: 1 piece CP-S1-58-39-22-RN-2810-XN1010-1

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP- Nummer SAP- Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
 	CP-S2-112-65-40-RN3812-LN2010-0,5	5075497	112	65	40	0,5	RN.H-3812-...	10
							LN.F-2010-...	10


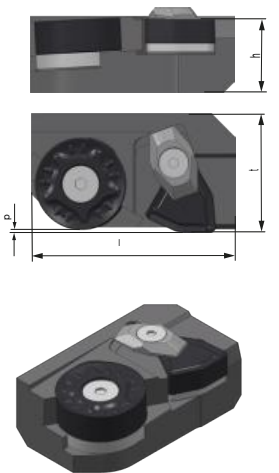


備品零件 Spare parts		Bestellbezeichnung Ordering codes					
刀匣 For cartridge	鎢鋼墊片 Carbide shim RN.H-3818	鎢鋼墊片 Carbide shim LN.F-2010	沉頭螺絲 RN.H-5018 Flat headed screw for RN.H-5018	沉頭螺絲扳手 Wrench for flat headed screw	夾持件 Clamp disc LN.F-2010	夾持件的沉頭螺絲 Flat headed screw for Clamp disc	鎢鋼墊片的沉頭螺絲 Flat headed screw for carbide shim
BM48762 5075497	BM32589	BM44088	M10x35 DIN7991	V01-A0060	D04-0F388	M8x20 DIN7991	M8x10 DIN7991
				V01-A0050			
				V01-A0020			
	SAP-Nr.						
	6401709	9002955	6220473	6407830	9010193	9133104	9114505
				6407829			
				6407824			

Bestellbeispiel: 1 Stück CP-S2-112-65-40-RN-3812-LN2010-0,5 Order example: 1 piece CP-S2-112-65-40-RN-3812-LN2010-0,5

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP- Nummer SAP- Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-SC-110-65-40-RN5018-XN1513-2,5	9082769	110	65	40	2,5		10
								13

備品零件 Spare parts		Bestellbezeichnung Ordering codes					
刀匣 For cartridge	鎢鋼墊片 Carbide shim RN.H-5018	鎢鋼墊片 Carbide shim XN.F-1513	沉頭螺絲 RN.H-5018 Flat headed screw for RN.H-5018	沉頭螺絲扳手 Wrench for flat headed screw	夾持件 Clamping finger XN.F-1513	鎢鋼墊片的 沉頭螺絲 Flat headed screw for carbide shim	鎢鋼墊片的 沉頭螺絲 Flat headed screw for carbide shim
BM49134 9082769	BM37158	BM47736	M10x35 DIN7991	V01-A0060 V01-A0050	BM38961-7	M8x12 DIN7991	M8x16 DIN7991
	SAP-Nr.						
	5069455	6401772	6220473	6407830 6407829	6401719	6412657	6412660

Bestellbeispiel: 1 Stück CP-SC-110-65-40-RN5018-XN1513-2,5 Order example: 1 piece CP-SC-110-65-40-RN5018-XN1513-2,5

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP- Nummer SAP- Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-S2-112-65-40-RN5018-XN1513-2	6413535	112	65	40	2		10
								13

備品零件 Spare parts		Bestellbezeichnung Ordering codes					
刀匣 For cartridge	鎢鋼墊片 Carbide shim RN.H-5018	鎢鋼墊片 Carbide shim XN.F-1513	沉頭螺絲 Flat headed screw	沉頭螺絲扳手 Wrench for flat headed screw	夾持件 Clamping finger XN.F-1513	鎢鋼墊片的 沉頭螺絲 Flat headed screw for carbide shim	鎢鋼墊片的 沉頭螺絲 Flat headed screw for carbide shim
BM43263 6423535	BM37158	BM47736	M10x35 DIN7991	V01-A0060 V01-A0050	BM38961-7	M8x12 DIN7991	M8x16 DIN7991
	SAP-Nr.						
	5069455	6401772	6220473	6407830 6407829	6401719	6412657	6412660

Bestellbeispiel: 1 Stück CP-S2-112-65-40-RN5018-XN1513-2 Order example: 1 piece CP-S2-112-65-40-RN5018-XN1513-2

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP- Nummer SAP- Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-S2-112-65-40-RN5018-XN1513-3	6413579	112	65	40	3		10
								13

備品零件 Spare parts		Bestellbezeichnung Ordering codes					
刀匣 For cartridge	鎢鋼墊片 Carbide shim RN.H-5018	鎢鋼墊片 Carbide shim XN.F-1513	沉頭螺絲 RN.H-5018 Flat headed screw for RN.H-5018	沉頭螺絲扳手 Wrench for flat headed screw	夾持件 Clamping finger XN.F-1513	鎢鋼墊片的 沉頭螺絲 Flat headed screw for carbide shim	鎢鋼墊片的 沉頭螺絲 Flat headed screw for carbide shim
BM45668 6413579	BM37158	BM47736	M10x35 DIN7991	V01-A0060 V01-A0050	BM38961-7	M8x20 DIN7991	-
SAP-Nr.							
	5069455	6401772	6220473	6407830 6407829	6401719	9133104	-

Bestellbeispiel: 1 Stück CP-S2-112-65-40-RN5018-XN1513-3 Order example: 1 piece CP-S2-112-65-40-RN5018-XN1513-3

刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP-Nummer SAP-Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-SC-110-65-40-XN1513-XN1513-2,5	6448816	110	65	40	2,5		13


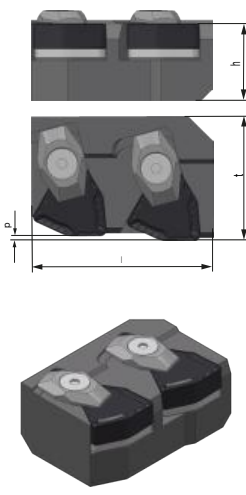
備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM48634	BM47736	M8x16 DIN7991	V01-A0050	BM38961-7	M8x12 DIN7991	V01-A0050
SAP-Nr.						
6448816	6401772	6412660	6407829	6401719	6412657	6407829

Bestellbeispiel: 1 Stück CP-SC-110-65-40-XN1513-XN1513-2,5 Order example: 1 piece CP-SC-110-65-40-XN1513-XN1513-2,5

有現貨。可根據客戶要求客製產品。



Available from stock. Special designs can be supplied by customer request.

剥皮刀匣
Bar peeling cartridges

刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP- Nummer SAP- Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-S2-95-65-40-XN1513-XN1513-2,5	6401730	95	65	40	2,5	XN.F-1513-...	13

備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀匣螺絲 Screw for cartridge	刀匣六角扳手 Hexagon wrench for cartridge	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM40755	BM47736	M8x16 DIN7991	V01-A0050	BM38961-7	M8x12 DIN7991	V01-A0050
SAP-Nr.						
6401730	6401772	6412660	6407829	6401719	6412657	6407829

Bestellbeispiel: 1 Stück CP-S2-95-65-40-XN1513-XN1513-2,5 Order example: 1 piece CP-S2-95-65-40-XN1513-XN1513-2,5


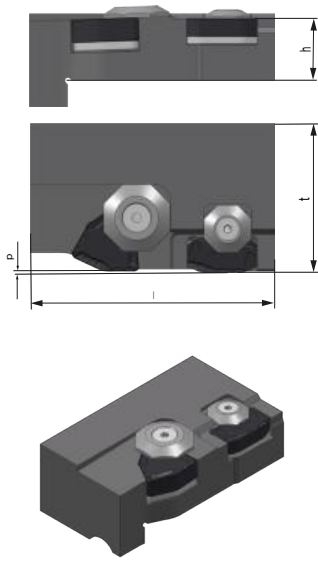

刀匣 Cartridge	Bestellbezeichnung Ordering code	SAP- Nummer SAP- Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-SC-85-50-28-XN1513-XN1513-1,5	5072368	85	50	28	1,5	XN.U-1513-...	14

備品零件 Spare parts		Bestellbezeichnung Ordering codes				
刀匣 For cartridge	鎢鋼墊片 Carbide shim	刀片螺絲 XN.U-1513 Screw for XN.U-1513	Torx 扳手 Torx key	夾持件 Clamping finger	夾持件螺絲 Screw for clamping finger	夾持件六角扳手 Hexagon wrench for clamping finger
BM54241	-	A02-80250	V04-T3000			
SAP-Nr.						
5072368	-	6401272	6418647			

Bestellbeispiel: 1 Stück CP-SC-85-50-28-XN1513-XN1513-1,5 Order example: 1 piece SC-85-50-28-XN1513-XN1513-1,5

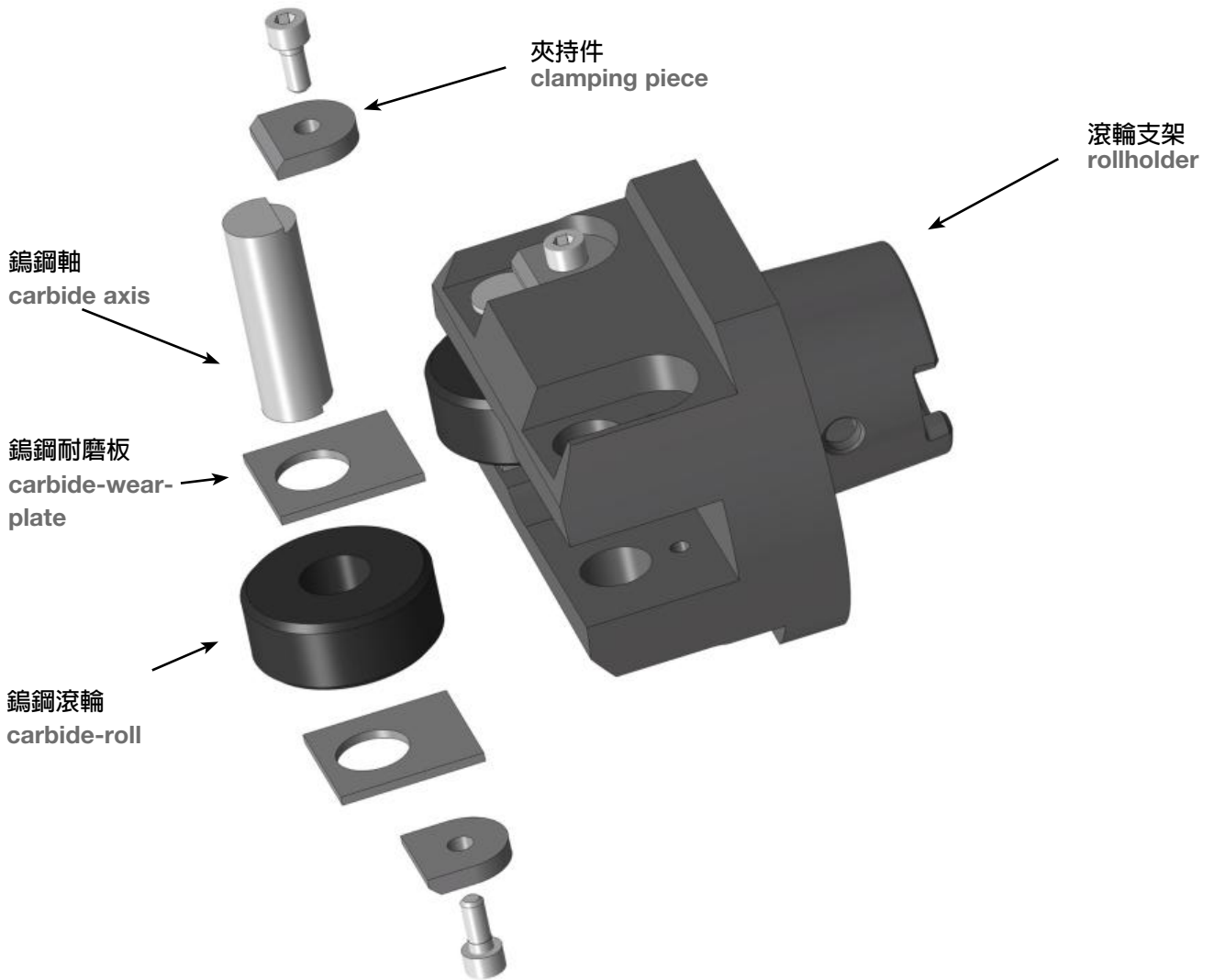
剥皮刀匣
Bar peeling cartridges



刀匣 Cartridge	Bestell- bezeichnung Ordering code	SAP- Nummer SAP- Number	Abmessungen Sizes mm					Seite Page
			l	t	h	p		
	CP-S2-140-85-35-XN1513-LN2010-0,8	9172456	140	85	35	0,8	XN.F-1513-...	13
								
							LN.F-2010-...	10
備品零件 Spare parts		Bestellbezeichnung Ordering codes						
刀匣 For cartridge	鎢鋼墊片 Carbide shim XN.F-1513	鎢鋼墊片 Carbide shim LN.F-2010	夾持XN.F沉頭螺絲 Flat headed screw for clampd. XN.F	夾持LN.F沉頭螺絲 Flat headed screw f. clamp disc LN.F	沉頭螺絲扳手 Wrench for flat headed screw	夾持件 Clamp disc XN.F, LN.F	沉頭螺絲 Flat h. screw XN.F	沉頭螺絲 Flat h. screw LN.F
BM48160 9172456	BM47736	BM44088	M8x20 DIN7991	M6x16 DIN7991	V01-A0050 V01-A0040 V01-A0020	D04-0F388 D04-0F276	M8x12 DIN7991	M3x10 DIN7991
	SAP-Nr.							
	6401772	9002955	9133104	9133102	6407829 6407828 6407824	9010193 6403970	6412657	9114505

Bestellbeispiel: 1 Stück CP-S2-140-85-35-XN1513-LN2010-0,8 Order example: 1 piece CP-S2-140-85-35-XN1513-LN2010-0,8

有現貨。可根據客戶要求客製化產品。
Available from stock. Special designs can be supplied by customer request.



出料導向系統備品
Spare parts for exit guide system

	Bestellbezeichnung Ordering Code	Zeichnung-Nr. Drawing number	SAP-Code SAP-Code	Verfügbar auf Anfrage Available on request
	出料鎢鋼耐磨板 Carbide wear plate exit		9176162	○
	出料滾輪 Roll exit		6413042	○
	出料軸 Axis exit	BM48945	6416764	○

Bestellbeispiel: 1 Stück Verschleißplatte Auslauf 9176162 Order example: 1 piece Carbide wear plate exit 9176162

	Bestellbezeichnung Ordering Code	Zeichnung-Nr. Drawing number	SAP-Code SAP-Code	Verfügbar auf Anfrage Available on request
	入料滾輪支架 2,3° Rollholder entry 2,3°	BM 46036	5040359	<input type="radio"/>
	入料滾輪 Roll entry		6408760	<input type="radio"/>
	入料軸 Axis entry	BM45087	6445781	<input type="radio"/>

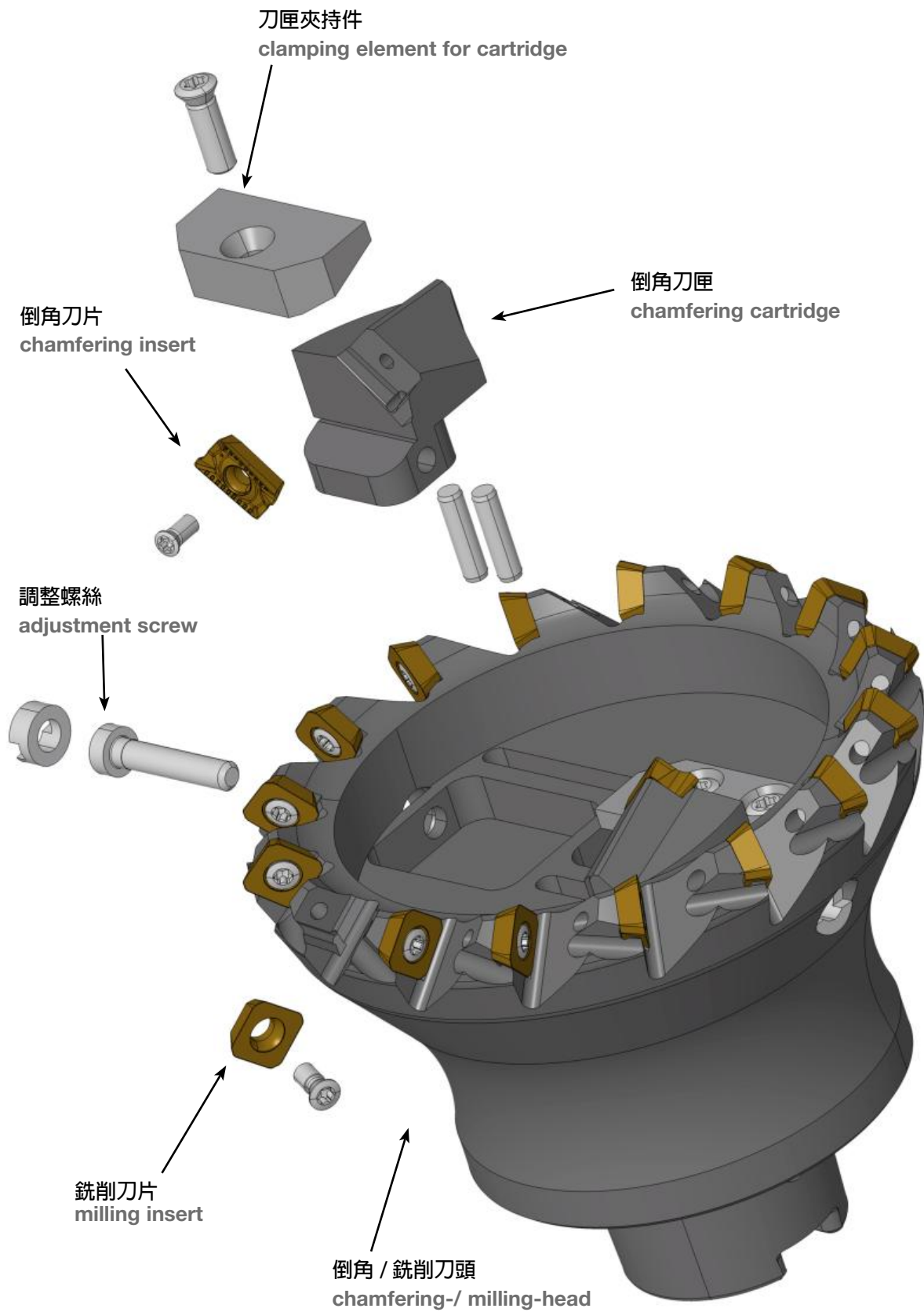
Bestellbeispiel: 1 Stück Rollhalter Einlauf 2,3°, 5040359 Order example: 1 piece Rollholder entry 2,3°, 5040359

	Bestellbezeichnung Ordering Code	Zeichnung-Nr. Drawing number	SAP-Code SAP-Code	Verfügbar auf Anfrage Available on request
	入料滾輪支架 0° Rollholder entry 0°	BM49740-FT	6413886	<input type="radio"/>
	入料滾輪支架 2,5° Rollholder entry 2,5°	BM49656-FT	6413882	<input type="radio"/>
	入料滾輪 Roll entry		6408760	<input type="radio"/>
	入料軸 Axis entry	BM49656-FT-4	5019185	<input type="radio"/>

Bestellbeispiel: 1 Stück Rollhalter Einlauf 0°, 9176162 Order example: 1 piece Rollholder entry 0°, 6413886

	Bestellbezeichnung Ordering Code	Zeichnung-Nr. Drawing number	SAP-Code SAP-Code	Verfügbar auf Anfrage Available on request
	入料滾輪支架 2,5° Rollholder entry 2,5°		6413043	<input type="radio"/>
	入料滾輪 Roll entry		6416765	<input type="radio"/>
	入料軸 Axis entry	BM48945	5016014	<input type="radio"/>

Bestellbeispiel: 1 Stück Rollhalter Einlauf 2,5°, 6413043 Order example: 1 piece Rollholder entry 2,5°, 6413043

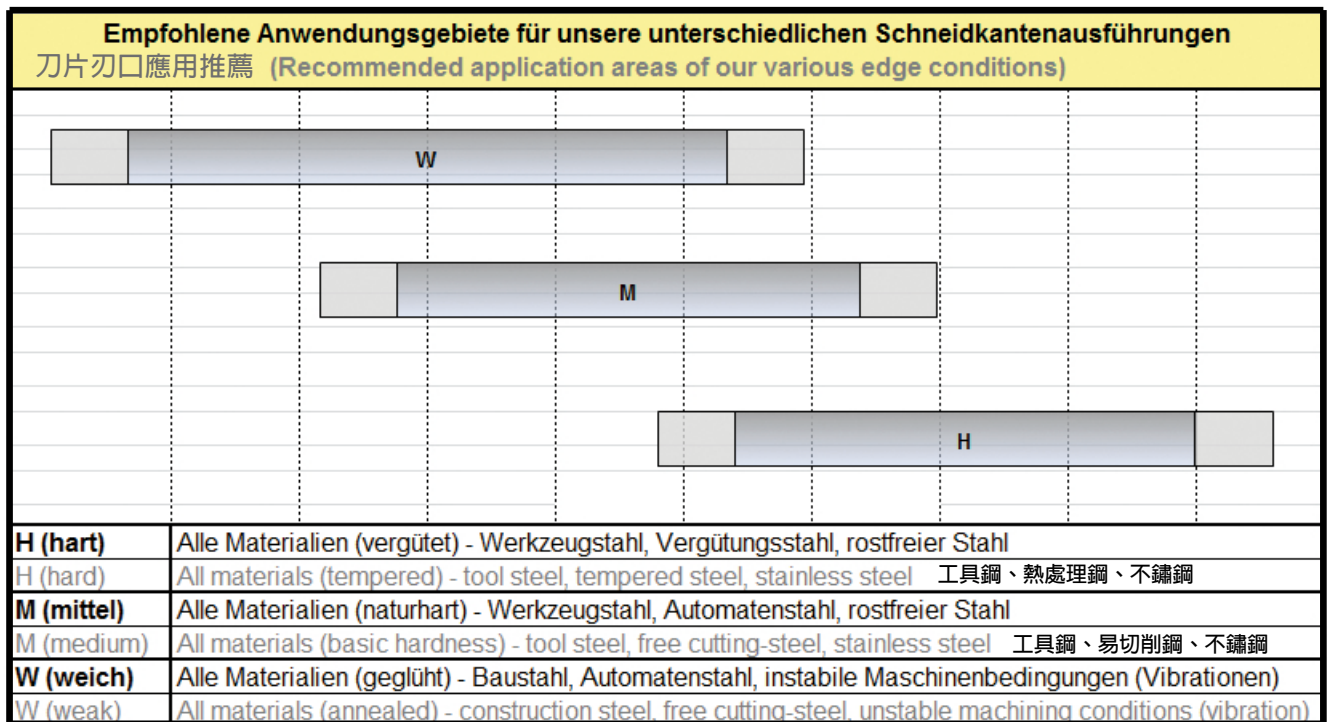
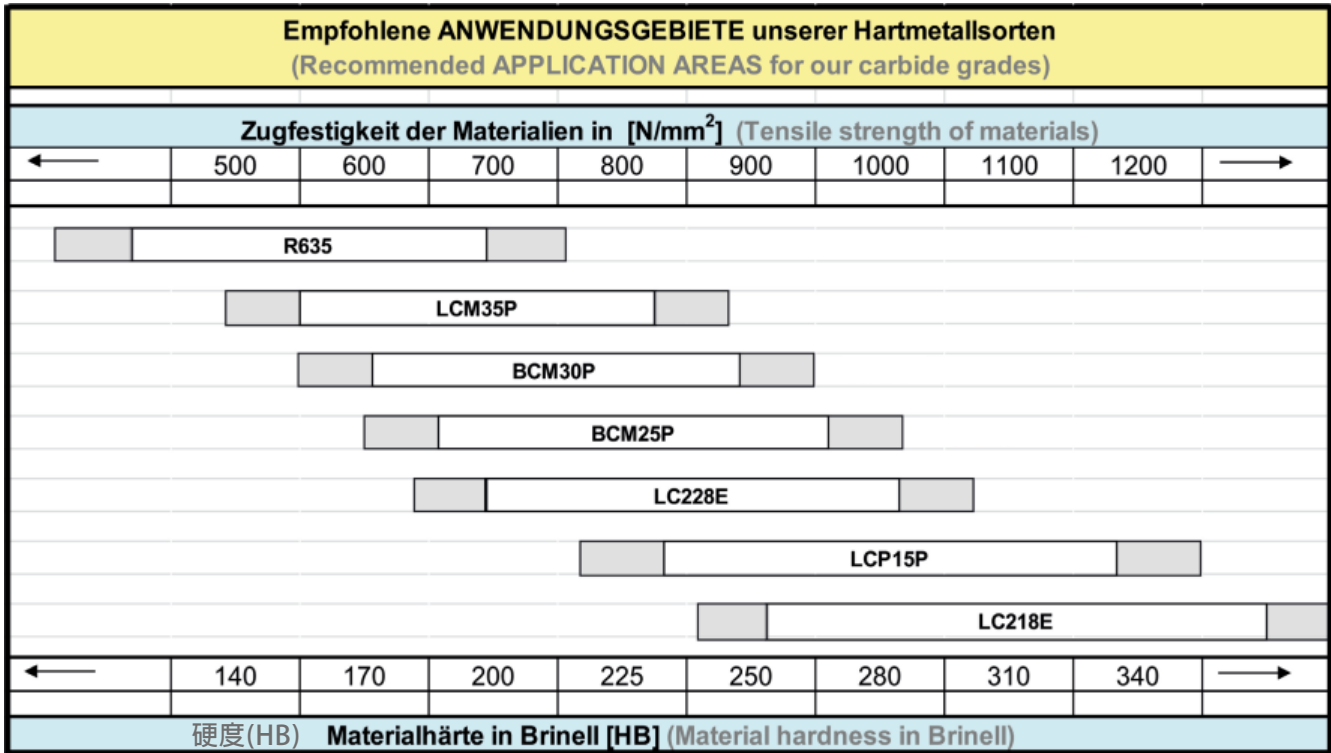


適用於不同機床類型的系統 - 可依要求提供
System for different machine types - available on request

Sorte Grade	ISO	Anwendungsbereich Application range	Werkstoffgruppe Material group						Beschichtung Coating		
			P Stahl Steel	M Rostfrei Stainless	K Grauguss Grey cast iron	N NE-Metalle Non-ferrous metals	S Hochwarmfest High temperature materials	H Harte Werkstoffe Hard materials	Nano schwarz Nano black	Al203 gelb Al203 yellow	TiN-CVD gelb TiN-CVD yellow
LC218E	HC-P10		■						●		
	HC-M10			■					●		
	HC-S10						□		●		
LC228E	HC-P25		■						●		
	HC-M25			■					●		
	HC-S25						□		●		
LCP15P	HC-P15		■							●	
	HC-M15			■						●	
BCM25P	HC-M25			■					●		
	HC-P25		□						●		
BCM30P	HC-M35			■					●		
	HC-P35		□						●		
LCM35P	HC-M35			■					●		
	HC-P35		□						●		
	HC-S35						□		●		
R635	HC-P30		■								●
	HC-M30			□							●
Anwendungsschwerpunkt Application peak											
Gesamtbereich nach ISO 513 Full range to ISO 513		01 05 10 15 20 25 30 35 40 45 50									
			■ Hauptanwendung Main application □ Weitere Anwendungen Further applications						● Standardbeschichtung Standardcoating		



Werkstoffgruppe Material group	Gliederung der Werkstoff-Hauptgruppen und Kennbuchstaben Mainworkpiece material groups and their characteristics letters		硬度 Brinell hardness HB	牌號 Grade
	材料 Material			
P	Unlegierter Stahl Unalloyed steel	geglüht annealed 0,15% - 45% C	140 - 155	LC228E R635 / BCM25P
		vergütet heat treated 0,15 % - 45% C	290	LC218E LCP15P
	Niedrig legierter Stahl Low-alloy steel	geglüht annealed ≥ 0,45 % C	185	LC228E R635
		vergütet heat treated ≥ 0,45 % C	290 - 340	LC218E LCP15P
	Hochlegierter Stahl und hochlegierter Werkzeugstahl High-alloy steel and high alloy tool steel	geglüht gehärtet und angelassen annealed hardened and tempered	180 - 210 290 - 325	LC228E LC218E / LCP15P
M	Nichtrostender Stahl ferritisch Stainless steel ¹⁾ ferritic	ferritisch / martensitisch geglüht martensitisch vergütet ferritic / martensitic annealed	190 - 210 200 - 260	LC228E LCP15P / LC218E / LC228E
		Nichtrostender Stahl austenitisch Stainless steel ¹⁾ austenitic	austenitisch abgeschreckt austenitic quenched	170 - 190
K	Gusseisen cast iron Al-Si-Legierungen alloys		160 - 260	LC218E / LCP15P
N	Nichteisenmetalle Aluminium, Kupfer Nonferrous materials Aluminium, copper		100 - 140	LC218E / LCP15P
S	Warmfeste Legierungen Heat resistant alloys	Ni-Basis, CO-Basis, geglüht Ni-Base, Co-Base, annealed	240 - 380	LC218E / LC228E / BCM25P
	Titan und Titanlegierungen Titanium and titanium alloys		250 - 340	LC218E / LCP15P BCS10T / BCS20T
H	Hitzebeständiger Stahl Sphäroguss Heat resistant steel ductile graphite iron	gehärtet und angelassen hardened and tempered	170 - 220	LCP15P



結構鋼、易切削鋼、不穩定加工情況(振刀)

Maße und Einheiten Dimensions and units	Anwendungs-Formeln Application formulas
a_p = Schnitttiefe in mm Depths of cut in mm	Schnittgeschwindigkeit in [m/min] Cutting speed in [m/min]
Q = Zerspanungsvolumen in [cm ³ /min] Chip removal rate [cm ³ /min]	$V_c = \frac{d_1 \times \pi \times n}{1000}$
V_c = Schnittgeschwindigkeit in [m/min] Cutting speed in [m/min]	Drehzahl in [U/min] Revolutions of spindle [rev/min]
V_f = Vorschubgeschwindigkeit in [m/min] Feed rate in [m/min]	$V_c = \frac{V_f \times 1000}{\pi \times d_1}$
f = Vorschub in [mm/u] Feed in [mm/Rev.]	Vorschubgeschwindigkeit v_f [m/min] Feed rate v_f [m/min]
d_1 = Strangdurchmesser [mm] Bar-diameter [mm]	$V_f = f \times n$
n = Drehzahl in [U/min] Revolutions of spindle [rev/min]	Vorschub pro Umdrehung f [mm/U] Feed per revolution f [mm/rev.]
	$f_n = \frac{V_f}{n}$
	Zerspanungsvolumen Q [cm ³ /min] Chip removal rate Q [cm ³ /min]
	$Q = a_p \times f \times V_c$

Berechnungsbeispiele:

Calculation example:

Wendeschneidplatte Insert :

LNGF-2010-BML-H20 LC218E

Durchmesser Bar diameter :

Ø 48,6 - 46,2 mm

Schnitttiefe (a_p) Depth of cut (a_p):

1,2 mm

Gewählte Schnittgeschwindigkeit Chosen cutting speed (V_c) :

110 m/min

Vorschub pro Umdrehung (f_n) Feed per rev. (f_n) :

14 mm/U mm/rev

Berechnung Drehzahl :

Calculation of rev. number :

$$n = \frac{v_c \times 1000}{\pi \times d_1}$$

$$n = \frac{110 \times 1000}{\pi \times 46,2} = 757,9 \text{ U/min rev/min}$$

Berechnung Vorschub :

Calculation of feed rate :

$$V_f = f_n \times n$$

$$V_f = 14 \times 757,9 = 10.611 \text{ m/min} \sim 10.6 \text{ m/min}$$

Berechnung Zerspanungsvolumen :

Calculation of chip removal rate :

$$Q = a_p \times f \times v_c$$

$$Q = 1,2 \times 14 \times 110 \times 10^3 = 1.848 \text{ cm}^3/\text{min}$$

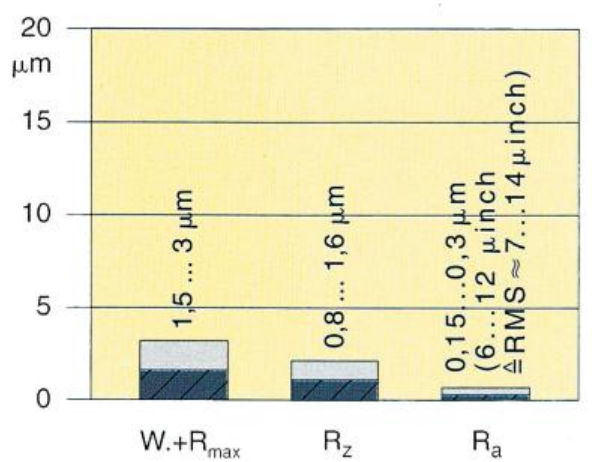
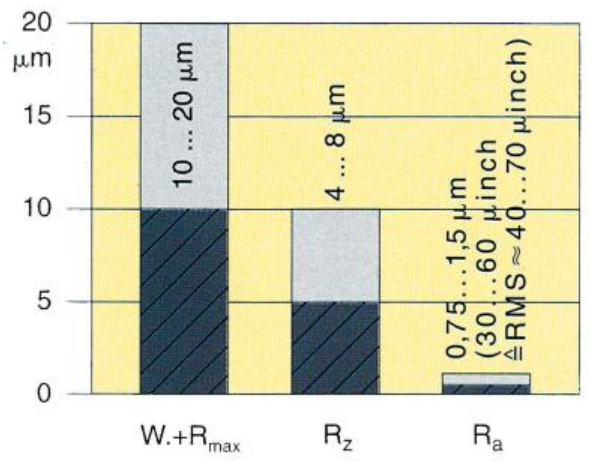
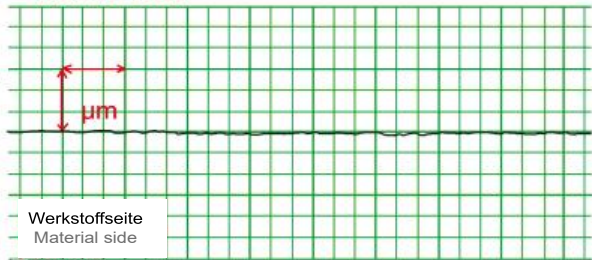
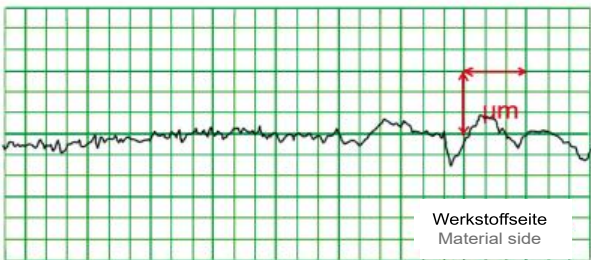
Messbeispiele
Surface finish measurement examples

Für geschälte Stangen
For peeled bars

Für geschälte und richtig polierte Stangen
For peeled, straightened and polished bars

Rauheitsmessgerät
Surface Roughness Tester

Rauheitsmessgerät
Surface Roughness Tester



R_a = Arithmetischer Mittenrauwert
R_z = Gemittelte Rautiefe
W.+R_{max} = Wellen- + max. Rautiefe

R_a = arithmetic medium value of roughness
R_z = average depth of roughness
W.+R_{max} = depth of peeling marks + max. depth of roughness

加工問題 Effect on the component	原因 Cause of defect	解決方案 Solution
圓棒不圓 Out of round component	刀片安裝錯誤 Incorrect insert setting	檢查刀片，重新調整刀匣滑塊或刀片滑塊 Check insert, set cartridge slide or insert slide
	圓棒未在剝皮刀頭中心 Components are not positioned radially to the peeling head	檢查進出導輪的位置 Check position of the lead-in and lead-out roll
	毛坯直徑尺寸 (ø) 有極大差異 Large raw material deviation (ø)	檢查偏差 (原料不圓 = 成品不圓) Check deviation (out of round material = out of round finished product)
顫抖痕 Chatter marks	刀片的刃口倒角太小 Too small edge preparation on inserts	刃口倒角磨大 Grind larger edge preparation
	副切削刃太鋒利 Secondary cutting edge too sharp - SNATCHING	需要更大的刃口處理 Larger edge hone required.
	切削刃位於中心下方 Cutting edge below centre	檢查切削刃高度 Check cutting edge height
	導輪位置錯誤 Incorrect position of the guide roll	檢查安裝位置 Check setting
表面台階(鋸齒狀) Steps in the machined surface	一個或多個刀片的副切削刃與棒料不平行 Secondary cutting edge of one or more inserts not positioned parallel to the bar	檢查副切削刃的位置 Check position of secondary cutting edge(s)
	進給 f_n (mm/U) 大於副切削刃的長度 Feed f_n (mm/rev) is larger than the length of the secondary cutting edge	降低進給，提高切削速度 V_c Reduce feed, increase cutting speed V_c
	刀片在刀座的位置錯誤(髒、夾持不良、磨損) Incorrect position of the inserts in it's seat (dirt, poor fitting, wear)	清潔刀座，檢查夾持狀況，更換刀具 Clean insert seat, check position, renew tool
斷屑不良 Bad chip breakage	進給太低 Feed rate too low	增加進給 Increase feed
	斷屑槽錯誤 Wrong chip breaker geometry	選擇其他斷屑槽 Choose other geometry
	冷卻液不足 Less coolant	增加冷卻液供給 Increase coolant supply
廣泛分佈的磨損 Heavy wear difference from one insert to the other	刀具設定不正確 (所用刀片的切削深度不同) Tool not adjusted correctly (different chip depth between inserts)	檢查設定 Check adjustment
	刀具老舊 (刀座磨損) Old tools (insert seat worn)	更新刀具 Renew tool
廣泛分佈的磨損 Heavy wear difference from one insert to the other	進給太快 Feed too high	減少進給 Reduce feed
	刃口倒角錯誤 Incorrect cutting edge chamfer	增加斜面寬度，增加斜面角度 (edge preparation) Increase chamfer width, increase bevel angle
	刃口處理太小 Edge hone too small	更大的刃口處理 Larger honing
	牌號選擇錯誤 Incorrect carbide grade used	選用較硬的牌號 Use tougher grade

硬度對照表 Hardness-comparison table



Zugfestigkeit Rm Tensile strength RM N/mm ²	Vickershärte Vickers hardness HV	Brinellhärte Brinell hardness HB	Rockwell- härte Rockwell hardness HRC
255	80	76	
270	85	80,7	
285	90	85,5	
305	95	90,2	
320	100	95	
335	105	99,8	
350	110	105	
370	115	109	
385	120	114	
400	125	119	
415	130	124	
430	135	128	
450	140	133	
465	145	138	
480	150	143	
495	155	147	
510	160	152	
530	165	156	
545	170	162	
560	175	166	
575	180	171	
595	185	176	
610	190	181	
625	195	185	
640	200	190	
660	205	195	
675	210	199	
690	215	204	
705	220	209	
720	225	214	
740	230	219	
755	235	223	
770	240	228	20,3
785	245	233	21,3
800	250	238	22,2
820	255	242	23,1
835	260	247	24
850	265	252	24,8
865	270	257	25,6
880	275	261	26,4
900	280	266	27,1
915	285	271	27,8
930	290	276	28,5
950	295	280	29,2
965	300	285	29,8
995	310	295	31
1030	320	304	32,2
1060	330	314	33,3
1095	340	323	34,4

Zugfestigkeit Rm Tensile strength RM N/mm ²	Vickershärte Vickers hardness HV	Brinellhärte Brinell hardness HB	Rockwell- härte Rockwell hardness HRC
1125	350	333	35,5
1155	360	342	36,6
1190	370	352	37,7
1220	380	361	38,8
1155	390	371	39,8
1290	400	380	40,8
1320	410	390	41,8
1350	420	399	42,7
1385	430	409	43,6
1420	440	418	44,5
1455	450	428	45,3
1485	460	437	46,1
1520	470	447	46,9
1555	480	(456)	47,7
1595	490	(466)	48,4
1630	500	(475)	49,1
1665	510	(485)	49,8
1700	520	(494)	50,5
1740	530	(504)	51,1
1775	540	(513)	51,7
1810	550	(523)	52,3
1845	560	(532)	53,0
1880	570	(542)	53,6
1920	580	(551)	54,1
1955	590	(561)	54,7
1995	600	(570)	55,2
2030	610	(580)	55,7
2070	620	(589)	56,3
2105	630	(599)	56,8
2145	640	(608)	57,3
2180	650	(618)	57,8
	660		58,3
	670		58,8
	680		59,2
	690		59,7
	700		60,1
	720		61
	740		61,8
	760		62,5
	780		63,3
	800		64
	820		64,7
	840		65,3
	860		65,9
	880		66,4
	900		67
	920		67,5
	940		68

Zugfestigkeit Tensile strength	N/mm ²	Rm
Vickershärte Vickers hardness	Diamantpyramide 1368, Prüfkraft F ≥ 98 N Diamond pyramid 136°, Test force F ≥ 98 N	HV
Brinellhärte Brinell hardness	0,102 x F/D ² = 30 N/mm ²	HB
Kalkuliert mit: Calculated from: HB=0,95 x HV	F = Prüfkraft in N, D = Kegeldurchmesser in mm F = Test force in N, D = Ball diameter in mm	
Härte Rockwell C Rockwell hardness C	Diamantkegel 120°, Gesamtprüfkraft 1471±9 N Diamond cone 120°, Total test force 1471±9 N	HRC

材質對照表

Comparison table of materials to be machined

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Werkstoffgruppe Material Group	Deutschland Germany		Großbritannien Great Britain		Frankreich France	Italien Italy
	W-Nr.	DIN	BS	EN	AFNOR	UNI
P	Baustahl und Konstruktionsstahl Construction steel					
	1.0401	C15	080M15	-	CC12	C15C16
	1.0402	C22	050A20	2C	CC20	C20C21
	1.0501	C35	060A35	-	CC35	C35
	1.0503	C45	080M46	-	CC45	C45
	1.0535	C55	070M55	-	-	C55
	1.0601	C60	080A62	43D	CC55	C60
	1.0715	9SMn28	230M07	-	S250	CF9SMn28
	1.0718	9SMnPb28	-	-	S250Pb	CF9SMnPb28
	1.0722	10SPb20	-	-	10PbF2	CF10SPb20
	1.0726	35S20	212M36	8M	35MF4	-
	1.0736	9SMn36	240M07	1B	S300	CF9SMn36
	1.0737	9SMnPb36	-	-	S300Pb	CF9SMnPb36
	1.0904	55Si7	250A53	45	55S7	55Si8
	1.0961	60SiCr7	-	-	60SC7	60SiCr8
	1.1141	Ck15	080M15	32C	XC12	C16
	1.1157	40Mn4	150M36	15	35M5	-
	1.1158	Ck25	-	-	-	-
	1.1167	36Mn5	-	-	40M5	-
	1.1170	28Mn6	150M28	14A	20M5	C28Mn
	1.1183	Cf35	060A35	-	XC38TS	C36
	1.1191	Ck45	080M46	-	XC42	C45
	1.1203	Ck55	070M55	-	XC55	C50
	1.1213	Cf53	060A52	-	XC48TS	C53
	1.1221	Ck60	080A62	43D	XC60	C60
	1.1274	Ck101	060A96	-	-	-
	1.3401	X120Mn12	Z120M12	-	Z120M12	XG120Mn12
	1.3505	100Cr6	534A99	31	100C6	100Cr6
	1.5415	15Mo3	1501-240	-	15D3	16Mo3KW
	1.5423	16Mo5	1503-245-420	-	-	16Mo5
	1.5622	14Ni6	-	-	16N6	14Ni6
	1.5662	X8Ni9	1501-509;510	-	-	X10Ni9
	1.5680	12Ni19	-	-	Z18N5	-
	1.5710	36NiCr6	640A35	111A	35NC6	-
	1.5732	14NiCr10	-	-	14NC11	16NiCr11
	1.5752	14NiCr14	655M13	36A	12NC15	-
			655A12			
	1.6511	36CrNiMo4	816M40	110	40NCD3	38NiCrMo4(KB)
	1.6523	21NiCrMo2	805M20	362	20NCD2	20NiCrMo2
	1.6546	40NiCrMo22	311 Type 7	-	-	40NiCrMo2(KB)
1.6582	34CrNiMo6	817M40	24	35NCD6	35CrNiMo6(KB)	
1.6587	17CrNiMo6	820A16	-	18NCD6	-	
1.6657	14NiCrMo134	832M13	36C	-	15NiCrMo13	
1.7015	15Cr3	523M15	-	12C3	-	
1.7033	34Cr4	530A32	18B	32C4	34Cr4(KB)	
1.7035	41Cr4	530M40	18	42C4	41Cr4	
1.7045	42Cr4	-	-	-	-	
1.7131	16MnCr5	(527M20)	-	16MC5	16MnCr5	
1.7176	55Cr3	527A60	48	55C3	-	
1.7218	25CrMo4	1717CDS110	-	25CD4	25CrMo4(KB)	
1.7220	34CrMo4	708A37	19B	35CD4	35CrMo4	
1.7223	41CrMo4	708M40	19A	41CD4TS	41CrMo4	
1.7225	42CrMo4	708M40	19A	42CD4	42CrMo4	

Werkstoff - Vergleichstabelle
Comparison table of materials to be machined



	Belgien Belgium	Schweden Sweden	Spanien Spain	USA U.S.A.	voestalpine BÖHLER Edelstahl	
	NBN	SIS	UNE	AISI/SAE	Austria	
	-	1350	F.111	1015		
	C25-1	1450	F.112	1020		
	C35-1	1550	F.113	1035		
	C45-1	1650	F.114	1045		
	C55-1	1655	-	1055		
	C60-1	-	-	1060		
	-	1912	11SMn28	1213		
	-	1914	11SMnPb28	12L13		
	-	-	10SPb20	-		
	-	1957	F210G	1140		
	-	-	12SMn35	1215		
	-	1926	12SMn35	12L14		
	55Si7	2085	56Si7	9255		
	60SiCr8	-	60SiCr8	9262		
	C16-2	1370	C15K	1015		
	-	-	-	1039		
	C25-2	-	-	1025		
	-	2120	36Mn5	1335		
	28Mn6	-	-	1330		
	C36	1572	-	1035		
	C45-2	1672	C45K	1045		
	C55-2	-	C55K	1055		
	C53	1674	-	1050		
	C60-2	1678	-	1060		
	-	1870	-	1095		
	-	-	XG120Mn12	-	K700	
	-	2258	F.131	52100		
	16Mo3	2912	ASTM A204Gr.A			
	16Mo5	-	4520			
	18Ni6	-	15Ni6	ASTM A350LF5		
	10Ni36	-	XBNi09	ASTM A353		
	12Ni20	-	-	2515		
	-	-	-	3135		
	-	-	15NiCr11	3415		
	13NiCr12	-	-	3415;3310	E200	
	-	-	35NiCrMo4	9840		
	-	2506	20NiCrMo2	8620		
	40NiCrMo2	-	40NiCrMo2	8740		
	35CrNiMo6	2541	-	4340	V155	
	17CrNiMo7	-	14NiCrMo13	-	E110	
	14NiCrMo132	-	14NiCrMo131	-		
	15Cr2	-	-	5015		
	34Cr4	-	35Cr4	5132		
	42Cr4	-	42Cr4	5140		
	-	2245	42Cr4	5140		
	16MnCr5	2511	16MnCr5	5115		
	55Cr3	-	-	5155		
	25CrMo4	2225	55Cr3	4130		
				AM26CrMo4		
	34CrMo4	2234	34CrMo4	4137;4135		
	41CrMo4	2244	42CrMo4	4140;4142	V320	
	42CrMo4	2244	42CrMo4	4140	V320	

Werkstoff - Vergleichstabelle
Comparison table of materials to be machined

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	W-Nr.	DIN	BS	EN	AFNOR	UNI
P	Baustahl und Konstruktionsstahl Construction steel					
	1.7262	15CrMo5	-	-	12CD4	-
	1.7335	13CrMo4 4	1501-620Gr27	-	15CD3.5 15CD4.5	14CrMo4 5
	1.7361	32CrMo12	722M24	40B	30CD12	32CrMo12
	1.7380	10CrMo9 10	1501-622	-	12CD9, 10	12CrMo9,10
			Gr.31;45	-	-	-
	1.7715	14MoV6 3	1503-660-440	-	-	-
	1.8159	50CrV4	735A50	47	50CV4	50CrV4
	1.8509	41CrAlMo7	905M39	41B	40CAD6, 12	41CrAlMo7
	1.8523	39CrMoV13 9	897M39	40C	-	36CrMoV12
	Werkzeugstähle Tools steel					
	1.1545	C105W1	-	-	Y1 105	C98KU C100KU
	1.1663	C125W	-	-	Y2 120	C120KU
	1.2067	100Cr6	BL3	-	Y100C6	-
	1.2080	X210Cr12	BD3	-	Z200C12	X210Cr13KU X250Cr12KU
	1.2344	X40CrMoV51	BH13	-	Z40CDV5	X35CrMoV05KU X40CrMoV511KU
	1.2363	X100CrMoV51	BA2	-	Z100CDV5	X100CrMoV51KU
	1.2419	105WCr6	-	-	105WC13 107WCr5KU	10WCr6
	1.2436	X210CrW12	-	-	-	X215CrW121KU
	1.2542	45WCrV7	BS1	-	-	45WCrV8KU
	1.2581	X30WCrV9 3	BH21	-	Z30WCV9	X28W09KU X30WCrV9 3KU
	1.2601	X165CrMoV12	-	-	-	X165CrMoW12KU
	1.2713	55NiCrMoV6	-	-	55NCDV7	-
	1.2833	100V1	BW2	-	Y1 105V	-
	Schnellarbeitsstähle High speed steels					
	1.3243	S 6-5-2-5	-	-	Z85WDKCV 06-05-04-02	HS 6-5-2-5
	1.3247	-	BM42	HS 2-9-1-8	Z110DKCWV	HS 2-9-1-8
	1.3255	S 18-1-2-5	BT4	-	Z80WKCV 18-05-04-01	X78WCo1805KU
	1.3325	81MoCrV42-16	-	HS 0-4-1	Y80DCV42-16	X80MoCrV4-4
	1.3326	-	-	HS 1-4-2	-	-
	1.3343	S 6-5-2	BM2	-	Z85WDCV 06-05-04-02	X82WMo0605KU
	1.3344	-	BM4	HS 6-5-3	Z120WDCV 06-05-04-03	HS 6-5-3
	1.3348	S 2-9-2	-	-	Z100WCWV 09-04-02-02	HS 2-9-2
	1.3355	S 18-0-1	BT1	-	Z80WCV 18-04-01	X75W18KU
Pulvermetallurgische Schnellarbeitsstähle Powder metallurgical steels						
1.3244	-	-	HS 6-5-3-8	-	-	
1.3345	-	-	HS 6-5-3C	-	-	
1.3351	-	BM4	HS 6-5-4	-	-	

Werkstoff - Vergleichstabelle
Comparison table of materials to be machined



	Belgien Belgium	Schweden Sweden	Spanien Spain	USA U.S.A.	voestalpine BÖHLER Edelstahl	
	NBN	SIS	UNE	AISI/SAE	Austria	
	-	2216	12CrMo4	-		
	14CrMo45	-	14CrMo45	ASTM A182 F11;F12		
	32CrMo12	2240	F124.A	-		
	-	2218	TU.H	ASTM A182 F22		
	13MoCrV6	-	13MoCrV6	-		
	50CrV4	2230	51CrV4	6150		
	41CrAlMo7	2940	41CrAlMo7	-		
	39CrMoV13	-	-	-		
	-	1880	F.515 F.516	W.110		
	-	-	(C120)	W.112		
	-	-	100Cr6	L3		
	-	-	X210Cr12	D3	K100	
	-	2242	X40CrMoV5	H13	W302	
	-	2260	X100CrMoV5	A2	K305	
	-	2140	105WCr5	-		
	-	2312	X210CrW12	-	K107	
	-	2710	45WCrSi8	S1		
	-	-	X30WCrV9	H21	W100	
	-	2310	X160CrMoV12	-	K105	
	-	-	F.520.S	L6		
	C98KU 102V2KU	-	-	W210		
	-	2723	HS 6-5-2-5	-	S705	
	-	2716	F5617	M42	S500	
	-	-	HS 18-1-1-5	T4		
	-	-	-	M50	S405	
	-	-	-	M52	S404	
	-	2722	HS 6-5-2	M2	S600	
	-	-	F5605	M3 Cl.2	S607	
	-	2782	HS 2-9-2	M7	S400	
	-	-	HS 18-0-1	T1	S200	
	-	-	-	-	S590	
	-	-	-	M3 Cl.2	S790	
	-	-	-	M4	S690	

Werkstoff - Vergleichstabelle
Comparison table of materials to be machined

Werkstoffgruppe Material Group	Deutschland Germany		Großbritannien Great Britain		Frankreich France	Italien Italy
	W-Nr.	DIN	BS	EN	AFNOR	UNI
P	Kaltarbeitsstahl Cold work steel					
	1.2210	115CrV3	-	-	100 C3	107CrV3 KU
	1.2345	X50CrVMo5-1	-	-	-	-
	1.2379	X153CrMoV12	BD 2	-	Z160DCDV12	X155CrVMo12 1 KU
	1.2510	100MnCrW4	BO1	-	90MWCV5	95MnWCr5 KU
	1.2550	60WCrV7	-	-	55WC20	58WCr9 KU
	1.2721	50NiCr13	-	-	-	-
	1.2842	90MnCrV8	BO2	-	90MV8	90MnCr8 KU
	Warmarbeitsstahl Hot work steels					
	1.2343	X38CrMoV5-1	BH11	-	Z38CDV5	X37CrMoV5-1 KU
	1.2344	X37CrMoV5-1	BH13	-	Z40CDV5	X40CrMoV5-1-1 KU
	1.2365	32CrMoV12-28	BH10	-	32DCV28	30CrMoV12-27 KU
	1.2367	X38CrMoV5-3	-	-	-	-
	1.2714	56NiCrMoV7	5	BS224	55NCDV7	56NiCrMoV7 KU
	Kunststoffformstähle Plastic mold steels					
	1.2083	X42Cr13	-	-	Z40C14	X41Cr13 KU
	1.2312	40CrMnMoS8-6	-	-	-	-X30Cr13
	1.4028	X30Cr13	420S45	-	Z30C13	
	M	Nichtrostende und hitzebeständige Stähle Stainless and heat resisting steels				
1.3544		X105CrMo17	-	-	Z100CD17	X102CrMo17 KU
1.4000		X6Cr13	403S17	-	Z6C13	X6Cr13
1.4001		X7Cr14				
1.4006		X10Cr13	410S21	56A	Z10C14	X12Cr13
1.4014		X20Cr13	420S29	EN56B	Z20C13	X20Cr13 KU
1.4016		X6Cr17	430S15	60	Z8C17	X8Cr17
1.4027		G-X200Cr14	420C29	56B	Z20C13M	-
1.4034		X46Cr13	420S45	56D	Z40CM	X40Cr14
					Z38C13M	
1.4044		-	431S29	EN57	Z15CN16-02	-
1.4057		X17CrNi17	S80	-	Z15CN17-3	X16CrNi16
1.4104		X12CrMoS17	-	-	Z10CF17	X10CrS17
1.4112		X6CrMo171	434S17	-	Z8CD17.01	X8CrMo17
1.4301		X5CrNi1810	304S15	58E	Z6CN18.09	X5CrNi1810
1.4305		X10CrNiS189	303S21	58M	Z10CNF 18.09	X10CrNiS18.09
1.4306		X2CrNi1911	304S12	-	Z2CN 18.10	X2CrNi18.11
			304C12		Z3CN 19.10	
1.4308		G-X6CrNi18 9	304C15	-	Z6CN18.10M	-
1.4310		X12CrNi177	-	-	Z12CN17.07	X12CrNi1707
1.4311		X2CrNiN1810	304S26	-	Z2CN18.10	-
1.4313		X5CrNi134	425C11	-	Z4CND13.4M	-
1.4314		X5CrNi18-10	302S17	EN58E	Z5CN18 09	X5CrNi18 10
1.4401		X5CrNiMo17122	316S16	58J	Z6CND17.11	X5CrNiMo 1712
1.4404		X2CrNiMo17-12-2	316S11	-	Z2CND17 12	X2CrNiMo1712
1.4408		G-X6CrNiMo1810	316C16	-	-	-
1.4410		X2CrNiMoN25-7-4	-	-	-	-
1.4412		X90CrMoV18	-	-	-	-

Werkstoff - Vergleichstabelle
Comparison table of materials to be machined



	Belgien Belgium	Schweden Sweden	Spanien Spain	USA U.S.A.	voestalpine BÖHLER Edelstahl	
	NBN	SIS	UNE	AISI/SAE	Austria	
		-	F5125	-	K510	
	-	-	-	-	K306	
	-	2310	F5211	D2	K110	
	-	2140	F5220	O1	K460	
	-	-	F5242	S1	K455	
	-	2550	-	-	K605	
	-	-	-	O2	K720	
	-		F5317	H11	W300	
	-	-	F5317	H13	W302	
	-	-	F5313	H10	W320	
	-	-	-	-	W303	
	-	-	F5307	L6	W500	
	-	-	F5263	420	M310	
	-	-	-	P20	M200	
	-	2304	F3403	420	M330	
	-	-	-	440F	N695	
	-	2301	F3110	403		
			F8401			
	-	2302	F3401	410	N100	
	-	2303	F3402	420	N320	
	-	2320	F3113	430	N200	
	-	-	-	-		
	-	2304	F3405	-	N540	
	-	2321	-	431	N352	
	-	2321	F3427	431	N350	
	-	2383	F3117	430F	N310	
	-	2325	-	434		
	-	2332	F3551	304	A607	
			F3541		A500	
			F3504			
	-	2346	F3508	303	A506	
	-	2352	F3503	304L	A600	
	-	2333				
	-	-	-	-		
	-	2331	F3517	301		
	-	2371	-	304LN		
	-	-	-	-	N403	
	-	2332	F3504	304	A500	
	-	2347	F3543	316	A120	
	-	2348	F3533	316L	A200	
	-	-	F8414	-	-	
	-	-	-	F53	A913	
	-	-		440B	N685	

Werkstoff - Vergleichstabelle
Comparison table of materials to be machined

Werkstoffgruppe Material Group	Deutschland Germany		Großbritannien Great Britain		Frankreich France	Italien Italy	
	W-Nr.	DIN	BS	EN	AFNOR	UNI	
M	Nichtrostende und hitzebeständige Stähle Stainless and heat resisting steels						
	1.4418	X4CrNiMo16-5-1	-	-	Z6CND16-05-01	-	
	1.4429	X2CrNiMoN17133	-	-	Z2CND17.13	-	
	1.4435	X2CrCrNiMo18143	316S12	-	Z2CND17.13	X2CrNiMo1713	
	1.4438	X2CrNiMo17133	317S12	-	Z2CND1915	X2CrNiMo1816	
	1.4460	X8CrNiMo275	-	-	-	-	
	1.4462	X2CrNiMoN22-5-3	-	-	Z3CD22-05 Az	-	
	1.4466	X1CrNiMoN25-22-2	-	-	-	-	
	1.4501	X2CrNiMoCuWN25-7-4	-	-	-	-	
	1.4534	X3CrNiMoAl13-8-2	-	-	-	-	
	1.4541	X6CrNiTi1810	2337	312S12	Z6CNT18.10	X6CrNiTi1811	
	1.4542	X5CrNiCuNb16-4	-	-	Z6CNU17-04	-	
	1.4544	X12CrNiTi18-9	321S31	EN58B	Z10CNT18 11	X6CrNiTi1811	
	1.4545	-	-	-	-	-	
	1.4546	X5CrNiNb18-10	347S17	EN58F	Z6CNNb18 10	X6CrNiNb1811	
	1.4550	X6CrNiNb1810	347S17	58F	Z6CNNb18.10	X6CrNiNb1811	
	1.4571	X6CrNiMoTi17122	320S17	58J	Z6NDT17.12	X6CrNiMoTi1712	
	1.4581	G-X5CrNi	318C17	-	Z4CNDNb	XG8CrNiMo1811	
		MoNb1810			18 12M		
	1.4583	X10CrNi	-	-	Z6CNDNb	X6CrNiMoNb1713	
		MoNb1812			17 13B		
	1.4718	X45CrSi93	401S45	52	Z45Cs9	X45CrSi8	
	1.4724	X10CrAl13	403S17	-	Z10C13	X10CrAl12	
	1.4742	X10CrAl18	430S15	60	Z10CAS18	X8Cr17	
	1.4747	X80CrNiSi20	443505	59	Z80CSN20.02	X8CrSiNi20	
	1.4762	X10CrAl24	-	-	Z10CAS24	X16Cr26	
	1.4828	X15CrNiSi2012	309S24	-	Z15CNS20.12	-	
	1.4845	X12CrNi2521	310S24	-	Z12CN2520	X6CrNi2520	
	1.4864	X12NiCrSi3616	-	-	Z12NCS35.16	-	
	1.4865	G-X40NiCrSi3818	330C11	-	-	XG50NiCr3919	
	1.4871	X53CrMnNiN219	349S54	-	Z52CMN21.09	X53CrMnNiN219	
			321S12	58B			
	1.4878	X12CrNiTi189	321S20	58C	Z6CNT18.12B	X6CrNiTi1811	
S	Hitzebeständige Stähle Heat resisting steels						
	1.2786	X13NiCrSi36-16	-	-	Z20NCS33-16	-	
	1.4841	X15CrNiSi25-20	310S24	-	Z10CNS25-20	X16CrNiSi25-20	
N	Nickelbasislegierungen Ni-base alloys						
	2.4662	NiCr13Mo6Ti3	HR53	-	Z8NCNT42	-	
	2.4668	NiCr19NbMo	-	-	NC19FeNb	-	
	2.4856	NiCr22Mo9Nb	NA21	-	NC22DNb	-	
	2.4952	NiCr20TiAl	HR1	EN10090	NC20TA	-	

Werkstoff - Vergleichstabelle
Comparison table of materials to be machined

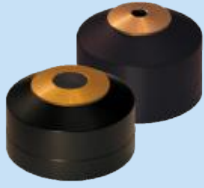


	Belgien Belgium	Schweden Sweden	Spanien Spain	USA U.S.A.	voestalpine BÖHLER Edelstahl	
	NBN	SIS	UNE	AISI/SAE	Austria	
-	-	-	-	-	N404	
-	-	2375	-	316LN		
-	-	2353	-	316L	A220	
-	-	2367	-	317L		
-	-	2324	-	329		
-	-	-	-	F51	A903	
-	-	-	-	310MoLN	A405	
-	-	-	-	F55	A911SA	
-	-	-	-	XM13	N709	
-	-	58B	F3553, F3523	321	A700	
-	-	-	-	630	N700	
-	-	2337	F3523	321	A700	
-	-	-	-	XM12	N701	
-	-	2338	F3524	347	A750	
-	-	2338	F3552, F3524	347		
-	-	2350	F3535	316Ti	A300	
-	-	-	-	-		
-	-	-	-	318		
-	-	-	-			
-	-	-	F322	HW3	H700	
-	-	-	F311	405		
-	-	-	F3113	430		
-	-	-	F320B	HNV6		
-	-	2322	-	446		
-	-	-	-	309	H550	
-	-	2361	F331	310S		
-	-	-	-	330	H520	
-	-	-	-	-		
-	-	-	-	EVB	H850	
-	-	-	-			
-	-	-	F3523	321	A700	
-	-	-	-			
-	-	-	-	30330	H520	
-	-	-	-	314	H525	
-	-	-	-			
-	-	-	N0991	5660	L901	
-	-	-	N07718	-	L718	
-	-	-	N06625	-	L625	
-	-	-	N07080	-	L080A	
-	-	-	-	-	-	
-	-	-	-	-	-	
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-	-	-	-	-	-	



線材剝皮的拉絲環和模具

Shaving rings and casings



用於生產直徑約 3 至 15 mm 的剝皮鋼材和非鐵金屬的經濟方法。
根據需求，可以提供專門針對要加工的材料或拉絲機訂製的拉絲模具。
The economic method to produce peeled steel and non ferrous metals from coil to coil for diameters from about 3 to 15 mm. Shaving dies designed to the requirements of material and machine on request.

拉絲環 Shaving ring ZSR .	Bestellbezeichnung Ordering Code	Abmessungen in mm Sizes in mm		
		d ₁	h	d ₂ *)
	ZSR 20	20,0	10,0	≤10,0
	ZSR 24	24,0	12,0	>10,0

Bestellbeispiele: 1 Stück ZSR 20
1 Stück ZSR 24

Order examples: 1 off ZSR 20
1 off ZSR 24

*) Sorten und Toleranzen für den Durchmesser d₂ nach Vereinbarung.
*) Grades and tolerances on diameter d₂ upon agreement.

模具 Casing BM38173-.	Bestellbezeichnung Ordering Code	Abmessungen in mm Sizes in mm					
		Kern ø core ø	d ₁	d ₂	d ₃	h	l
	BM38173-3-d ₂	20,0	40,0	39,8	14,0	28,8	10,0
	BM38173-4-d ₂	24,0	40,0	39,8	16,0	24,6	10,0

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