



全新

贝瑞特新高性能刀具
NEW BOEHLERIT
HIGH-PERFORMANCE TOOLS



不同之处： 更多可能

THE DIFFERENCE: MORE POSSIBILITIES

- **高性能和加工可靠性，由于新的断屑槽型**

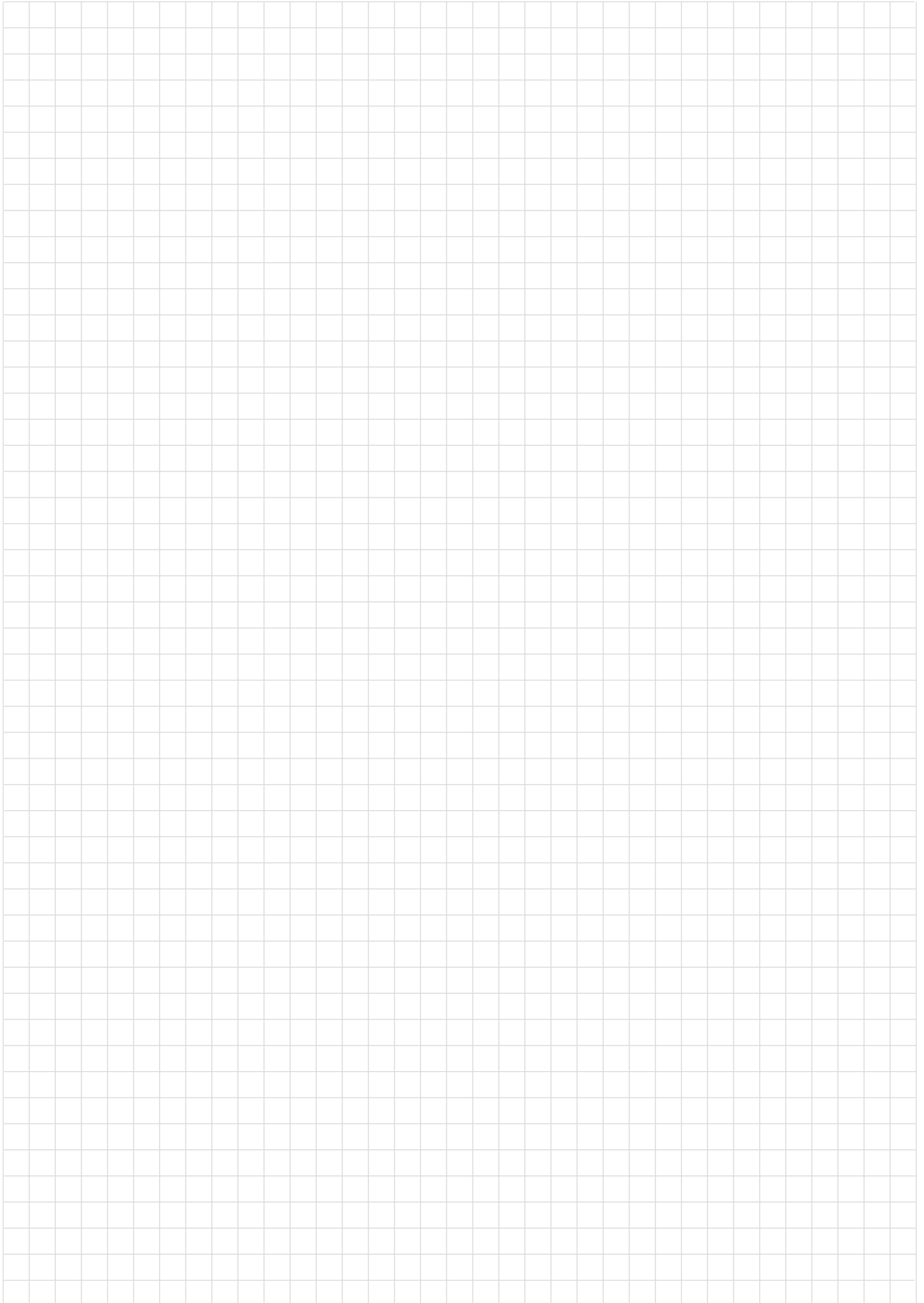
High performance and machining reliability
due to new chip breaker geometry

- **减少切削力**

Reduction in cutting forces

- **通用，由于定制的断屑槽型**

Universal use due to the customised
cutting edge geometry





全新

新一代钢件车削技术

NEW GENERATION IN STEEL TURNING

BCP10T, BCP15T, BCP20T, BCP25T – 新一代钢件车削技术
BCP10T, BCP15T, BCP20T, BCP25T – New generation in steel turning



新型Boehlerit 钢件材质在车削过程中提供卓越的质量。一种新开发的断屑槽型，由于其改进的倒角，进一步抑制加工振动。它带来了最佳的切削过程和切屑。

BCP15T和BCP25T 钢件材质特别适用于间断加工工艺。AlTiN-PVD层满足高温要求，并以其金色确保理想的磨损检测。

BCP10T和BCP20T等级的设计采用了新的双色CVD涂层概念。CVD层是基于已建立的MT-TiCN系统来防止侧面磨损，以及 α -Al₂O₃层来保护可转位插入件免受高温的影响。通过周长上的黄色TiN顶层，可以实现简单的磨损检测。两种等级都适用于连续车削。

BCP10T和BCP15T的设计主要针对中等切削速度下的应用范围，而BCP20T和BCP25T的设计则针对中等切削速度下的最佳性能范围。

The new Boehlerit steel grades offer outstanding quality during the turning process. A new developed chip breaker further suppress the machining vibrations due to their modified chamfer. It brings an optimal flow and cut of produced chips.

The BCP15T and BCP25T steel grades are especially suitable for the interrupted machining processes. The AlTiN-PVD layer meets the high-temperature requirements and, with its golden color, ensures ideal wear detection.

The BCP10T and BCP20T grades have been designed with a new two-color CVD coating concept. The CVD layer is based on the established MT-TiCN system against flank wear, as well as an α -Al₂O₃-layer to protect the indexable insert from the effects of high temperatures. An easy wear detection is achieved by means of a yellow TiN top layer on the circumference. Both grades are suitable for the continuous turning.


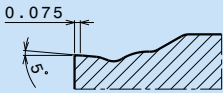
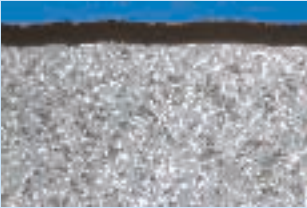
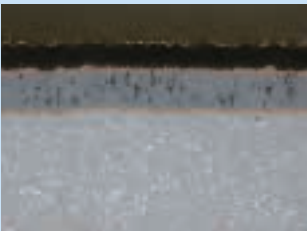
Both, the BCP10T and BCP15T are designed primarily with their application range of medium operation at high cutting speeds, while the BCP20T and BCP25T grades have their best performance range at the medium cutting speed operations.

技术优势

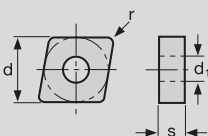
Technological advantages

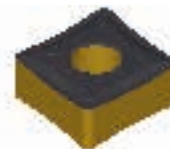
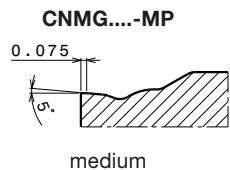
客户的利益

Customer benefits

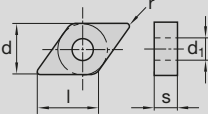
<p>前刀面有金色间隙和光滑的耐热陶瓷涂层。</p> <p>Golden clearance and smooth heat-resistant ceramic coating on the rake face.</p>		<p>对后刀面的磨损检测简单，积削瘤产生倾向低。</p> <p>Simple wear detection on the clearance and low tendency of built up material.</p>
<p>特别设计并带有修改倒角的断屑槽型MP</p> <p>Specially designed chipbreaker MP with modified chamfer.</p>	<p>MP 断屑槽型 MP Chipbreaker</p> 	<p>安全断屑，抑制振动断屑倾向低</p> <p>Safe chip breaking, vibration suppression Low tendency of chip breakage</p>
<p>表面涂TiN的AlTiN-PVD涂层材质,BCP15T和BCP25T</p> <p>AlTiN-PVD coating with an TiN-Toplayer for BCP15T and BCP25T</p>		<p>工艺安全PVD涂层的强度适用于小部件，低切割速度和多次切入切出。</p> <p>The strength of the process-safe PVD coating is on small components, low cutting speeds and on many entries on the material.</p>
<p>BCP10T和BCP20T的MT CVD耐磨层由耐热α-Al₂O₃层保护，能较好地抵消后刀面磨损。</p> <p>A wear-resistant MT CVD-layer for BCP10T and BCP20T, which strongly counteracts flank wear, is protected by a heat-resistant α-Al₂O₃ layer.</p>		<p>由于耐磨性和耐温性，这种涂层是大切削速度和长刀具寿命的最佳选择。</p> <p>Due to the wear resistance as well as the temperature resistance this coating is optimal for big cutting speeds and long tool life.</p>

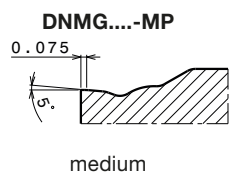
项目变化根据技术发展和印刷错误。
Subject to changes from technical development and printing errors.

	材质 Grade	ISO-等级 ISO-class
	BCP10T BCP15T BCP20T BCP25T	HC-P10 HC-P15 HC-P20 HC-P25

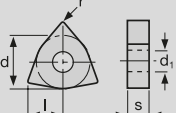


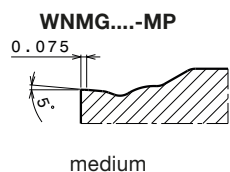
Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			BCP10T	BCP15T	BCP20T	BCP25T
				d	s	r				
CNMG 120404	MP	0,15 - 0,25	0,4-4,0	12,7	4,76	0,4	5169141	5169168	5169174	5169235
CNMG 120408	MP	0,15 - 0,30	0,8-4,0	12,7	4,76	0,8	5169142	5169169	5169175	5169236
CNMG 120412	MP	0,25 - 0,35	1,2-4,0	12,7	4,76	1,2	5169143	5169170	5169176	5169237

	材质 Grade	ISO-等级 ISO-class
	BCP10T BCP15T BCP20T BCP25T	HC-P10 HC-P15 HC-P20 HC-P25



Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			BCP10T	BCP15T	BCP20T	BCP25T
				d	s	r				
DNMG 150604	MP	0,15 - 0,25	0,4-4,0	12,7	6,35	0,4	5169253	5169257	5169262	5169269
DNMG 150608	MP	0,15 - 0,30	0,8-4,0	12,7	6,35	0,8	5169255	5169258	5169263	5169270
DNMG 150612	MP	0,25 - 0,35	1,2-4,0	12,7	6,35	1,2	5169256	5169259	5169264	5169271

	材质 Grade	ISO-等级 ISO-class
	BCP10T BCP15T BCP20T BCP25T	HC-P10 HC-P15 HC-P20 HC-P25



Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			BCP10T	BCP15T	BCP20T	BCP25T
				d	s	r				
WNMG 080404	MP	0,15 - 0,25	0,4-4,0	12,7	4,76	0,4	5169239	5169244	5169247	5169250
WNMG 080408	MP	0,15 - 0,30	0,8-4,0	12,7	4,76	0,8	5169240	5169245	5169248	5169251
WNMG 080412	MP	0,25 - 0,35	1,2-4,0	12,7	4,76	1,2	5169241	5169246	5169249	5169252

材质 Grade	ISO	应用范围 Application range	材料组 Material group						应用 Application					
			P	M	K	N	S	H	T	M	D	S	G	P
		01 05 10 15 20 25 30 35 40 45 50	钢 Steel	不锈钢 Stainless	铸铁 Grey cast iron	有色金属 Non-ferrous metals	高温合金 High temperature materials	淬硬钢 Hard materials	车削 Turning	铣削 Milling	钻孔 Drilling	螺纹 Threading	切槽 Grooving	切屑 Parting
BCP10T	HC-P10		■						●					
	HC-K15				□				●					
BCP15T	HC-P15		■						●					
	HC-M15			□					●					
BCP20T	HC-P20		■						●					
	HC-K25				□				●					
BCP25T	HC-P25		■						●					
	HC-M25			□					●					
应用峰值 Application peak 全部范围 根据ISO 513 Full range to ISO 513			■ 首选应用 Main application □ 次选应用 Further applications						● 标准材质 Standard grade					

切削材质 Cutting grades

主要材质,涂层的

● BCP10T (HC-P10, HC-K15)

耐磨级CVD涂层, 非常适合高切割速度和光滑的切削。适合大批量使用。

● BCP15T (HC-P15, HC-M15)

耐磨P15基材, 结合工艺安全PVD涂层。适用于小直径, 以及内孔加工。应特别用于低切割速度和首切。

● BCP20T (HC-P20, HC-K25)

适用于通用钢材的车削加工。等级为P20基材, CVD涂层。优秀的长时间恒定切割, 在中高切割速度。适用于轻微断续的加工, 也适用于锻件蒙皮和焊接加工。

● BCP25T (HC-P25, HC-M25)

该P25材质具有工艺安全涂层, 特别适用于经常更换的工件, 较小直径区域, 内部加工, 断续以及有振动倾向的不稳定加工。

Main grades, coated

● BCP10T (HC-P10, HC-K15)

Wear resistant grade with CVD coating, very good suitable for high cutting speeds and smooth cut. Ideal also for high quantities.

● BCP15T (HC-P15, HC-M15)

Wear-resistant P15 substrate, combined with a process secure PVD coating. Application on small diameter, as well as on internal machining. Should be used especially on low cutting speeds and many first cuts.

● BCP20T (HC-P20, HC-K25)

For turning of universal steel materials. Grade is a P20 substrate with CVD coating. Excellent for long constant cuts, on medium to high cutting speeds. For slight broken machining as well as suitable for machining of forging skin and tinder.

● BCP25T (HC-P25, HC-M25)

The application of this P25 grade, with a process-safe coating, is especially on often changed work pieces, smaller diameter areas, internal machining, broken cut as well as unstable machining with tendency to vibration.

材料组 Material group	材料 Material	Brinell 硬度 Brinell hard- ness HB	切削速度 Cutting speed v_c (m/min)						
			BCP10T			BCP20T			
			f = mm/U rev			f = mm/U rev			
			0,4-0,8	0,25-0,4	0,05-0,25	0,4-0,8	0,25-0,4	0,05-0,25	
P	非合金钢 ¹⁾ Unalloyed steel ¹⁾	ca. 0,15 %C 退火 ≈0,15 %C annealed	125	140 - 200	230 - 300	290 - 360	120 - 190	170 - 250	170 - 250
		ca. 0,45 %C 退火 ≈0,45 %C annealed	190	110 - 180	180 - 260	250 - 320	100 - 180	150 - 200	150 - 220
		ca. 0,45 %C 回火 ≈0,45 %C hardened and temp.	250	90 - 180	110 - 180	140 - 210	80 - 150	100 - 170	120 - 200
		ca. 0,75 %C 退火 ≈0,75 %C annealed	270	120 - 180	170 - 240	230 - 300	80 - 140	100 - 170	140 - 200
		ca. 0,75 %C 回火 ≈0,75 %C hardened and temp.	300	80 - 150	100 - 170	140 - 210	70 - 140	100 - 160	100 - 170
	低合金钢 ¹⁾ Low-alloy steel ¹⁾	退火 annealed	180	100 - 170	150 - 220	220 - 300	90 - 160	110 - 180	140 - 200
		回火 hardened and temp.	275	100 - 150	110 - 180	140 - 210	90 - 140	100 - 160	100 - 180
		回火 hardened and temp.	300	100 - 140	100 - 170	130 - 200	85 - 130	100 - 150	100 - 170
		回火 hardened and temp.	350	80 - 140	80 - 150	110 - 180	80 - 120	90 - 140	90 - 170
	高合金钢和工具钢 ¹⁾ High-alloy steel and high alloy tool steel ¹⁾	退火 annealed	200	80 - 180	100 - 220	140 - 260	80 - 150	90 - 170	100 - 170
		回火 hardened and temp.	325	80 - 140	100 - 160	120 - 200	50 - 110	70 - 130	80 - 130
	不锈钢 ¹⁾ Stainless steel ¹⁾	铁素体/马氏体 退火 ferritic/martensitic annealed	200	100 - 170	130 - 200	180 - 260	90 - 140	120 - 180	140 - 190
		马氏体回火 martensitic hardened and temp.	240	80 - 140	100 - 150	150 - 210	80 - 120	90 - 140	100 - 150
	K	灰铁 Grey cast iron	珠光体/铁素体 perlite/ferritic	180	100 - 180	170 - 240	250 - 300		
珠光体 (马氏体) perlite (martensitic)			260	80 - 120	80 - 150	110 - 180			
球铁 Nodular graphite cast iron		铁素体 ferritic	160	100 - 150	110 - 180	140 - 210			
		珠光体 perlite	250	90 - 140	90 - 160	110 - 180			
可锻铸铁 Malleable cast iron		铁素体 ferritic	130	90 - 140	120 - 190	150 - 210			
		珠光体 perlite	230	90 - 120	100 - 150	110 - 180			

¹⁾ 铸钢

and cast steel



干切 Dry machining



冷却液
Wet machining

材料组 Material group	材料 Material	Brinell 硬度 Brinell hard- ness HB	切削速度 Cutting speed v_c (m/min)							
			BCP15T			BCP25T				
			f = mm/U rev			f = mm/U rev				
			0,4-0,8	0,25-0,4	0,05-0,25	0,4-0,8	0,25-0,4	0,05-0,25		
P	非合金钢 ¹⁾ Unalloyed steel ¹⁾	ca. 0,15 %C 退火 ≈ 0,15 %C annealed	125	120 - 170	190 - 250	240 - 300	100 - 170	150 - 230	150 - 230	
		ca. 0,45 %C 退火 ≈ 0,45 %C annealed	190	90 - 150	150 - 220	210 - 270	80 - 160	130 - 180	130 - 200	
		ca. 0,45 %C 回火 ≈ 0,45 %C hardened and temp.	250	75 - 150	90 - 160	120 - 180	70 - 130	80 - 150	100 - 180	
		ca. 0,75 %C 退火 ≈ 0,75 %C annealed	270	100 - 150	145 - 200	190 - 260	70 - 130	80 - 150	120 - 180	
		ca. 0,75 %C 回火 ≈ 0,75 %C hardened and temp.	300	70 - 130	80 - 150	120 - 180	70 - 120	80 - 140	90 - 150	
	低合金钢 ¹⁾ Low-alloy steel ¹⁾	退火 annealed	180	80 - 150	130 - 190	190 - 260	80 - 140	90 - 160	110 - 180	
		回火 hardened and temp.	275	80 - 130	90 - 150	120 - 180	70 - 120	80 - 140	90 - 160	
		回火 hardened and temp.	300	80 - 130	80 - 150	110 - 170	70 - 120	80 - 140	90 - 160	
		回火 hardened and temp.	350	70 - 130	80 - 140	110 - 170	70 - 120	80 - 130	80 - 150	
	高合金钢和工具钢 ¹⁾ High-alloy steel and high alloy tool steel ¹⁾	退火 annealed	200	70 - 150	80 - 190	120 - 220	70 - 130	80 - 150	80 - 150	
回火 hardened and temp.		325	70 - 120	80 - 140	100 - 170	50 - 100	60 - 120	70 - 130		
不锈钢 ¹⁾ Stainless steel ¹⁾	铁素体/马氏体 退火 ferritic/martensitic annealed	200	80 - 150	110 - 170	150 - 220	80 - 120	100 - 150	120 - 170		
	马氏体回火 martensitic hardened and temp.	240	70 - 120	80 - 150	130 - 180	70 - 110	80 - 130	90 - 140		
M	不锈钢 ¹⁾ Stainless steel ¹⁾	奥氏体 ²⁾ , 淬火 austenitic ²⁾ , quenched	180				70 - 110	80 - 130	90 - 140	

¹⁾ 和铸钢

and cast steel

²⁾ 和奥氏体/铁素体

and austenitic/ferritic



干切 Dry machining



冷却液

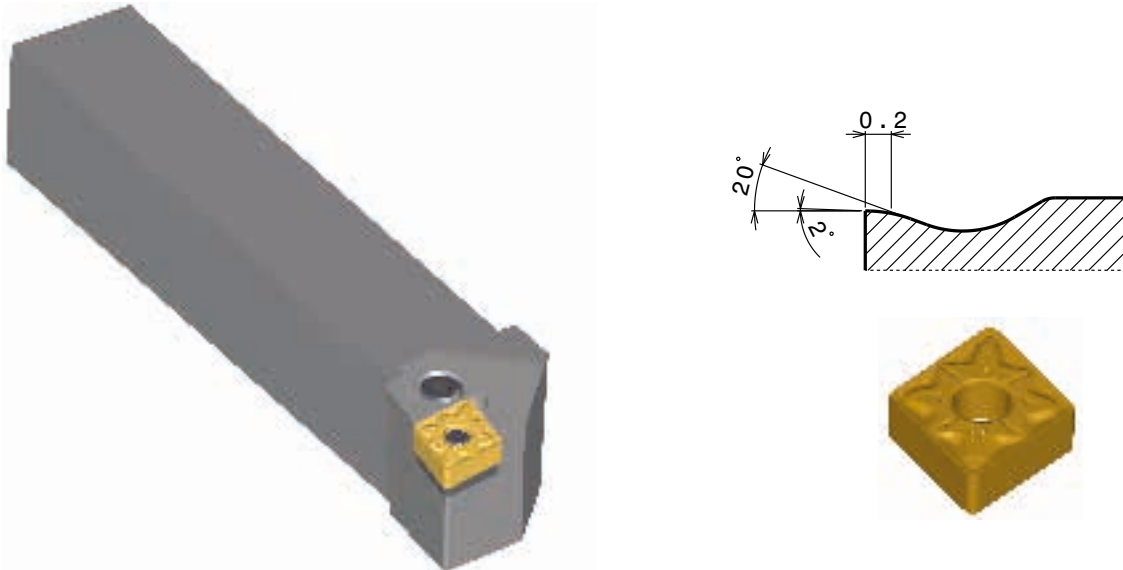
Wet machining



全新

不锈钢材料加工扩展

EXTENSION FOR THE MACHINING
OF STAINLESS MATERIALS



凭借其最新的可转位刀片几何MRM，勃勒力为其ISO车削程序增加了另一项创新，用于不锈钢材料的中加工到粗加工，在加工过程中设定了新的标准，并为不锈钢的广泛应用提供了优化的可转位刀片。新的MRM断屑槽型补充了BMRS几何槽型，BMRS几何槽型在市场上已经很成熟，覆盖了类似的进料速率范围，但由于更深的切屑角度，在微观几何槽型方面有所不同。通过这种方式，减少了切削力，从而提高了工艺安全性，并延长了高硬度不锈钢的刀具寿命。此外，新的进给速率为0.20 - 0.50 mm/rev的切削槽型是成功的mm几何结构的理想扩展，其重叠进给速率范围为0.15 - 0.35 mm/rev。

以下材料等级可用于新的MRM可转位刀片几何槽型:

LCM20T 中等基材与薄CVD涂层
BCM25T 中等基材与厚PVD涂层
BCM40T 坚韧基材与厚PVD涂层

With its latest indexable insert geometry MRM, Boehlerit has added yet another innovation to its ISO turning programme for the medium to rough machining of stainless materials, setting new standards in the process and making optimised indexable inserts available for a wide range of applications using stainless steels.

The new MRM chip breaker complements the BMRS geometry, which is well established on the market and covers a similar feed rate range but differs in terms of micro geometry due to the deeper chipping angle. In this way, the cutting forces are reduced, resulting in increased process safety and a increased tool life on stainless steels with high hardness levels.

In addition, the new chip former with feed rates of 0.20 - 0.50 mm/rev is the ideal extension to the successful MM geometry with an overlap-ping feed rate range of 0.15 - 0.35 mm/rev.

The following material grades are available for the new MRM indexable insert geometry:

LCM20T medium substrate with thin CVD coating
BCM25T medium substrate with thick PVD coating
BCM40T tough substrate with thick PVD coating

车削材质概览
Turning grades overview

材质 Grade	ISO	应用范围 Application range	材料组 Material group						应用 Application					刀片颜色取决于涂层 Color guide for inserts depending on coating		
			P Steel	M 不锈钢 Stainless	K 铸铁 Grey cast iron	N 有色金属 Non-ferrous metals	S 高温合金 High temperature materials	H 淬硬钢 Hard materials	T 车削 Turning	M 铣削 Milling	D 钻孔 Drilling	S 螺纹 Threading				
LCM20T	HC-M20	[Application Range Chart]							■							
	HC-S20	[Application Range Chart]								□						
LC435D	HC-M25	[Application Range Chart]							■							
	HC-P30	[Application Range Chart]						□								
BCM25T	HC-M25	[Application Range Chart]							■							
	HC-P30	[Application Range Chart]						□								
BCM40T	HC-M35	[Application Range Chart]							■							
	HC-P35	[Application Range Chart]								□						

应用峰值 Application peak

全部范围 根据ISO 513
Full range to ISO 513

■ 首选应用
Main application

□ 次选应用
Further applications

● 标准材质
Standard grade

● LCM20T (HC-M20, HC-S20)

车削材质适用于在170 - 220米/分的高切削速度区域加工奥氏体材料。

● LCM20T (HC-M20, HC-S20)

Turning grade for machining of austenitic materials in the high cutting speed area of 170 - 220 m/min.

● LC435D (HC-M35, HC-P35)

在中等切削速度下车削奥氏体不锈钢的主要牌号。也适用于高温合金。

● LC435D (HC-M35, HC-P35)

Main grade for turning of austenitic stainless steels at medium cutting speeds. Applicable also for super alloys.

● BCM25T (HC-M25, HC-P25)

奥氏体不锈钢在中高切削速度区域的车削等级。

● BCM25T (HC-M25, HC-P25)

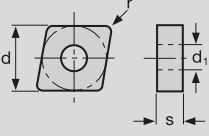


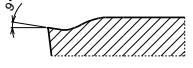

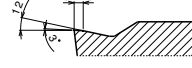



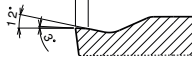

Turning grade for austenitic stainless steels in medium and high cutting speed area.

● BCM40T (HC-M40, HC-S40)

非常坚韧的不锈钢等级适用于低切削速度，也可替代适用于钢和超级合金。

● BCM40T (HC-M40, HC-S40)

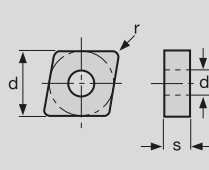
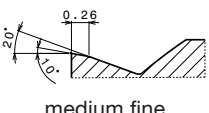

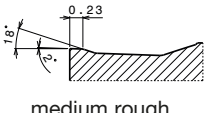

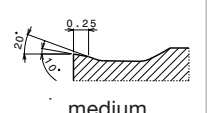

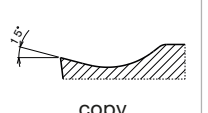

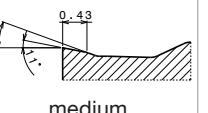
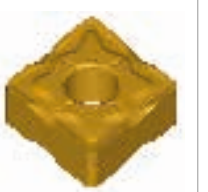
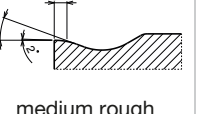

Very tough stainless grade for low cutting speeds suitable, also as alternative applicable on steel and super alloys.

	材质 Grade			ISO-等级 ISO-class	
	LCM20T LC435D BCM25T BCM40T			HC-M20 HC-M35 HC-M25 HC-M40	
CCGT....-E-BC  copy 	CCGT....-FM  fine 	CCMT....-BSMS  medium 	CCMT....-FM  fine 	CCMT....MM  medium 	

Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			LCM20T	LC435D	BCM25T	BCM40T
				d	s	r				
CCGT 060204	EL-BC	0,10 - 0,25	0,40 - 2,50	6,35	2,38	0,4		6413126		
CCGT 060204	ER-BC	0,10 - 0,25	0,40 - 2,50	6,35	2,38	0,4		6413130		
CCGT 060208	EL-BC	0,10 - 0,30	0,80 - 2,50	6,35	2,38	0,8		6413134		
CCGT 060208	ER-BC	0,10 - 0,30	0,80 - 2,50	6,35	2,38	0,8		6413138		
CCGT 09T304	EL-BC	0,10 - 0,25	0,40 - 3,00	9,52	3,97	0,4		6413139		
CCGT 09T304	ER-BC	0,10 - 0,25	0,40 - 3,00	9,52	3,97	0,4		6413140		
CCGT 09T308	EL-BC	0,20 - 0,45	0,80 - 3,00	9,52	3,97	0,8		6413141		
CCGT 09T308	ER-BC	0,20 - 0,45	0,80 - 3,00	9,52	3,97	0,8		6413142		
CCGT 120408	ER-BC	0,20 - 0,45	0,80 - 4,00	12,7	4,76	0,8		6413150		
CCGT 120412	EL-BC	0,20 - 0,45	1,20 - 4,00	12,7	4,76	1,2		6413154		
CCGT 030101	FM	0,02 - 0,06	0,10 - 0,80	3,52	1,4	0,1			5140563	
CCGT 030102	FM	0,05 - 0,13	0,20 - 1,50	3,52	1,4	0,2			5140564	
CCMT 09T304	BSMS	0,10 - 0,25	0,40 - 3,00	9,52	3,97	0,4		6400352		
CCMT 09T308	BSMS	0,12 - 0,30	0,80 - 3,00	9,52	3,97	0,8		6400353		
CCMT 120404	BSMS	0,12 - 0,30	0,40 - 4,00	12,7	4,76	0,4		6400354		
CCMT 120408	BSMS	0,15 - 0,35	0,80 - 4,00	12,7	4,76	0,8		6400355		
CCMT 060202	FM	0,07 - 0,13	0,20 - 2,50	6,35	2,38	0,2			5106897	5106721
CCMT 060204	FM	0,08 - 0,15	0,40 - 2,50	6,35	2,38	0,4			5106898	5106896
CCMT 09T304	FM	0,08 - 0,20	0,40 - 3,00	9,52	3,97	0,4	5093104	5073343	5166564	
CCMT 060202	MM	0,07 - 0,13	0,20 - 2,50	6,35	2,38	0,2	5093105	5073333	5090769	
CCMT 060204	MM	0,10 - 0,25	0,40 - 2,50	6,35	2,38	0,4	5093106	5064302	5090778	
CCMT 09T304	MM	0,10 - 0,25	0,40 - 3,00	9,52	3,97	0,4	5064531		5090779	
CCMT 09T308	MM	0,15 - 0,40	0,80 - 3,00	9,52	3,97	0,8	5064532		5090780	
CCMT 120404	MM	0,15 - 0,40	0,40 - 4,00	12,7	4,76	0,4			5090782	
CCMT 120408	MM	0,15 - 0,40	0,80 - 4,00	12,7	4,76	0,8			5090783	

订单示例 Order example: 10 件 10 pieces CCGT 060204-EL-BC LC435D oder or 或 6413126
颜色和图形原来的刀片可能会与图片不一致!
Colours and execution of the original indexable inserts, may deviate from the illustration!

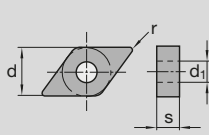
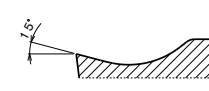
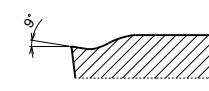
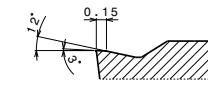
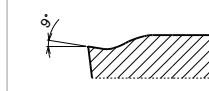
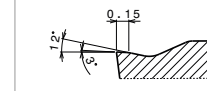
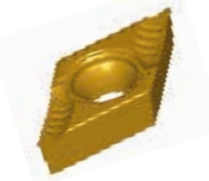
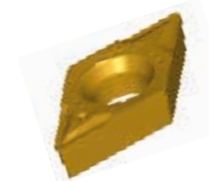
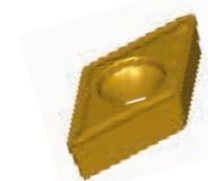
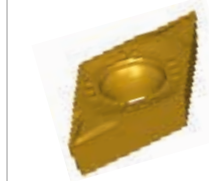
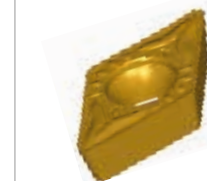
库存 Available from stock

	材质 Grade				ISO-等级 ISO-class	
	LCM20T LC435D BCM25T BCM40T				HC-M20 HC-M35 HC-M25 HC-M40	
CNMG....-BFMS  medium fine 	CNMG....-BMRS  medium rough 	CNMG....-BMS  medium 	CNMG.... E.-BC  copy 	CNMG.... MM  medium 	CNMG...MRM  medium rough 	

Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			LCM20T	LC435D	BCM25T	BCM40T
				d	s	r				
CNMG 090304	BFMS	0,10 - 0,30	0,40 - 3,00	9,52	3,18	0,4	5093116	6400356	5090787	
CNMG 120404	BFMS	0,10 - 0,30	0,40 - 4,50	12,7	4,76	0,4	5093117	6400357	5090790	
CNMG 120408	BFMS	0,10 - 0,30	0,80 - 4,50	12,7	4,76	0,8	5093119	6400358	5090791	
CNMG 120412	BFMS	0,10 - 0,30	0,80 - 4,50	12,7	4,76	0,8	5093120	6400359	5090794	
CNMG 120408	BMRS	0,15 - 0,40	0,80 - 5,00	12,7	4,76	0,8		6400363	5107398	5102375
CNMG 120412	BMRS	0,15 - 0,40	1,20 - 5,00	12,7	4,76	1,2		6400364	5107406	5102373
CNMG 160612	BMRS	0,32 - 0,70	1,20 - 9,00	15,87	6,35	1,2		6400365	5107400	5092797
CNMG 160616	BMRS	0,32 - 0,70	1,60 - 9,00	15,87	6,35	1,6			5107397	5093135
CNMG 190612	BMRS	0,32 - 0,70	1,20 - 12,0	19,05	6,35	1,2		6400417	5107405	5092822
CNMG 120408	BMS	0,16 - 0,40	0,80 - 5,00	12,7	4,76	0,8		6400360		
CNMG 120412	BMS	0,16 - 0,40	1,20 - 5,00	12,7	4,76	1,2		6400361		
CNMG 160612	BMS	0,16 - 0,40	1,20 - 9,00	15,87	6,35	1,2		6400362		
CNMG 120404	EL-BC	0,10 - 0,25	1,20 - 5,00	12,7	4,76	0,4		6410867		
CNMG 120404	ER-BC	0,10 - 0,25	1,20 - 5,00	12,7	4,76	0,4		6410871		
CNMG 120408	EL-BC	0,20 - 0,45	0,80 - 5,00	12,7	4,76	0,8		6410875		
CNMG 120408	ER-BC	0,20 - 0,45	0,80 - 5,00	12,7	4,76	0,8		6410879		
CNMG 120408	MM	0,15 - 0,40	0,80 - 4,00	12,7	4,76	0,8	5047846		5090793	5093132
CNMG 120412	MM	0,15 - 0,40	1,20 - 4,00	12,7	4,76	1,2	5047848		5091978	5093134
CNMG 160612	MM	0,15 - 0,40	1,20 - 9,00	15,87	6,35	1,2	5074538		5092372	5092802
CNMG 160616	MM	0,15 - 0,40	1,60 - 9,00	15,87	6,35	1,6	5074537		5092377	5092821
CNMG 190612	MM	0,15 - 0,40	1,20 - 12,0	19,05	6,35	1,2	5074485		5166566	5092853
CNMG 190616	MM	0,15 - 0,40	1,60 - 12,0	19,05	6,35	1,6	5074529		5166567	5092861
CNMG 120408	MRM	0,20 - 0,50	0,80 - 5,00	12,7	4,76	0,8	5151880		5151881	5151883
CNMG 120412	MRM	0,20 - 0,50	1,20 - 5,00	12,7	4,76	1,2	5151885		5151886	5151888
CNMG 160608	MRM	0,20 - 0,50	0,80 - 9,00	15,87	6,35	0,8	5151889		5151890	5151894
CNMG 160612	MRM	0,20 - 0,50	1,20 - 9,00	15,87	6,35	1,2	5151895		5151897	5151902

用于加工不锈钢的可转位刀片
Indexable inserts for machining stainless steels

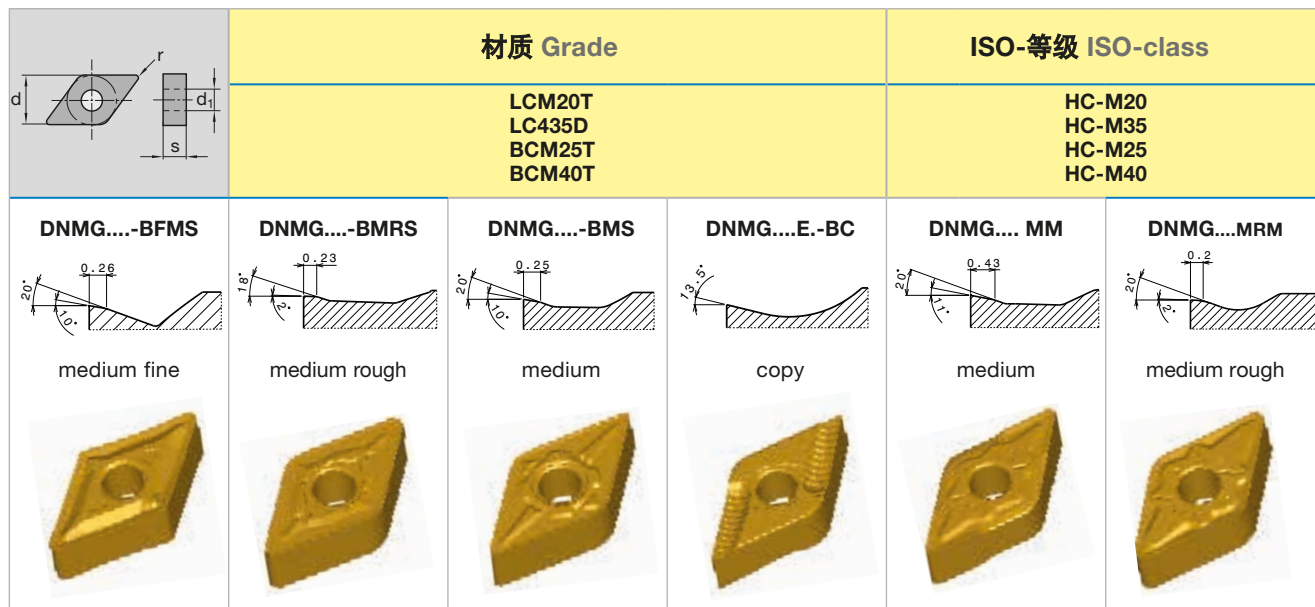


	材质 Grade				ISO-等级 ISO-class
	LCM20T LC435D BCM25T BCM40T				HC-M20 HC-M35 HC-M25 HC-M40
DCGT....E.-BC	DCGT....-FM	DCMT....-BSMS	DCMT....-FM	DCMT....-MM	
 copy	 fine	 medium	 fine	 medium	
					

Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			LCM20T	LC435D	BCM25T	BCM40T
				d	s	r				
DCGT 070204	EL-BC	0,10 - 0,28	0,40 - 1,50	6,35	2,38	0,4		6413173		
DCGT 070204	ER-BC	0,10 - 0,28	0,40 - 1,50	6,35	2,38	0,4		6413177		
DCGT 11T304	EL-BC	0,10 - 0,28	0,40 - 2,00	9,52	3,97	0,4		6413178		
DCGT 11T304	ER-BC	0,10 - 0,28	0,40 - 2,00	9,52	3,97	0,4		6413179		
DCGT 11T308	EL-BC	0,20 - 0,45	0,80 - 2,00	9,52	3,97	0,8		6413180		
DCGT 11T308	ER-BC	0,20 - 0,45	0,80 - 2,00	9,52	3,97	0,8		6413181		
DCGT 04T002	FM	0,05 - 0,13	0,20 - 1,50	3,12	1,2	0,2			5131355	
DCMT 11T304	BSMS	0,15 - 0,25	0,40 - 2,00	9,52	3,97	0,4		6400366		
DCMT 11T308	BSMS	0,15 - 0,35	0,80 - 2,00	9,52	3,97	0,8		6400367		
DCMT 070202	FM	0,07 - 0,13	0,20 - 1,50	6,35	2,38	0,2	5093121	5076858	5166570	
DCMT 070204	FM	0,08 - 0,15	0,20 - 1,50	6,35	2,38	0,4			5106904	5106901
DCMT 11T302	FM	0,05 - 0,13	0,20 - 2,00	9,52	3,97	0,2	5085216	5077020	5166572	
DCMT 11T304	FM	0,05 - 0,20	0,40 - 2,00	9,52	3,97	0,4			5106906	5106905
DCMT 070204	MM	0,15 - 0,25	0,40 - 1,50	6,35	2,38	0,4		5064311	5166568	
DCMT 11T304	MM	0,15 - 0,25	0,40 - 2,00	9,52	3,97	0,4	5064535		5092380	
DCMT 11T308	MM	0,15 - 0,40	0,80 - 2,00	9,52	3,97	0,8	5064533		5092382	

订单示例 Order example: 10 件 10 pieces DCGT 070204 EL-BC LC435D oder or 或 6413173

库存 Available from stock



Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			LCM20T	LC435D	BCM25T	BCM40T
				d	s	r				
DNMG 110404	BFMS	0,10 - 0,30	0,40 - 4,50	9,52	3,97	0,4	5093128	6400368	5092387	
DNMG 110408	BFMS	0,10 - 0,30	0,80 - 4,50	9,52	3,97	0,8			5092488	
DNMG 150604	BFMS	0,10 - 0,30	0,40 - 6,00	12,7	6,35	0,4	5093130	6400369	5092639	
DNMG 150608	BFMS	0,10 - 0,30	0,80 - 6,00	12,7	6,35	0,8	5093131	6400370	5092641	
DNMG 150608	BMRS	0,32 - 0,70	0,80 - 6,00	12,7	6,35	0,8		6400408	5107402	5101436
DNMG 150612	BMRS	0,32 - 0,70	1,20 - 6,00	12,7	6,35	1,2		6400375	5107403	5092864
DNMG 110408	BMS	0,14 - 0,35	0,80 - 4,50	9,52	3,97	0,8		6400372		
DNMG 150408	BMS	0,16 - 0,40	0,80 - 6,00	12,7	4,76	0,8		6400445		
DNMG 150608	BMS	0,16 - 0,40	0,80 - 6,00	12,7	6,35	0,8		6400373		
DNMG 150612	BMS	0,16 - 0,40	1,20 - 6,00	12,7	6,35	1,2		6400374		
DNMG 150604	EL-BC	0,15 - 0,35	0,40 - 6,00	12,7	6,35	0,4		6400785		
DNMG 150604	ER-BC	0,15 - 0,35	0,40 - 6,00	12,7	6,35	0,4		6400786		
DNMG 150608	EL-BC	0,20 - 0,45	0,80 - 6,00	12,7	6,35	0,8		6400787		
DNMG 150608	ER-BC	0,20 - 0,45	0,80 - 6,00	12,7	6,35	0,8		6400788		
DNMG 110404	MM	0,15 - 0,30	0,40 - 4,50	9,52	3,97	0,4			5092413	
DNMG 110408	MM	0,15 - 0,30	0,80 - 4,50	9,52	3,97	0,8			5092416	
DNMG 150404	MM	0,10 - 0,25	0,40 - 6,00	12,7	4,76	0,4	5079009		5093129	
DNMG 150408	MM	0,15 - 0,40	0,80 - 6,00	12,7	4,76	0,8	5078339		5092497	
DNMG 150604	MM	0,10 - 0,25	0,40 - 6,00	12,7	6,35	0,4	5078794		5101437	
DNMG 150608	MM	0,15 - 0,40	0,80 - 6,00	12,7	6,35	0,8	5047849		5092642	5092863
DNMG 150612	MM	0,15 - 0,40	1,20 - 6,00	12,7	6,35	1,2	5060170		5092726	5092866
DNMG 150608	MRM	0,20 - 0,50	0,8 - 5,0	12,7	6,35	0,8	5151903		5151904	5151906
DNMG 150612	MRM	0,20 - 0,50	1,2 - 5,0	12,7	6,35	1,2	5151907		5151908	5151910

用于加工不锈钢的可转位刀片
Indexable inserts for machining stainless steels

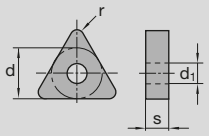


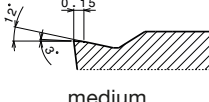

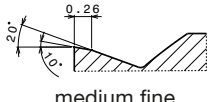

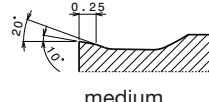

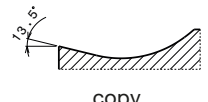



	材质 Grade				ISO-等级 ISO-class
	LCM20T LC435D BCM25T BCM40T				HC-M20 HC-M35 HC-M25 HC-M40
SCMT....BSMS medium 	SNMG...-BFMS medium fine 	SNMG....-BMRS medium rough 	SNMG....-BMS medium 	SNMG....-MM medium 	

Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			LCM20T	LC435D	BCM25T	BCM40T
				d	s	r				
SCMT 120408	BSMS	0,15 - 0,35	0,80 - 3,50	12,7	4,76	0,8		6400376		
SNMG 090304	BFMS	0,10 - 0,30	0,40 - 4,50	9,52	3,18	0,4		6400377	5092728	
SNMG 120408	BMRS	0,32 - 0,60	0,80 - 7,00	12,7	4,76	0,8		6400380		
SNMG 120412	BMRS	0,32 - 0,70	1,20 - 7,00	12,7	4,76	1,2		6400421		5092867
SNMG 190612	BMRS	0,32 - 0,70	1,20 - 10,0	19,05	6,35	1,2		6400422	5168815	5092893
SNMG 190616	BMRS	0,32 - 0,70	1,60 - 10,0	12,7	4,76	1,6			5168816	5092902
SNMG 120408	BMS	0,16 - 0,40	0,80 - 7,00	12,7	4,76	0,8		6400378		
SNMG 120412	BMS	0,16 - 0,40	1,20 - 7,00	12,7	4,76	1,2		6400379		
SNMG 120408	MM	0,15 - 0,40	0,80 - 7,00	12,7	4,76	0,8			5092732	5101438
SNMG 120412	MM	0,15 - 0,40	1,20 - 7,00	12,7	4,76	1,2			5092733	5101439
SNMG 150612	MM	0,15 - 0,40	1,20 - 7,50	15,87	6,35	1,2	5074534		5092737	5092889
SNMG 150616	MM	0,15 - 0,40	1,60 - 7,50	15,87	6,35	1,6	5074531		5092747	5092892
SNMG 190612	MM	0,15 - 0,40	1,20 - 10,0	19,05	6,35	1,2	5074536		5166574	5092901
SNMG 190616	MM	0,15 - 0,40	1,60 - 10,0	19,05	6,35	1,6	5074535		5166576	5092946

订单示例 Order example: 10 件 10 pieces SCMT 120408-BSMS LC435D oder 或 6400376

库存 Available from stock

	材质 Grade				ISO-等级 ISO-class
	LCM20T LC435D BCM25T BCM40T				HC-M20 HC-M35 HC-M25 HC-M40
TCGT....-E.-BC  medium 	TCMT....-BSMS  medium 	TNMG....-BFMS  medium fine 	TNMG....-BMS  medium 	TNMG....E.-BC  copy 	

Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			LCM20T	LC435D	BCM25T	BCM40T
				d	s	r				
TCGT 110204	EL-BC	0,10 - 0,25	0,40 - 2,00	6,35	2,38	0,4		6413218		
TCGT 16T304	ER-BC	0,10 - 0,25	0,40 - 3,00	9,52	3,97	0,4		6413230		
TCGT 16T308	EL-BC	0,15 - 0,30	0,80 - 3,00	9,52	3,97	0,8		6413234		
TCGT 16T308	ER-BC	0,15 - 0,30	0,80 - 3,00	9,52	3,97	0,8		6413238		
TCMT 110204	BSMS	0,10 - 0,25	0,40 - 2,00	6,35	2,38	0,4		6400381		
TCMT 110208	BSMS	0,10 - 0,30	0,80 - 2,00	6,35	2,38	0,8		6400382		
TCMT 16T304	BSMS	0,10 - 0,25	0,40 - 3,00	9,52	3,97	0,4		6400383		
TCMT 16T308	BSMS	0,15 - 0,35	0,80 - 3,00	9,52	3,97	0,8		6400384		
TNMG 160404	BFMS	0,10 - 0,30	0,40 - 6,00	9,52	4,76	0,4		6400385	5092749	
TNMG 160408	BFMS	0,10 - 0,30	0,80 - 6,00	9,52	4,76	0,8		6400386	5092750	
TNMG 160408	BMS	0,16 - 0,40	0,80 - 6,00	9,52	4,76	0,8		6400424	5092757	
TNMG 160412	BMS	0,16 - 0,40	1,20 - 6,00	9,52	4,76	1,2		6400425	5092759	
TNMG 220408	BMS	0,16 - 0,40	0,80 - 7,00	12,7	4,76	0,8		6400387	5092761	
TNMG 220412	BMS	0,16 - 0,40	1,20 - 7,00	12,7	4,76	1,2		6400407	5092766	
TNMG 160404	EL-BC	0,10 - 0,25	0,40 - 6,00	9,52	4,76	0,4		6411834		
TNMG 160404	ER-BC	0,10 - 0,25	0,40 - 6,00	9,52	4,76	0,4		6411838		
TNMG 160408	ER-BC	0,15 - 0,35	0,80 - 6,00	9,52	4,76	0,8		6410961		

用于加工不锈钢的可转位刀片
Indexable inserts for machining stainless steels



	材质 Grade				ISO-等级 ISO-class
	LCM20T LC435D BCM25T BCM40T				HC-M20 HC-M35 HC-M25 HC-M40
VBMT....-MM medium 	VCGT....-FM fine 	VCMT....-BSMS medium 	VCMT....-FM fine 	VCMT....-MM medium 	

Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			LCM20T	LC435D	BCM25T	BCM40T
				d	s	r				
VBMT 160404	MM	0,12 - 0,25	0,4 - 3,00	9,52	4,76	0,4		5073346	5101440	
VBMT 160408	MM	0,15 - 0,30	0,8 - 3,00	9,52	4,76	0,8		5073345	5101442	
VCMT 160404	BSMS	0,10 - 0,25	0,40 - 4,00	9,52	4,76	0,4		6407783		
VCMT 160408	BSMS	0,15 - 0,35	0,80 - 4,00	9,52	4,76	0,8		6407790		
VCMT 160412	BSMS	0,15 - 0,35	1,20 - 4,00	9,52	4,76	1,2		6407798		
VCMT 070202	FM	0,05 - 0,13	0,20 - 1,50	3,97	2,38	0,2			5106924	5106923
VCMT 070204	FM	0,08 - 0,20	0,40 - 1,50	3,97	2,38	0,4			5106926	5106925
VCMT 110302	FM	0,05 - 0,13	0,20 - 1,50	6,35	3,18	0,2			5106939	5106931
VCMT 110304	FM	0,08 - 0,20	0,40 - 1,50	6,35	3,18	0,4			5106947	5106945
VCMT 160404	MM	0,15 - 0,40	0,40 - 3,00	9,52	4,76	0,4	5113372		5092767	
VCMT 160408	MM	0,15 - 0,40	0,80 - 3,00	9,52	4,76	0,8	5113374		5092770	
VCMT 160412	MM	0,15 - 0,40	1,20 - 3,00	9,52	4,76	1,2			5092771	

订单示例 Order example: 10 件 10 pieces VBMT 160404-MM LC435D oder or 或 5073346

库存 Available from stock

用于加工不锈钢的可转位刀片
Indexable inserts for machining stainless steels



	材质 Grade				ISO-等级 ISO-class	
	LCM20T LC435D BCM25T BCM40T				HC-M20 HC-M35 HC-M25 HC-M40	
WNMG....-BFMS medium fine 	WNMG....-BMRS medium rough 	WNMG....-BMS medium 	WNMG....E.-BC copy 	WNMG....-MM medium 	WNMG....-MRM medium rough 	

Type Type	槽型 Geometry	进给 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]			LCM20T	LC435D	BCM25T	BCM40T
				d	s	r				
WNMG 060404	BFMS	0,10 - 0,30	0,40 - 4,00	9,52	4,76	0,4		6400388		
WNMG 080404	BFMS	0,10 - 0,30	0,40 - 5,50	12,7	4,76	0,4		6400389	5092773	
WNMG 080408	BFMS	0,10 - 0,30	0,80 - 5,50	12,7	4,76	0,8		6400390	5092774	
WNMG 080408	BMRS	0,32 - 0,60	0,80 - 5,50	12,7	4,76	0,8		6400428	5101443	5101444
WNMG 080412	BMRS	0,32 - 0,60	1,20 - 5,50	12,7	4,76	1,2		6400429	5101445	5101446
WNMG 060408	BMS	0,16 - 0,40	0,80 - 4,00	9,52	4,76	0,8		6400391		
WNMG 080408	BMS	0,16 - 0,40	0,80 - 5,50	12,7	4,76	0,8		6400392		
WNMG 080412	BMS	0,20 - 0,45	1,20 - 5,50	12,7	4,76	1,2		6400393		
WNMG 080416	BMS	0,25 - 0,45	1,60 - 5,50	12,7	4,76	1,6		6400427		
WNMG 080404	ER-BC	0,10 - 0,25	0,40 - 5,50	12,7	4,76	0,4		6410972		
WNMG 080408	EL-BC	0,20 - 0,45	0,80 - 5,50	12,7	4,76	0,8		6410976		
WNMG 080408	ER-BC	0,20 - 0,45	0,80 - 5,50	12,7	4,76	0,8		6410980		
WNMG 080412	EL-BC	0,20 - 0,45	1,20 - 5,50	12,7	4,76	1,2		6411651		
WNMG 080412	ER-BC	0,20 - 0,45	1,20 - 5,50	12,7	4,76	1,2		6411654		
WNMG 060404	MM	0,15 - 0,25	0,40 - 4,00	9,52	4,76	0,4			5092772	
WNMG 080408	MM	0,15 - 0,30	0,80 - 5,50	12,7	4,76	0,8	5060171		5092775	
WNMG 080412	MM	0,15 - 0,40	1,20 - 5,50	12,7	4,76	1,2	5060526		5092788	
WNMG 080416	MM	0,15 - 0,40	1,60 - 5,50	12,7	4,76	1,6			5092789	
WNMG 080408	MRM	0,20 - 0,50	0,80 - 5,00	12,7	4,76	0,8	5151912		5151913	5151915
WNMG 080412	MRM	0,20 - 0,50	1,20 - 5,00	12,7	4,76	1,2	5151916		5151917	5151919

订单示例 Order example: 10 件 10 pieces WNMG 060404-BFMS LC435D oder or 或 6400388

库存 Available from stock

材料组 Material group		Brinell 硬度 HB Brinell hardness HB	LCM20T			
			负前角刀片 Negative indexable inserts ISO-P-System		正前角刀片 Positive indexable inserts ISO-S-System	
			槽型 Geometry	切削速度 v_c (m/min) Cutting speed v_c (m/min)	槽型 Geometry	切削速度 v_c (m/min) Cutting speed v_c (m/min)
M	铁素体 Ferritic 1.4000, 1.4002, 1.4003, 1.4006, 1.4016, 1.4104, 1.4113, 1.4313, 1.4742, 1.4762	180	MM	180 – 230	MM	180 – 230
			MRM	150 – 230	FM	180 – 230
	马氏体 Martensitic 1.4006, 1.4014, 1.4021, 1.4024, 1.4027, 1.4028, 1.4031, 1.4034, 1.4057, 1.4122, 1.4724	320	MM	180 – 230	MM	180 – 230
			MRM	150 – 230	FM	180 – 230
奥氏体 Austenitic 1.4300, 1.4301, 1.4303, 1.4305, 1.4306, 1.4308, 1.4310, 1.4311 1.4321, 1.4401, 1.4404, 1.4406, 1.4428, 1.4435, 1.4436, 1.4438, 1.4449 1.4571	180	MM	150 – 200	MM	150 – 200	
		MRM	130 – 200	FM	130 – 200	
		180	MM	150 – 200	MM	150 – 200
			MRM	130 – 200	FM	130 – 200

以上建议适用于湿式加工。对于干式加工，切削速度的推荐值必须降低大约20%。
The above recommendations are given for wet machining. For dry machining the recommended values for the cutting speed have to be reduced by approx. 20 %.

材料组 Material group		Brinell 硬度 HB Brinell hardness HB	BCM25T			
			负前角刀片 Negative indexable inserts ISO-P-System		正前角刀片 Positive indexable inserts ISO-S-System	
			槽型 Geometry	切削速度 v_c (m/min) Cutting speed v_c (m/min)	槽型 Geometry	切削速度 v_c (m/min) Cutting speed v_c (m/min)
M	铁素体 Ferritic 1.4000, 1.4002, 1.4003, 1.4006, 1.4016, 1.4104, 1.4113, 1.4313, 1.4742, 1.4762	180	MM	130 - 200	MM	130 - 200
			BFMS	130 - 200	FM	130 - 200
			BMS	130 - 200		
	马氏体 Martensitic 1.4006, 1.4014, 1.4021, 1.4024, 1.4027, 1.4028, 1.4031, 1.4034, 1.4057, 1.4122, 1.4724	320	MM	130 - 200	MM	130 - 200
			BFMS	130 - 200	FM	130 - 200
			BMS	130 - 200		
	奥氏体 Austenitic 1.4300, 1.4301, 1.4303, 1.4305, 1.4306, 1.4308, 1.4310, 1.4311	180	MM	100 - 180	MM	100 - 180
			BFMS	100 - 180	FM	100 - 180
BMS			100 - 180			
1.4321, 1.4401, 1.4404, 1.4406, 1.4428, 1.4435, 1.4436, 1.4438, 1.4449 1.4571	180	MM	100 - 180	MM	100 - 180	
		BFMS	100 - 180	FM	100-180	
		BMS	100 - 180			
		MRM	90 - 180			

以上建议适用于湿式加工。对于干式加工，切削速度的推荐值必须降低大约20%。
The above recommendations are given for wet machining. For dry machining the recommended values for the cutting speed have to be reduced by approx. 20 %.

材料组 Material group		Brinell 硬度 HB Brinell hardness HB	BCM40T / LC435D			
			负前角刀片 Negative indexable inserts ISO-P-System		正前角刀片 Positive indexable inserts ISO-S-System	
			槽型 Geometry	切削速度 v_c (m/min) Cutting speed v_c (m/min)	槽型 Geometry	切削速度 v_c (m/min) Cutting speed v_c (m/min)
M	铁素体 Ferritic 1.4000, 1.4002, 1.4003, 1.4006, 1.4016, 1.4104, 1.4113, 1.4313, 1.4742, 1.4762	180	MM	100 - 180		
			BMRS	100 - 180	FM	100 - 180
			MRM	100-180		
	马氏体 Martensitic 1.4006, 1.4014, 1.4021, 1.4024, 1.4027, 1.4028, 1.4031, 1.4034, 1.4057, 1.4122, 1.4724	320	MM	100 - 180	MM	100 - 180
			BMRS	100 - 180	FM	100 - 180
			MRM	100 - 180		
	奥氏体 Austenitic 1.4300, 1.4301, 1.4303, 1.4305, 1.4306, 1.4308, 1.4310, 1.4311 1.4321, 1.4401, 1.4404, 1.4406, 1.4428, 1.4435, 1.4436, 1.4438, 1.4449 1.4571	180	MM	90 - 160	MM	90 - 160
BMRS			80 - 160	FM	90 - 160	
MRM			80 - 160			
180		MM	90 - 160	MM	90 - 160	
		BMRS	80 - 160	FM	90 - 160	
		MRM	80 - 160			

以上建议适用于湿式加工。对于干式加工，切削速度的推荐值必须降低大约20%。
The above recommendations are given for wet machining. For dry machining the recommended values for the cutting speed have to be reduced by approx. 20 %.

比较 Comparison					
ISO	ANSI	ISO	ANSI	ISO	ANSI
CCGT 030101	CCGT (1.2) 1 (.2)	DCGT 04T002	-	SCMT 120408	SCMT 432
CCGT 030102	CCGT (1.2) 1 (.5)	DCGT 070204	DCGT 2 (1.5) 1		
CCGT 060204	CCGT 2 (1.5) 1	DCGT 11T304	DCGT 3 (2.5) 1	SNMG 090304	SNMG 321
CCGT 060208	CCGT 2 (1.5) 2	DCGT 11T308	DCGT 3 (2.5) 2		
CCGT 09T304	CCGT 3 (2.5) 1			SNMG 120408	SNMG 432
CCGT 09T308	CCGT 3 (2.5) 2	DCMT 070202	DCMT 2 (1.5) (.5)	SNMG 120412	SNMG 433
CCGT 120408	CCGT 432	DCMT 070204	DCMT 2 (1.5) 1	SNMG 150612	SNMG 543
CCGT 120412	CCGT 433	DCMT 11T302	DCMT 3 (2.5) (.5)	SNMG 150616	SNMG 544
		DCMT 11T304	DCMT 3 (2.5) 1	SNMG 190612	SNMG 643
CCMT 060202	CCMT 2 (1.5) (.5)	DCMT 11T308	DCMT 3 (2.5) 2	SNMG 190616	SNMG 644
CCMT 060204	CCMT 2 (1.5) 1				
CCMT 09T304	CCMT 3 (2.5) 1	DNMG 110404	DNMG 331		
CCMT 09T308	CCMT 3 (2.5) 2	DNMG 110408	DNMG 332		
CCMT 120404	CCMT 431	DNMG 150404	DNMG 431		
CCMT 120408	CCMT 432	DNMG 150408	DNMG 432		
		DNMG 150604	DNMG 441		
CNMG 090304	CNMG 321	DNMG 150608	DNMG 442		
CNMG 120404	CNMG 431	DNMG 150612	DNMG 443		
CNMG 120408	CNMG 432				
CNMG 120412	CNMG 433				
CNMG 160608	CNMG 542				
CNMG 160612	CNMG 543				
CNMG 160616	CNMG 544				
CNMG 190612	CNMG 643				
CNMG 190616	CNMG 644				

比较 Comparison					
ISO	ANSI	ISO	ANSI	ISO	ANSI
TCGT 110204	TCGT 2 (1.5) 1	VBMT 160404	VBMT 331	WNMG 060404	WNMG 331
		VBMT 160408	VBMT 332	WNMG 060408	WNMG 332
TCGT 16T304	TCGT 3 (2.5) 1			WNMG 080404	WNMG 431
TCGT 16T308	TCGT 3 (2.5) 2	VCGT 050102	-	WNMG 080408	WNMG 432
				WNMG 080412	WNMG 433
TCMT 110204	TCMT 2 (1.5) 1	VCMT 070202	-	WNMG 080416	WNMG 434
TCMT 110208	TCMT 2 (1.5) 2	VCMT 070204	-		
TCMT 16T304	TCMT 3 (2.5) 1	VCMT 160404	VCMT 331		
TCMT 16T308	TCMT 3 (2.5) 2	VCMT 160408	VCMT 332		
		VCMT 160412	VCMT 333		
TNMG 160404	TNMG 331				
TNMG 160408	TNMG 332				
TNMG 160412	TNMG 333				
TNMG 220408	TNMG 432				
TNMG 220412	TNMG 433				



boehlerit

全新

钻镗刀 QuattroTec

TURN-DRILL TOOL QuattroTec

Hard Facts

刀柄 Tool holder
Ø 10 mm - 25 mm

长度 always in
1,50 x D & 2,25 x D

刀片尺寸
Insert size 05 - 13 mm

8 材质 Grades



特殊功能:

- 多功能工具
- 无需更换工具，节省大量时间
- 节省刀位(特别是钻镗孔应用)
- 制作盲孔快捷简单
- 不可能安装错误的刀片(容易安全)
- 多种切削材料，可获得最佳加工效果
- 单刃应用时，振动倾向最小
- 应用优化的几何槽型及材质
- 通过特殊设计的冷却剂供应，支持钻屑输送
- 优化了刀具的疲劳强度和稳定性
- 整合设计人员的特点，确保过程安全，特别是在钻孔方面
- 独家应用Torx plus®螺钉

Speciale features:

- Multifunctional tool
- Significant saving time due to no tool change
- Saving of tool stations (especially on drilling and boring applications)
- Quick and simple production of blind holes
- Wrong mounting of the insert is not possible (Easy Safe)
- Cutting material diversity for optimal machining result
- Minimal tendency to vibration despite single-edged application
- Application optimized geometries and grades
- Supported chip transport on drilling through special designed coolant supply
- Optimized tools concerning fatigue strength and stability
- Integration of designer characteristics to guarantee process security, especially on drilling
- Exclusive application of screws with Torx plus® heads

1. 车端面
Face turning



2. 实体钻孔，孔底平整
Drilling into solid with flat drilling base



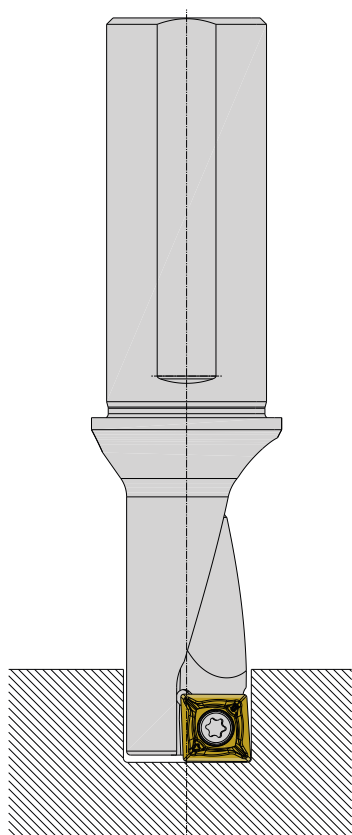
3. 车内孔
Internal turning



4. 车外圆
External turning



刀具 Tool 2,25D / 1,50D	尺寸 Dimensions [mm]			
	D	D _{min.}	D _{max.}	max. 钻孔深度 drilling depth
QR/L 10 - 1,50D-05	10	9,8	10,4	15
QR/L 10 - 2,25D-05	10	9,8	10,4	22,5
QR/L 12 - 1,50D-06	12	11,8	12,4	18
QR/L 12 - 2,25D-06	12	11,8	12,4	27
QR/L 16 - 1,50D-08	16	15,8	16,5	24
QR/L 16 - 2,25D-08	16	15,8	16,5	36
QR/L 18 - 1,50D-09	18	17,8	18,5	27
QR/L 18 - 2,25D-09	18	17,8	18,5	40,5
QR/L 20 - 1,50D-10	20	19,8	20,5	30
QR/L 20 - 2,25D-10	20	19,8	20,5	45
QR/L 25 - 1,50D-09	25	24,8	25,5	37,5
QR/L 25 - 2,25D-09	25	24,8	25,5	56

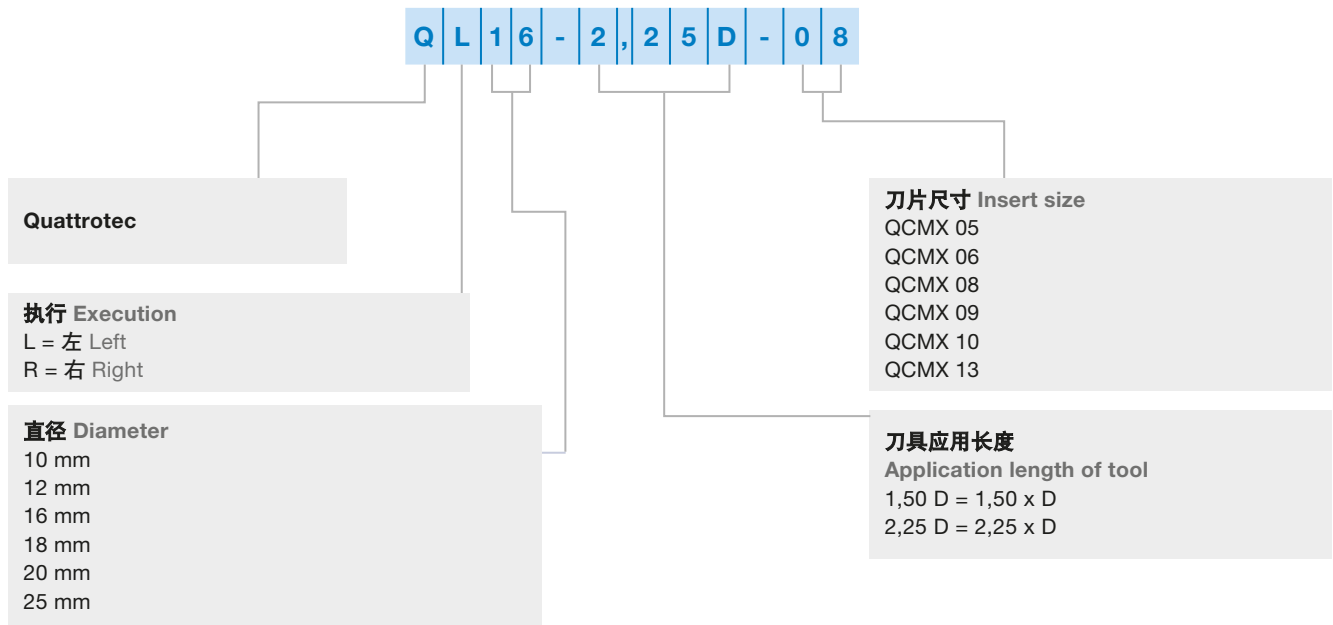


- 钻孔时的最佳直径就是公称直径本身
- 钻孔深度 > 1xD - 必须使用乳化液
- 仅使用 2,25 × d 带驱动工具的工具 (带夹头的张力) (支持点!)
- PVD 坚韧基材的保证钻孔工艺: BCP35Q、BCM40Q
- 选用最大的工具，增加稳定性
- 如果刀具轴向低于中心 (例如由于刀塔调整不正确)，请不要使用指示的最小直径

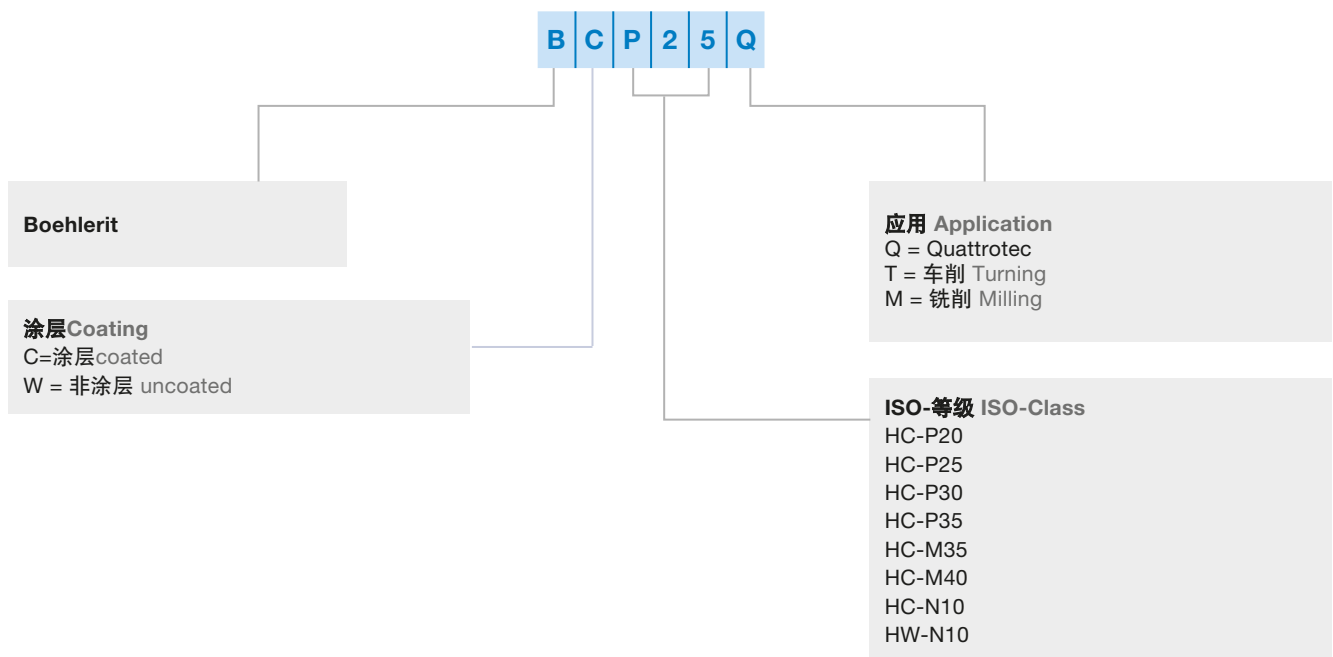
- The optimal diameter on drilling is the nominal diameter itself
- Drilling depth > 1xD – application of emulsion necessary
- Use only tools 2,25xD with driven tools (tension with collet) (backstop point!)
- Process sure drilling with PVD grade and tough substrate: BCP35Q, BCM40Q is ensured
- Choose biggest tool, to increase stability
- If the tool is axial below center (e.g. caused by incorrect turret adjustment) please don't use the indicated minimum diameter

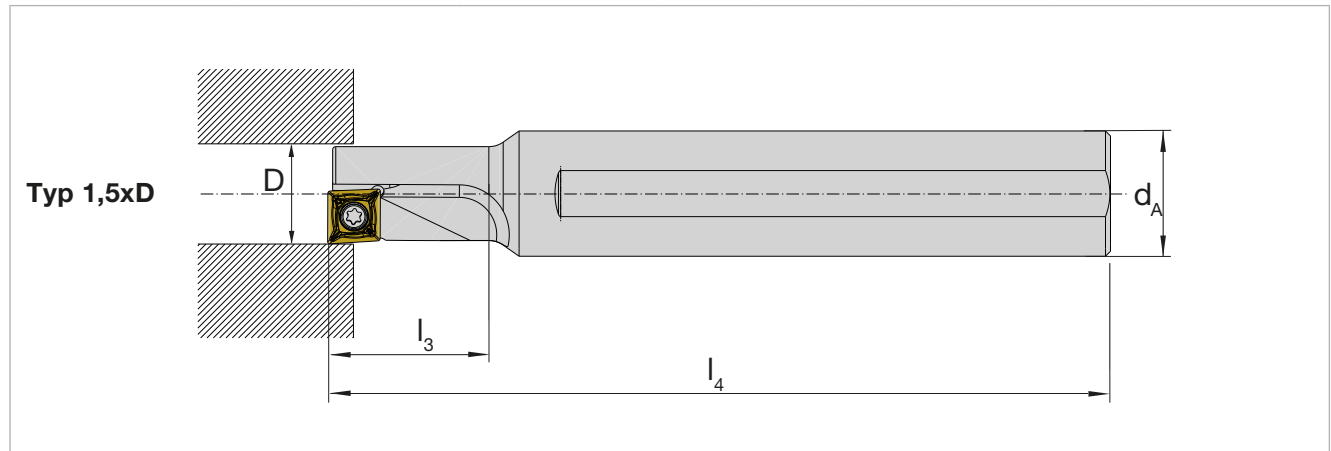


- 钻孔超过公称直径时剩余的残余材料见图纸:
例: QL20 - 2,25 钻径 20,4 mm
- On drilling over the nominal diameter residual material is left over, see drawing:
e.g. QL20 - 2,25 Drilling diameter 20,4 mm



命名规则 Quattrotec 材质
Designation system Quattrotec grade

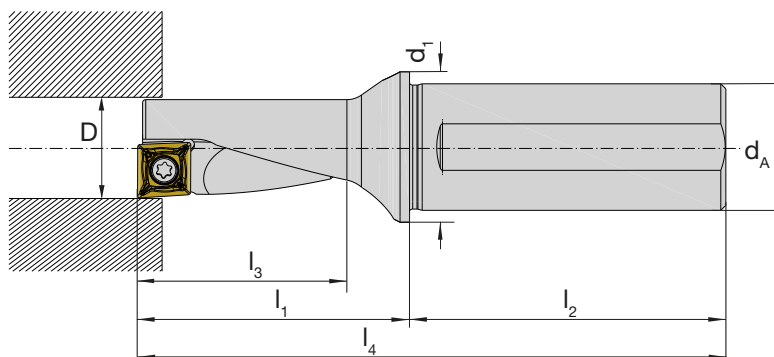




订货号 Ordering code	物料号 Ident.-No.	库存 Availability	尺寸 [mm] Dimensions [mm]							可转位 刀片 Indexable insert
			D	d _A	d ₁	l ₁	l ₂	l ₃	l ₄	
QL 10 - 1,50D-05	5146533	●	10	12	-	-	-	15	90	QCMX 05
QR 10 - 1,50D-05	5146534	●	10	12	-	-	-	15	90	
QL 12 - 1,50D-06	5146529	●	12	16	-	-	-	18	100	QCMX 06
QR 12 - 1,50D-06	5146530	●	12	16	-	-	-	18	100	
QL 16 - 1,50D-08	5146522	●	16	20	-	-	-	24	125	QCMX 08
QR 16 - 1,50D-08	5146524	●	16	20	-	-	-	24	125	
QL 18 - 1,50D-09	5168389	●	18	25	-	-	-	27	135	QCMX 09
QR 18 - 1,50D-09	5168390	●	18	25	-	-	-	27	135	
QL 20 - 1,50D-10	5146537	●	20	25	-	-	-	30	150	QCMX 10
QR 20 - 1,50D-10	5146538	●	20	25	-	-	-	30	150	
QL 25 - 1,50D-13	5168394	●	25	32	-	-	-	37,5	180	QCMX 13
QR 25 - 1,50D-13	5168397	●	25	32	-	-	-	37,5	180	

备件 Spare parts					
刀杆 Quattrotec Tool holder Quattrotec	螺钉 Screw	物料号 Ident.-No.	 Torx	 扳手 Key	扭矩 Torque [Nm]
QR/L10	AP13-20040	5146268	IP6	5126412	0,6 Nm
QR/L12	AP13-22050	5146272	IP7	5118123	0,9 Nm
QR/L16	AP13-30065	5146273	IP9	5118124	1,4 Nm
QR/L18	AP13-30075	5171723	IP10	5118726	2,0 Nm
QR/L20	AP13-35080	5146274	IP10	5118726	2,0 Nm
QR/L25	AP13-45105	5118121	IP20	5088521	5,0 Nm

Typ 2,25xD



订货号 Ordering code	物料号 Ident.-No.	库存 Availability	尺寸 [mm] Dimensions [mm]							可转位 刀片 Indexable insert
			D	d _A	d ₁	l ₁	l ₂	l ₃	l ₄	
QL 10 - 2,25D-05	5146531	●	10	12	16	29	42	22,5	71	QCMX 05
QR 10 - 2,25D-05	5146532	●	10	12	16	29	42	22,5	71	
QL 12 - 2,25D-06	5146527	●	12	16	20	35	45	27	80	QCMX 06
QR 12 - 2,25D-06	5146528	●	12	16	20	35	45	27	80	
QL 16 - 2,25D-08	5146516	●	16	20	25	43	50	36	93	QCMX 08
QR 16 - 2,25D-08	5146518	●	16	20	25	43	50	36	93	
QL 18 - 2,25D-09	5168385	●	18	25	32	53	56	40,5	109	QCMX 09
QR 18 - 2,25D-09	5168388	●	18	25	32	53	56	40,5	109	
QL 20 - 2,25D-10	5146535	●	20	25	32	57,5	56	46	113,5	QCMX 10
QR 20 - 2,25D-10	5146536	●	20	25	32	57,5	56	46	113,5	
QL 25 - 2,25D-13	5168391	●	25	32	40	73	60	56	133	QCMX 13
QR 25 - 2,25D-13	5168393	●	25	32	40	73	60	56	133	

备件 Spare parts					
刀杆 Quattrotec Tool holder Quattrotec	螺钉 Screw	物料号 Ident.-No.	 Torx	 扳手 Key	扭矩 Torque [Nm]
QR/L10	AP13-20040	5146268	IP6	5126412	0,6 Nm
QR/L12	AP13-22050	5146272	IP7	5118123	0,9 Nm
QR/L16	AP13-30065	5146273	IP9	5118124	1,4 Nm
QR/L18	AP13-30075	5171723	IP10	5118726	2,0 Nm
QR/L20	AP13-35080	5146274	IP10	5118726	2,0 Nm
QR/L25	AP13-45105	5118121	IP20	5088521	5,0 Nm

	材质 Grade	ISO-等级 ISO-class
	BCP20Q BCP25Q BCP30Q BCP35Q	HC-P20 HC-P25 HC-P30 HC-P35
QCMX....-MP medium		

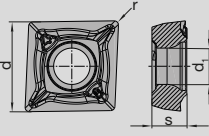

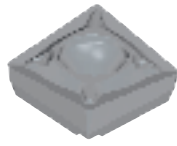
Type Type	槽型 Geometry	进给 钻孔 Feed f [mm / U rev]	进给 车削 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]				BCP20Q	BCP25Q	BCP30Q	BCP35Q
					d	s	d ₁	r				
QCMX 050204	MP	0,03 - 0,06	0,10 - 0,25	0,4 - 1	5,75	2,38	2,25	0,4	5149594	5149598	5149657	5149659
QCMX 060204	MP	0,03 - 0,07	0,10 - 0,25	0,4 - 1,5	6,47	2,38	2,5	0,4	5149668	5149670	5149674	5149677
QCMX 080304	MP	0,05 - 0,09	0,10 - 0,25	0,4 - 2	8,5	3,14	3,4	0,4	5146711	5146719	5160671	5160681
QCMX 080308	MP	0,05 - 0,10	0,15 - 0,30	0,8 - 2	8,5	3,14	3,4	0,8	5149564	5149570	5149579	5149584
QCMX 09T304	MP	0,05 - 0,09	0,10 - 0,25	0,4 - 2	9,6	3,98	3,4	0,4	5169998	5170000	5170646	5170647
QCMX 09T308	MP	0,05 - 0,10	0,15 - 0,30	0,8 - 2	9,6	3,98	3,4	0,8	5172654	5172656	5172662	5172664
QCMX 10T308	MP	0,08 - 0,12	0,15 - 0,30	0,8 - 2	10,6	3,98	4,4	0,8	5149688	5149690	5149699	5149702
QCMX 130408	MP	0,08 - 0,15	0,15 - 0,30	0,8 - 2,5	13,47	4,65	5,25	0,8	5170003	5170005	5170654	5170655

	材质 Grade	ISO-等级 ISO-class
	BCM35Q BCM40Q	HC-M35 HC-M40
QCMX....-MM medium		

Type Type	槽型 Geometry	进给 钻孔 Feed f [mm / U rev]	进给 车削 Feed f [mm / U rev]	切深 cutting depth ap max. [mm]	尺寸 [mm] Dimensions [mm]				BCM35Q	BCM40Q
					d	s	d ₁	r		
QCMX 050204	MM	0,03 - 0,06	0,10 - 0,25	0,4 - 1	5,75	2,38	2,25	0,4	5149666	5149664
QCMX 060204	MM	0,03 - 0,07	0,10 - 0,25	0,4 - 1,5	6,47	2,38	2,5	0,4	5149685	5149683
QCMX 080304	MM	0,05 - 0,09	0,10 - 0,25	0,4 - 2	8,5	3,14	3,4	0,4	5146736	5146729
QCMX 080308	MM	0,05 - 0,10	0,15 - 0,3	0,8 - 2	8,5	3,14	3,4	0,8	5149591	5149589
QCMX 09T304	MM	0,05 - 0,09	0,10 - 0,25	0,4 - 2	9,6	3,98	3,4	0,4	5170649	5170648
QCMX 09T308	MM	0,05 - 0,10	0,15 - 0,30	0,8 - 2	9,6	3,98	3,4	0,8	5172673	5172671
QCMX 10T308	MM	0,08 - 0,12	0,15 - 0,30	0,8 - 2	10,6	3,98	4,4	0,8	5149707	5149705
QCMX 130408	MM	0,08 - 0,15	0,15 - 0,30	0,8 - 2,5	13,47	4,65	5,25	0,8	5170656	5170657

订单示例 Order example: 10 件 10 pieces 5149594 oder or 或 QCMX 050204-MP BCP20Q
 颜色和图形原来的刀片可能会与图片不一致!
 Colours and execution of the original indexable inserts, may deviate from the illustration!

库存刀片 Inserts available from stock

	材质 Grade	ISO-等级 ISO-class
	BCN10Q BWN10Q	HC-N10 HW-N10
QCGX...-MN  medium		

Type Type	槽型 Geometry	进给 钻孔 Feed f [mm / U rev]	进给 车削 Feed f [mm / U rev]	切深 cutting depth a_p max. [mm]	尺寸 [mm] Dimensions [mm]				BCN10Q	BWN10Q
					d	s	d ₁	r		
QCGX 050202	MN	0,02 - 0,25	0,03 - 0,35	0,2 - 2,5	5,75	2,38	2,25	0,2	5160206	5160205
QCGX 050204	MN	0,02 - 0,25	0,03 - 0,35	0,4 - 2,5	5,75	2,38	2,25	0,4	5160204	5160203
QCGX 060202	MN	0,02 - 0,25	0,03 - 0,35	0,2 - 2,5	6,47	2,38	2,5	0,2	5160280	5160279
QCGX 060204	MN	0,02 - 0,25	0,03 - 0,35	0,4 - 2,5	6,47	2,38	2,5	0,4	5160278	5160277
QCGX 080302	MN	0,02 - 0,30	0,03 - 0,40	0,2 - 3,5	8,5	3,14	3,4	0,2	5159363	5159362
QCGX 080304	MN	0,02 - 0,30	0,03 - 0,40	0,4 - 3,5	8,5	3,14	3,4	0,4	5159361	5159360
QCGX 09T302	MN	0,02 - 0,30	0,03 - 0,40	0,2 - 3,5	9,6	3,98	3,4	0,2	5170651	5170650
QCGX 09T304	MN	0,02 - 0,30	0,03 - 0,40	0,4 - 3,5	9,6	3,98	3,4	0,4	5170653	5170652
QCGX 10T302	MN	0,03 - 0,30	0,03 - 0,40	0,2 - 4,0	10,6	3,98	4,4	0,2	5160289	5160288
QCGX 10T304	MN	0,03 - 0,30	0,03 - 0,40	0,4 - 4,0	10,6	3,98	4,4	0,4	5160287	5160286
QCGX 130402	MN	0,03 - 0,30	0,03 - 0,40	0,2 - 4,0	13,47	4,65	5,25	0,2	5170659	5170658
QCGX 130404	MN	0,03 - 0,30	0,03 - 0,40	0,4 - 4,0	13,47	4,65	5,25	0,4	5170661	5170660

材质 Grade	ISO	应用范围 Application range						材料组 Material group						应用 Application					刀片颜色取决于涂层 Color guide for inserts depending on coating							
								P	M	K	N	S	H	T	M	D	S									
		01	05	10	15	20	25	30	35	40	45	50	钢 Steel	不锈钢 Stainless	铸铁 Grey cast iron	有色金属 Non-ferrous metals	高温合金 High temperature materials	淬硬钢 Hard materials		车削 Turning	铣削 Milling	钻孔 Drilling	螺纹 Threading			
BCP20Q	HC-P15	[Peak at 15]						■																		
	HC-K20	[Peak at 20]								□																
BCP25Q	HC-P25	[Peak at 25]						■																		
	HC-M25	[Peak at 25]							□																	
BCP30Q	HC-P30	[Peak at 30]						■																		
	HC-M30	[Peak at 30]							□																	
BCP35Q	HC-P35	[Peak at 35]						■																		
	HC-M35	[Peak at 35]							□																	
BCM35Q	HC-M35	[Peak at 35]							■																	
	HC-P20	[Peak at 20]						□																		
BCM40Q	HC-M40	[Peak at 40]							■																	
	HC-S40	[Peak at 40]												□												
BCN10Q	HC-N10	[Peak at 10]										■														
	HW-N10	[Peak at 10]										■														

应用峰值 Application peak

全部范围 根据ISO 513 Full range to ISO 513

■ 首选应用
Main application

□ 次选应用
Further applications

● 标准材质
Standard grade

应用推荐 Recommendations for application

钢

- 在以钻孔为主要部件的应用中，建议使用PVD涂层材质，BCP25Q和BCP35Q。
- 高强度CVD涂层材质的BCP20Q和BCP30Q为连续镗孔(内/外)。
- 使用不锈钢牌号BCM35Q和BCM40Q，可以改善有振动倾向的不稳定应用，因为切削刃设计更锋利。

不锈钢

- 采用BCM40Q牌号，确保不锈钢材料的安全加工。该等级可用于经常变化的应用(钻镗)以及钻深孔应用。
- BCM35Q牌号的主要用途是增加切削值(vc)的镗孔。

Steel

- On applications where the mainly part is drilling, a grade with PVD coating is recommended, BCP25Q and BCP35Q.
- The strength of the grades BCP20Q and BCP30Q with CVD coating is on continuous boring (internal / external).
- Unstable respectively applications with tendency (!) to vibrations can be improved using the stainless grades BCM35Q and BCM40Q, because of the sharper design of the cutting edges.

Stainless steel

- A process safe machining of stainless materials is especially assured with the grade BCM40Q. This grade can be used with often changing applications (drilling, boring) as well as for deep drilling applications.
- The main application of the grade BCM35Q is boring with increased cutting values (vc).

- BCP20Q (HC-P20)
更硬，因此更耐磨的替代品等级BCP25Q，具有高耐磨料磨损。非常适合专注于内部镗孔以及表面和外部车削的应用，具有非常稳定的切削性能。由于含有Al₂O₃的CVD涂层可以实现高切割速度。
- BCP25Q (HC-P25)
通用牌号，可加工非合金、低合金、高合金和不锈钢。通用中晶粒基体和现代厚PVD涂层的结合保证了可靠的加工以及低合金钢的长刀具寿命。
- BCP30Q (HC-P30)
具有10% Co份额的坚韧基材和薄CVD涂层的组合确保了在不利的加工条件下也具有较长的刀具寿命。该牌号在内镗、铣面和外车削上的强度最好。
- BCP35Q (HC-P35)
与磨损优化的BCP30Q牌号相比，BCP35Q牌号特别适合不稳定和易振动的加工。此外，该等级普遍适用于所有普通钢，以及可靠的不锈钢(第二次应用)。在不断变化的应用中，推荐使用该等级，特别是在钻孔中。
- BCM35Q (HC-M35)
具有耐磨PVD涂层的细晶粒级，以及锋利的切削刃，适用于不锈钢的任何类型的应用。由于极光滑的切削性能，这种插入级组合也是传统钢材的极好替代品(第二次应用)。
- BCM40Q (HC-M40)
坚韧的中晶粒基材与薄PVD涂层。普遍适用于几乎所有材料，对不锈钢材料有作用力。在固体材料的深钻加工中也有可靠的应用。主要应用于不稳定的环境条件，不断变化的材料以及应用场合。
- BCN10Q (HC-N10)
适用于加工铝材及其它有色金属。由于非常薄的microplus®等离子体CVD TiAlN涂层，它也非常适合不锈钢和灰口铸铁的精加工。
- BWN10Q (HW-N10)
具有高耐磨性的车削等级，适用于中高切削速度下加工铝合金和有色金属，即使在不利的加工条件下。
- BCP20Q (HC-P20)
Harder and thus more wear resistant alternative to the grade BCP25Q, with high resistance against abrasive wear. Excellent suitable for applications with focus on internal boring as well as on face and external turning at very stable cutting behaviour. Due to the CVD coating with included Al₂O₃ high cutting speeds can be implemented.
- BCP25Q (HC-P25)
Universal grade for machining unalloyed, low alloyed, high alloyed and stainless steel. The combination of an universal medium grain substrate and modern thick PVD coating guarantees a reliable machining as well as long tool life on low alloyed steels.
- BCP30Q (HC-P30)
The combination of a tough substrate with 10 % Co share and a thin CVD coating assures long tool life also on unfavourable machining conditions. The grade can work best its strength on internal boring as well as on face and external turning.
- BCP35Q (HC-P35)
In comparison to the wear optimized BCP30Q grade, the grade BCP35Q is especially for unstable and to vibration tending machining. Additionally this grade is universally applicable on all usual steels, as well as reliable on stainless steels (second application). On ever-changing applications this grade is recommended, especially for drilling.
- BCM35Q (HC-M35)
The fine grain grade with wear resistant PVD coating, as well as with sharp cutting edges is optimal applicable for any type of application on stainless steel. Due to the extremely smooth cutting behaviour, this insert grade combination is also an excellent alternative to traditional steels (second application).
- BCM40Q (HC-M40)
Tough medium grain substrate with thin PVD coating. Universally applicable in almost all materials, with force on stainless materials. Process reliable application also on machining of deep drills on solid material. Main application are unstable environment conditions, constant changing materials as well as applications.
- BCN10Q (HC-N10)
The ideal grade for working aluminium materials and other non-ferrous metals. Thanks to a very thin microplus® plasma CVD TiAlN coating it is also excellent for finish machining of stainless steels and grey cast iron.
- BWN10Q (HW-N10)
Turning grade with high wear resistance for machining of aluminium alloys, and non-ferrous metals at medium to higher cutting speeds, even under unfavourable machining conditions.

材料 Material	Brinell 硬度 Brinell hardness HB	车削及钻孔 Turning and drilling v _c (m/min)									
		BCP20Q	BCP25Q	BCP30Q	BCP35Q	BCM35Q	BCM40Q	BCN10Q	BWN10Q		
P 非合金钢 Unalloyed steel ¹⁾	ca. 0,15%C 退火 ≈ 0,15%C annealed	125	150 - 270	130 - 240	120 - 210	90 - 190					
	ca. 0,45%C 退火 ≈ 0,45%C annealed	190	130 - 240	110 - 210	90 - 190	70 - 160					
	ca. 0,45%C 回火 ≈ 0,45%C heat-treated	250	100 - 200	90 - 180	80 - 160	50 - 140					
	ca. 0,75%C 退火 ≈ 0,75%C annealed	270	100 - 190	90 - 170	80 - 150	50 - 130					
	ca. 0,75 %C 回火 ≈ 0,75%C heat-treated	300	90 - 160	90 - 150	70 - 140	40 - 120					
	低合金钢 ¹⁾ Low-alloy steel ¹⁾	退火 annealed	180	130 - 240	110 - 210	90 - 190	70 - 160				
		回火 hardend and temp.	275	100 - 190	90 - 170	80 - 150	50 - 130				
			300	90 - 160	90 - 150	70 - 140	40 - 120				
			350	90 - 150	90 - 140	70 - 130	40 - 110				
	高合金钢和工具钢 ¹⁾ High-alloy steel and high-alloy tool steel ¹⁾	退火 annealed	200	130 - 240	110 - 210	90 - 190	70 - 160				
回火 hardend and tempered		325	90 - 160	90 - 150	70 - 140	40 - 120					
M 不锈钢 ¹⁾ Stainless steel ¹⁾	铁素体/马氏体 退火 ferritic/martensitic annealed	200	110 - 200				110 - 200	100 - 190			
	马氏体 回火 martensitic annealed	240	100 - 160				100 - 160	50 - 140			
	austenitisch ²⁾ , abgeschreckt austenitic ²⁾ , quenched	180	90 - 160				90 - 160	50 - 150			
K 灰铁 Grey cast iron	珠光体/铁素体 perlitic/ferritic	180	150 - 300		120 - 260						
	珠光体 (马氏体) perlitic (martensitic)	260	100 - 180		80 - 160						
	球铁 Nodular graphite cast iron	160	120 - 180		90 - 160						
	可锻铸铁 Malleable cast iron	130	120 - 180		90 - 160						
N 铝合金 Aluminium wrought alloys	非硬化 unhardenable	60							400 - 3000	400 - 2400	
	硬化 hardenable, hardened	100							160 - 2000	160 - 1600	
	铸造铝合金 Aluminium cast alloys	ca. 12 % Si. 非硬化 ca. 12 % Si. unhardenable	75							320 - 1600	320 - 1200
		ca. 12 % Si. 硬化 ca. 12 % Si. hardenable, hardened	90							240 - 1200	240 - 950
		>12 % Si. 非硬化 >12 % Si. unhardenable	130							170 - 1000	160 - 800
	铜及铜合金 青铜/黄铜 Copper and copper alloys (Bronze/Brass)	易切削 Pb > 1 % Free cutting alloys Pb > 1 %	110							220 - 650	200 - 520
		黄铜、红青铜 Brass, Red bronze	90							230 - 900	200 - 800
		青铜，无铅铜和电解铜 Bronze, non leaded copper and electrolytic copper	100							150 - 400	120 - 320
非金属 Nonmetallic materials	杜罗塑料 Duroplastics										
	纤维增强塑料 Fibre reinforced plastics										
	硬橡胶 Hard rubber										

¹⁾ 铸钢
and cast steel

²⁾ 和奥氏体/铁素体
and austenitic/ferritic

³⁾ R_m = 抗拉强度 N/mm²
R_m = Tensile strength in N/mm²

冷却液
Wet machining

Torx-Kit_2 扳手 & 扭矩 & 扳手插件
Torx-Kit_2 Wrench & Torque & Torque wrench insets



指定 Designation		物料号 Ident.-No	
Torx-Kit_2		5151259	
Torx-Kit_2 包含以下部件: includes the following parts:			
扳手 Handle	Drehmomenteinsätze Torque wrench insets	Bit Torx 25mm	Bit Torx Plus 50mm
交叉扳手 Cross handle (1) 加力扳手 Power handle (2)	0,6 Nm	T6	6IP
	0,9 Nm	T7	7IP
	1,2 Nm	T8	8IP
	1,4 Nm	T9	9IP
	2,0 Nm	T10	10IP
	3,0 Nm	T15	15IP



备件
Spare parts

扭矩扳手插件 Torque wrench insets		
指定 Designation	插件 Inserts for	物料号 Ident.-No.
0,6 Nm	T6, IP6	5151263
0,9 Nm	T7, IP7	5151265
1,2 Nm	T8, IP8	5151266
2,0 Nm	T8, IP8	5151267
1,4 Nm	T9, IP9	5151268
2,0 Nm	T9, IP9	5151269
2,0 Nm	T10, IP10	5151270
3,0 Nm	T15, IP15	5151271
5,0 Nm	T20, IP20	5151272
5,5 Nm	T20, IP20	5151273

Bits			
Bit Torx 25mm		Bit Torx Plus 50mm	
指定 Designation	物料号 Ident.-No.	指定 Designation	物料号 Ident.-No.
T6	5151274	6IP	5151281
T7	5151275	7IP	5151282
T8	5151276	8IP	5151283
T9	5151277	9IP	5151284
T10	5151278	10IP	5151285
T15	5151279	15IP	5151286
T20	5151280	20IP	5151287

扳手 Handle	
指定 Designation	物料号 Ident.-No.
交叉扳手 Cross handle (1)	5151260
加力扳手 Power handle (2)	5151262



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