



NEW

镜面铣 DTM 系列

轻量化面铣 (CVD-, PKD-, MKD-刀片)

HIGH POLISH FACE MILLING
WITH SYSTEM DTM

Lightweight face mill (CVD-, PCD- and MCD-tipped)



不同之处： 更多可能

THE DIFFERENCE: MORE POSSIBILITIES

- **用于无铁材料及合成材料的镜面加工**
High polish machining of non-ferrous metal and synthetics
- **轻量化铝合金刀盘,可保护主轴**
Spindle protection due to low mass aluminium body
- **通用加工**
For universal use

面铣削

Face Milling



芯轴刀柄式铣刀

Arbor Mounted Cutter

DTM

直接冷却液供应
with through coolant supply



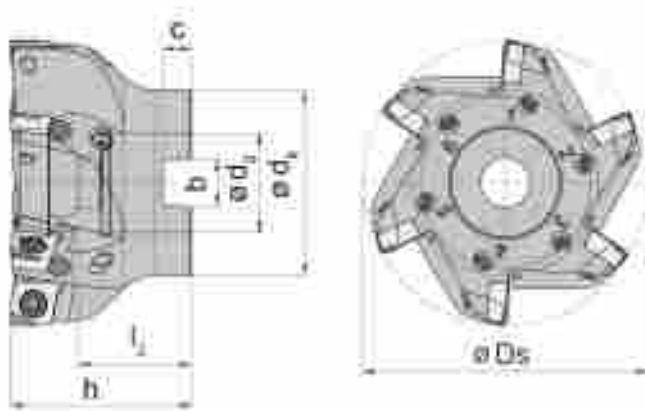
切削刃Ø

Cutting edge Ø

40-125 mm

配合刀片
for Insert

型号 DTS
Type



图示=右手型
Picture = right hand cutting version

μ-级精度调整
with μ-precise plan setting

产品型号 Part number	Z	Ds	h	d _k	d ₂	l ₂	b	C	n _{max}
DTM.CX09.040.A16.04.AL.F	4	40	40	32	16	31	8.4	5.6	26000
DTM.CX09.050.A22.05.AL.F	5	50	40	40	22	26	10.4	6.3	24000
DTM.CX09.063.A22.06.AL.F	6	63	40	40	22	26	10.4	6.3	20000
DTM.CX09.080.A27.06.AL.F	6	80	50	48	27	33	12.4	7.0	18000
DTM.CX09.100.A32.07.AL.F	7	100	63	58	32	48	14.4	8.0	15000
DTM.CX09.125.A40.08.AL.F	8	125	63	70	40	46	16.4	9.0	12000

尺寸单位 : mm
Dimensions in mm

配件

Spare Parts

芯轴刀柄式铣刀 Arbor Mounted Cutter	销 Threaded Pin	扳手 Allen Wrench	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	调整机构 Adjustment bold
DTM.CX09....	4.06.4028	SW2,5 DIN911	030.350P.0853	T15PQ	020.0005.4489
DTM.CX09.063.A22.06.AL.F	4.06.4028	SW2,5 DIN911	030.350P.0853	T15PQ	020.0005.4489
DTM.CX09.080.A27.06.AL.F	4.06.4028	SW2,5 DIN911	030.3509.T15P	T15PQ	020.0005.4489
DTM.CX09.100.A32.07.AL.F	4.06.4028	SW10,0 DIN 911	030.3509.T15P	T15PQ	020.0005.4489
DTM.CX09.125.A40.08.AL.F	4.06.4028	SW12,0 DIN 911	030.3509.T15P	T15PQ	020.0005.4489

面铣削

Face Milling



芯轴刀柄式铣刀

Arbor Mounted Cutter

DTM

直接冷却液供应
with through coolant supply



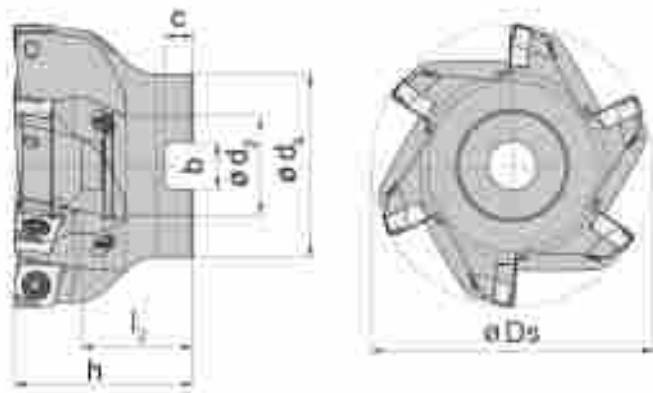
切削刃Ø

Cutting edge Ø

40-125 mm

配合刀片
for Insert

型号 DTS
Type



图示=右手型
Picture = right hand cutting version

不可调
without plan setting

产品型号 Part number	Z	Ds	h	d _k	d ₂	l ₂	b	C	n _{max}
DTM.CX09.040.A16.04.AL.R	4	40	40	32	16	31	8.4	5.6	26000
DTM.CX09.050.A22.05.AL.R	5	50	40	40	22	26	10.4	6.3	24000
DTM.CX09.063.A22.06.AL.R	6	63	40	40	22	26	10.4	6.3	20000
DTM.CX09.080.A27.06.AL.R	6	80	50	48	27	33	12.4	7.0	18000
DTM.CX09.100.A32.07.AL.R	7	100	63	58	32	48	14.4	8.0	15000
DTM.CX09.125.A40.08.AL.R	8	125	63	70	40	46	16.4	9.0	12000

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

芯轴刀柄式铣刀 Arbor Mounted Cutter	扳手 Allen Wrench	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
DTM.CX09.040.A16.04.AL.R	SW5,0 DIN911	030.350P.0853	T15PQ
DTM.CX09.050.A22.05.AL.R	SW6,0 DIN911	030.350P.0853	T15PQ
DTM.CX09.063.A22.06.AL.R	SW6,0 DIN911	030.350P.0853	T15PQ
DTM.CX09.080.A27.06.AL.R	SW8,0 DIN 911	030.3509.T15P	T15PQ
DTM.CX09.100.A32.07.AL.R	SW10,0 DIN 911	030.3509.T15P	T15PQ
DTM.CX09.125.A40.08.AL.R	SW12,0 DIN 911	030.3509.T15P	T15PQ

Hochglanzplanfräsen

High Polish Face Milling

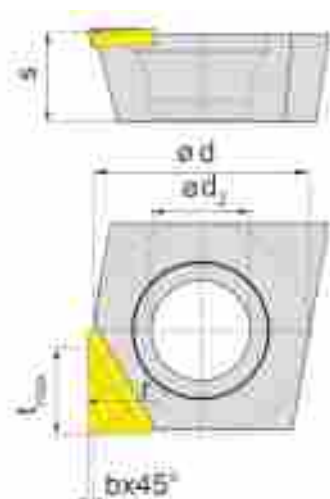


刀片
Insert

DTS



MCD-刀片
MCD tipped



配芯轴刀盘
for Arbor mounted cutter

型号 DTM
Type

产品型号 Part number	d	d ₂	s	t _{max}	r	bx45°	槽型 / Geometries for				MD10
							材料 / metal		合成 / synthetic		
							长屑 long chipping	短屑 short chipping	透明 transparent	软 soft	
DTS.CX09.MD.M0	9,525	4,4	3,97	3,8	100	0,2		J			▲
DTS.CX09.MD.W0	9,525	4,4	3,97	3,8	50	0,2				J	▲
DTS.CX09.MD.X0	9,525	4,4	3,97	3,8	100	0,2	J		J		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

切削刃需光学测量 !

Cutting edges must be measured optically!

组装刀片详见调整说明

Assembly of the inserts see adjustment instructions

面铣削

Face Milling



平衡块

Balancing Insert

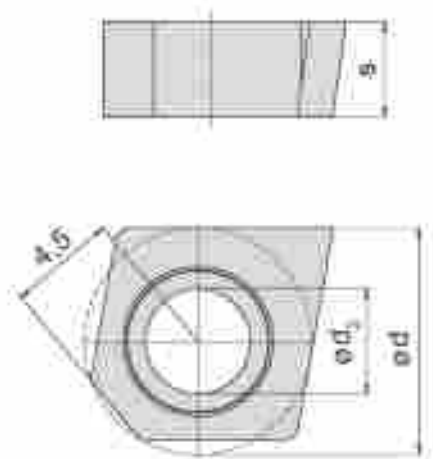
DTS



芯轴刀盘平衡块
For balancing of the arbor mounted cutter

配芯轴刀盘
for Arbor mounted cutter

型号 DTM
Type



产品型号 Part number	d	d ₂	s	MG12
DTS.CX09.AT.HM	9,525	4,4	3,97	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

面铣削 Face Milling

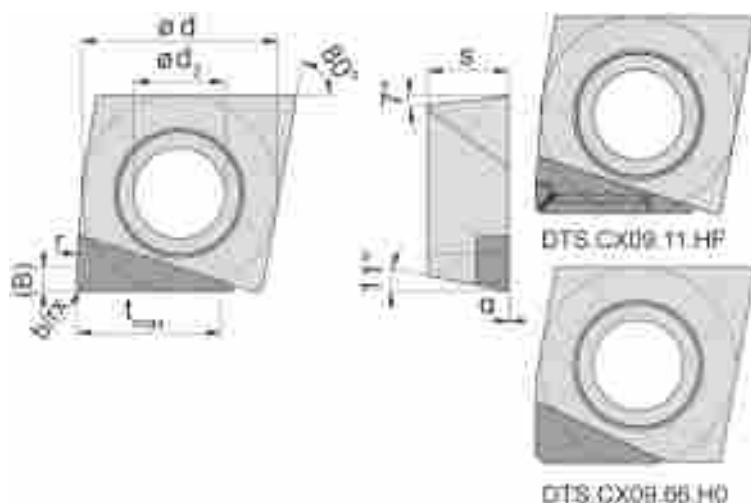


刀片 Insert

DTS



PKD- / CVD-D-刀片
PCD / CVD-D tipped



配芯轴刀盘
for Arbor mounted cutter

型号 DTM
Type

产品型号 Part number	d	d ₂	α	s	t _{max}	r Wiper	(B)	r _x	b x 45°		HD08	PD70	PD75
DTS.CX09.11.H0	9.525	4.4	0°	3.97	7.0	12.5	0.9	0.4	-			▲	▲
DTS.CX09.11.H5	9.525	4.4	5°	3.97	7.0	12.5	0.9	0.4	-			▲	▲
DTS.CX09.11.HF	9.525	4.4	-	3.97	7.0	12.5	0.9	0.4	-				▲
DTS.CX09.33.H0	9.525	4.4	0°	3.97	7.0	12.5	0.9	0.4	-	▲			
DTS.CX09.33.H5	9.525	4.4	5°	3.97	7.0	12.5	0.9	0.4	-	▲			
DTS.CX09.66.H0	9.525	4.4	0°	3.97	5.5	100.0	1.7	-	0.45	▲			

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

组装刀片详见超硬样本中调整说明

Assembly of the inserts see adjustment instructions in our catalogue „ULTRA HARD CUTTING MATERIALS“.

刀片座分配说明

Assignment of the insert seats

偶数齿刀盘

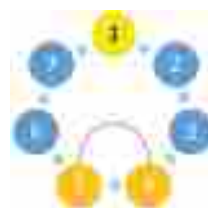
with an even number of cutting edges



- 1 MCD刀片
MCD tipped insert
- 2 3 硬质合金平衡块
Carbide balancing insert
- 4 PCD刀片
PCD tipped insert

奇数齿刀盘

with an odd number of cutting edges



- 1 MCD刀片
MCD tipped insert
- 2 3 硬质合金平衡块
Carbide balancing insert
- 4 5 PCD刀片
PCD tipped insert

安装刀片

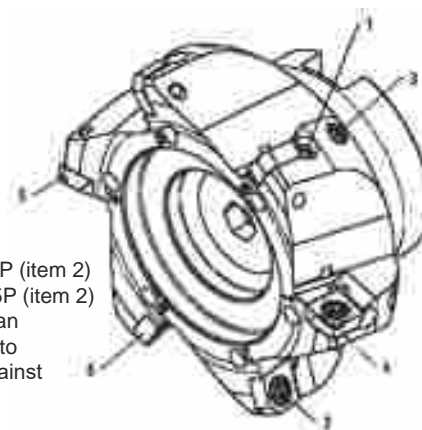
- 旋转调整芯棒 (位置1) 至初始状态,将刻度调至11点钟方向
- 安装平衡刀片 DTS...AT.HM (位置 6) 使用TORX PLUS®-扳手 T15P (位置2)
- 安装刀片 DTS...PCD (位置 5) 使用 TORX PLUS®-扳手 T15P (位置2)
- 安装刀片 DTS...MCD (位置 4) 使用 TORX PLUS®-扳手 T15P (位置2)
- 旋转调整芯棒 (位置1) 调整PCD-和 MCD-高度, 同时用最小的扭矩锁紧夹紧螺丝 (位置2) . 最大的调整范围将被发现,并且刀片平面贴近刀盘.
- 使用 TORX PLUS®-扳手 T15P (位置2) 并用 2,0 Nm 夹紧力夹紧.

安装和检查 (调整范围最大 +/- 0,05)

- 顺时针调整芯棒,将PCD-刀片 预调整至+0,01 mm
- 调整 MCD-刀片 调至 Z-方向 +0,02~+0,01 mm (PCD-刀片 轴向低于 MCD-刀片) PCD-刀片刃口之差
- 旋转: $10^\circ = 0,01 \text{ mm}$
- 不能往回调整芯棒,(失去支撑力)
- 检查粗精刀片之间尺寸,可能的话重复调整步骤
- 必要时,用M6螺钉精调系统平衡 (位置3)

Mounting the inserts

- Move the adjusting pins (item 1) to the initial position of the occupied cutting edges
→ Marking notch at approx. „ 11 o'clock position“
- Install the balancing insert DTS... AT.HM (item 6) in the insert seat using a TORX PLUS® screw T15P (item 2)
- Mount the insert DTS...PKD (item 5) in the insert seat using a TORX PLUS® screw T15P (item 2)
- Mount the insert DTS...MKD (item 4) in the insert seat using a TORX PLUS® screw T15P (item 2)
- Slightly turn the adjusting pin (item 1) of the PCD and MCD inserts back and forth with an allen key and simultaneously tighten the clamping screw (item 2) with minimal torque into the insert seat. So the maximum adjusting range will be found and the insert lies flat against the DTM holder
- Tighten the TORX PLUS® screw T15P (item 2) with a torque of 2 Nm



Setting and checking the Face Mill (max. adjustment range +/- 0,05)

- Then turn the adjusting pin clockwise to adjust the PCD insert +0.01 mm under preload
- Adjust the MCD tipped insert with a Z-difference +0.02+0.01 mm (PCD tipped insert axially behind of the MCD cutting edge) to the PCD cutting edge
- Adjustment: $10^\circ = 0.01 \text{ mm}$
- Do not turn back the adjusting pins, i.e. leave under tension
- Check the dimensional difference between the roughing and finishing inserts and perhaps repeat the adjustment procedure
- If necessary, fine balance the system using the M6 screw (item3)

抛光面铣加工参数

Cutting Data High Polish Milling



材料 Material	V_c		f_n / f_z (mm/转) (mm/rev)	a_p (mm)	槽型 Geometry	推荐冷却方式 Recommended Coolant
	min	max				
Ag	50	300	0,010 - 0,06	0,005 - 0,05	M	油 Oil
Al / Mg	100	2.500	0,005 - 0,15	0,005 - 0,05	X	冷却液
Au	50	300	0,005 - 0,06	0,005 - 0,05	M	油 Oil
Cu	50	500	0,005 - 0,08	0,005 - 0,04	X	油 Oil
CuNi	40	250	0,010 - 0,06	0,005 - 0,04	M / X	Emulsion Emulsion
CuSn	50	300	0,005 - 0,08	0,005 - 0,04	X	油 Oil
CuW	40	250	0,010 - 0,07	0,005 - 0,04	X	油 Oil
CuZn	50	450	0,005 - 0,10	0,005 - 0,05	M	油 Oil
CuZn 无铅/低铅 lead-free/low-lead	50	350	0,005 - 0,10	0,005 - 0,05	X	油 Oil
Ir / Pd / Pt	30	100	0,005 - 0,05	0,005 - 0,03	X	冷却液 Emulsion
Mo	35	120	0,010 - 0,05	0,005 - 0,03	X	冷却液 Emulsion
Ni	40	200	0,010 - 0,06	0,005 - 0,03	M / X	冷却液 Emulsion
Ti	40	200	0,010 - 0,06	0,005 - 0,03	X	冷却液 Emulsion
Zn	80	350	0,005 - 0,12	0,005 - 0,05	X	冷却液 Emulsion
PA	60	220	0,010 - 0,25	0,010 - 0,10	W	冷却液 Emulsion
PC	50	200	0,005 - 0,20	0,010 - 0,10	X	冷却液/吹气 Emulsion / Air
PE	80	350	0,010 - 0,25	0,010 - 0,10	W	冷却液 Emulsion
PEEK	60	250	0,010 - 0,25	0,010 - 0,10	W	冷却液 Emulsion
PMMA	80	300	0,005 - 0,20	0,010 - 0,10	X	冷却液/吹气 Emulsion / Air
POM	80	350	0,010 - 0,25	0,010 - 0,10	X	冷却液 Emulsion
PTFE	70	300	0,01 - 0,25	0,010 - 0,10	W	冷却液 Emulsion
PVC	60	250	0,01 - 0,25	0,010 - 0,10	W	冷却液 Emulsion

切削参数 DTM 系列

Cutting data System DTM



材料 Material	槽型 Geometry	刀片材质 Cutting material	切削速度 Cutting speed v_c [m/min]		进给 Feed rate f_z		切深 Depth of cut a_p		推荐 冷却方式 Recommended Coolant
			粗加工 roughing	精加工 finishing	粗加工 roughing	精加工 finishing	粗加工 roughing	精加工 finishing	
Al-合金 Al alloys	H5	HD08	250 - 3500	250 - 5000	0,05 - 0,25	0,02 - 0,10	3,50	0,50	油, 冷却液, 微量润滑 Oil, Emulsion, MQS
	H5	PD75	150 - 2500	150 - 3500	0,05 - 0,25	0,02 - 0,10	5,50	0,50	
	HF	PD75	180 - 2500	180 - 3500	0,10 - 0,50	0,02 - 0,10	5,00	0,50	
	H0	HD08	200 - 1200	200 - 2000	0,03 - 0,20	0,02 - 0,10	2,50	0,30	
	H5	PD70	180 - 1000	180 - 1500	0,03 - 0,20	0,02 - 0,10	3,50	0,30	
	H5	PD75	120 - 800	120 - 1000	0,03 - 0,20	0,02 - 0,10	3,50	0,30	
	H0	HD08	200 - 1500	200 - 2000	0,03 - 0,20	0,02 - 0,10	3,50	0,50	
	H5	PD70	150 - 1350	150 - 1800	0,03 - 0,20	0,02 - 0,10	5,50	0,50	
	H5	PD75	150 - 1200	150 - 1750	0,03 - 0,20	0,02 - 0,10	5,50	0,50	
铜合金 Copper alloys	HF	PD75	150 - 1200	150 - 1750	0,05 - 0,30	0,02 - 0,10	4,50	0,50	油, 冷却液, 微量润滑 Oil, Emulsion, MQS
	H5	PD70	175 - 1500	175 - 2000	0,05 - 0,25	0,02 - 0,10	3,50	0,30	
	H5	PD75	150 - 1350	150 - 1850	0,05 - 0,30	0,02 - 0,10	3,50	0,30	
	HF	PD75	150 - 1350	150 - 1850	0,03 - 0,16	0,02 - 0,10	4,50	0,30	
	H0	HD08	200 - 1800	200 - 2200	0,03 - 0,16	0,01 - 0,08	2,50	0,30	
	H5	PD70	175 - 1500	175 - 1800	0,03 - 0,16	0,01 - 0,08	3,50	0,30	
	H5	PD75	150 - 1350	150 - 2000	0,03 - 0,25	0,01 - 0,08	3,50	0,30	
	HF	PD75	150 - 1350	150 - 2000	0,07 - 0,30	0,01 - 0,08	4,00	0,30	
	H0	HD08	100 - 500	100 - 800	0,07 - 0,30	0,05 - 0,2	6,50	1,00	
玻璃纤维 Fiberglass	H5 / H0	PD70	100 - 400	100 - 700	0,07 - 0,30	0,05 - 0,2	6,50	1,00	压缩空气 干 Air pressure (dry)
碳纤维 Carbon fiber	H5 / H0	PD70	80 - 300	80 - 500	0,05 - 0,25	0,03 - 0,12	6,50	1,00	

