WALTER
Engineering Kompetenz

Turning, holemaking,
threading, milling

Product highlights
Edition 2024-2

_PRODUCT HIGHLIGHTS

Simply our best.


Groov·tec™ GD

Longer tool life for medium machining operations.

NEW

THE GRADE

- Wear-resistant TiCN/CN-based cermet substrate with Ni/Co binder and PVD TiCN/TiAlN coating
- Double the tool life thanks to unparalleled wear resistance

THE APPLICATION

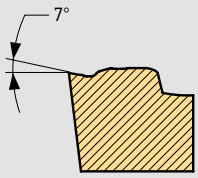
- Machining parameters f: 0.08–0.35 mm, a_p: 0.4–3.5 mm
- Primary application: Steel ISO P10
- Secondary application: Stainless steel ISO M10 and cast iron ISO K10
- Machining of long-chipping materials (e.g. St37)
- Finishing with continuous and slightly interrupted cuts
- Use as a chamfer insert in boring tools due to straight cutting edge for C basic shape

THE GEOMETRY

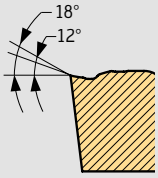
- Curved cutting edge and deep chip breaker groove for low cutting forces
- Precision-sintered
- 7° clearance angle (CCMT, etc.)

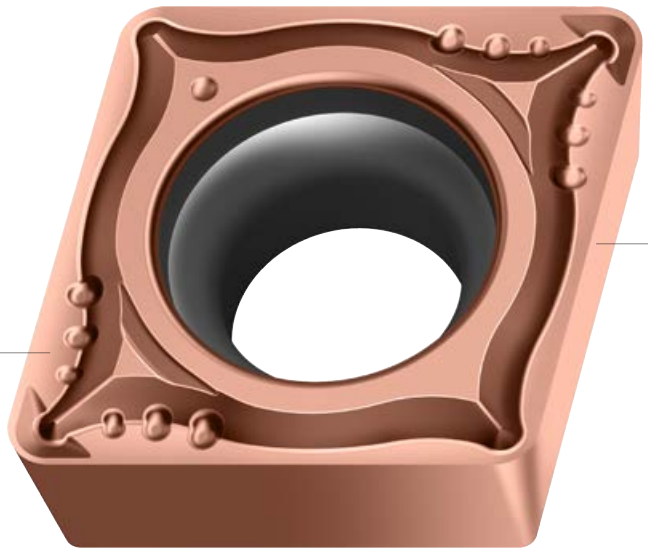
Sectional view – geometry

Section:
Main cutting edge

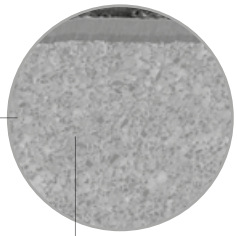


Section:
Corner radius





Rounded cutting edge – for stable machining operations in the average inclination (lead angle) and feed range



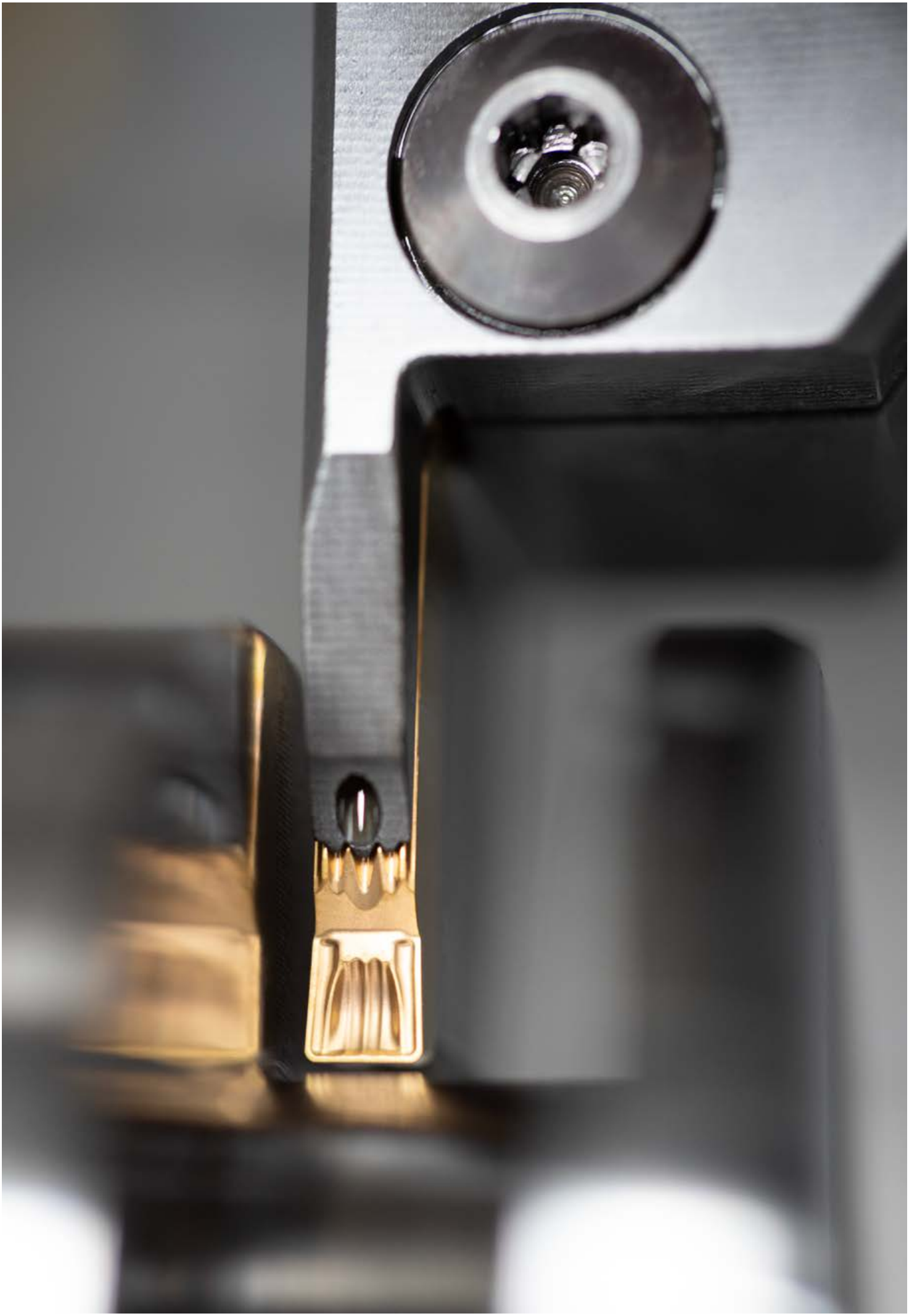
Wear-resistant TiCN TiAlN coating

Cermet indexable insert

Fig.: CCMT09T308-MP4 WEP10C

POTENTIAL BENEFITS

- Very good chip breaking, even on long-chipping materials such as 16MnCr5 or structural steels
- No readjustment necessary, maximum dimensional accuracy
- Longer tool life and higher productivity in comparison to carbide



Double the serration – double the reliability.

NEW

THE TOOL

- Groov·tec™ GD grooving tool G5011 with and without precision cooling
- Indexable insert clamping can be operated from both sides
- 2 grooving depths 12 and 21 mm for optimum tool stability
- Shank sizes: 16x16, 20x20 and 25x25 mm

THE INDEXABLE INSERTS

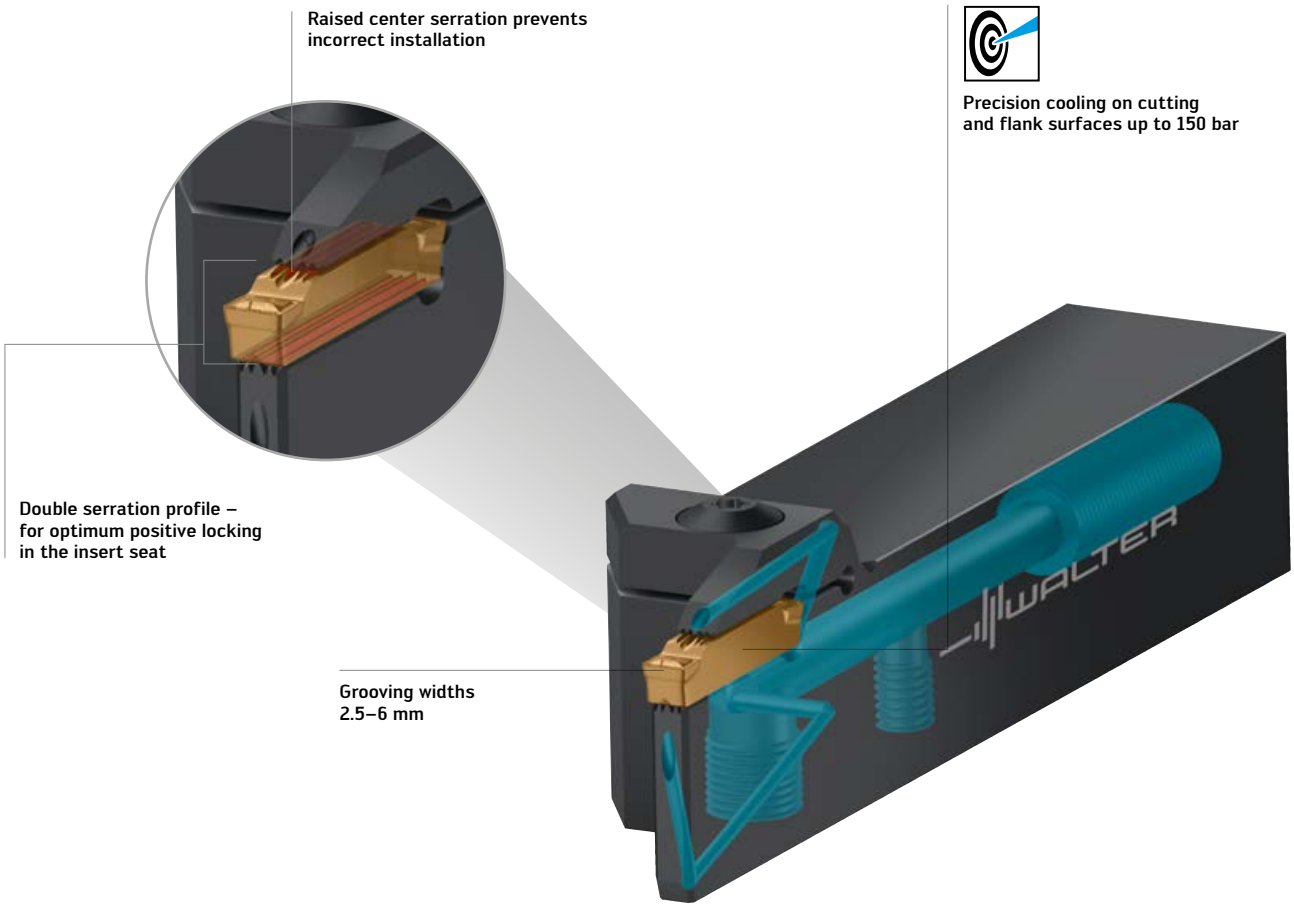
- Patent-pending, double-edged GD26 cutting inserts with double serration clamping profile
- Grooving widths: 2.5 / 3.0 / 4.0 / 5.0 / 6.0 mm

THE GEOMETRY

- Parting off and grooving: CE4, CF5, CF6, GD6 and GD3
- Parting and grooving: UA4, UD4 and UF4
- With full radius: RD4 and RF8

THE GRADE

- 4 Tiger·tec® Gold PVD grades: WSM13G, WSM23G, WSM33G and WSM43G
- For steel, stainless steels and difficult-to-machine materials
- 3 Tiger·tec® Gold CVD grades: WKP13G, WKP23G and WKP33G
- For steel and cast iron machining



Powered by Tiger·tec®Gold

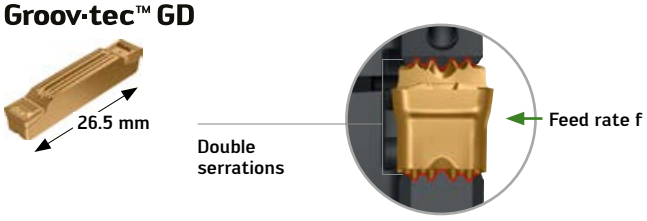
Groov·tec™ GD grooving system

Fig.: G5011-2525R-5T21GD26-P

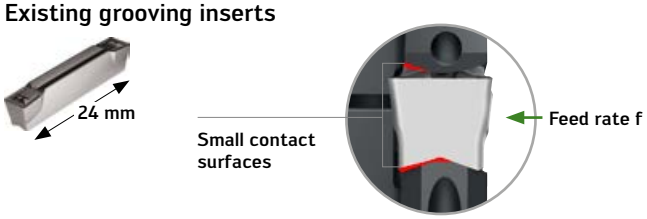
THE TECHNOLOGY

- New insert design with double serration profile. The GD26 cutting insert and tool body (insert seat) are optimally interlocked. The positive fit absorbs lateral forces better during longitudinal and copy turning
- Conventional systems (e.g. without double serrations) are significantly less stable in comparison.

Groov·tec™ GD



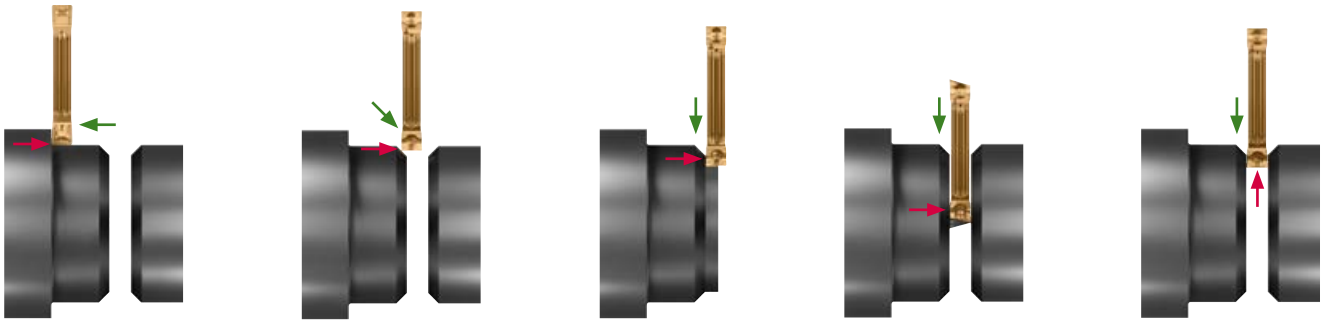
Existing grooving inserts



THE APPLICATION

- Radial grooving and parting off, recess turning and copy turning up to 26 mm grooving depth
- Universal use on lathes of all kinds

Greater stability in all applications – with Groov·tec™ GD



Turning | Chamfers | Offset grooving | Parting off – inclined cutting insert | Parting off – straight cutting insert

→ Feed rate (f)
→ F_{axial}

POTENTIAL BENEFITS

- Increased stability and process reliability thanks to Groov·tec™ GD serration profile
- Increased cutting parameters thanks to new serration profile and precision cooling
- Maximum productivity and service life thanks to wear-resistant Tiger·tec® Gold grades

Wear doesn't stand a chance.

NEW

THE INDEXABLE INSERTS

GD26 Groove·tec™ GD
- Patent-pending, double-edged GD26 cutting inserts with double serration profile for perfect positive engagement in the insert seat
- For G5000 tool types

DX18
- Double-edged DX18 cutting inserts with top, bottom and back pocket support for strong insert seating
- For G4000 tool types

THE APPLICATION

- CVD grades; primary application: Groove turning, copy turning and grooving

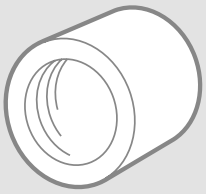
WKP13G (ISO P10 ; ISO K20)
- High wear resistance and cutting speed
- Continuous cut

WKP23G (ISO P20 ; ISO K25)
- High wear resistance and cutting speed
- Continuous to occasional interrupted cut
- Universal grade for approx. 80% of all applications

WKP33G (ISO P30 ; ISO K30)
- Excellent wear resistance and toughness
- For unfavorable conditions and interrupted cuts
- Steel and cast iron materials

APPLICATION EXAMPLE

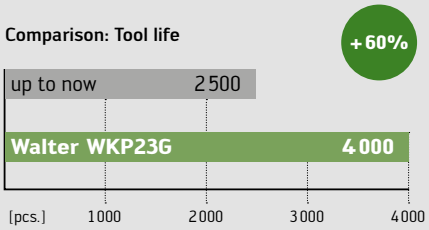
Cut-off ring Ø 30.5 mm



Material:	38MnVS6 / 1.1303
Strength:	800 N/mm²
Machine:	Index MS40
Indexable insert:	GD26-3E300N03-UD4 WKP23G
Tool:	G5011-2020L-3T21GD26-P

Cutting data	up to now	Walter WKP23G
s (mm)	3	3
v_c (m/min)	130	130
f (mm)	0.13	0.13
T (mm)	4	4
Cooling	Oil, 40 bar	Oil, 40 bar
Tool life	2500	4000

Comparison: Tool life



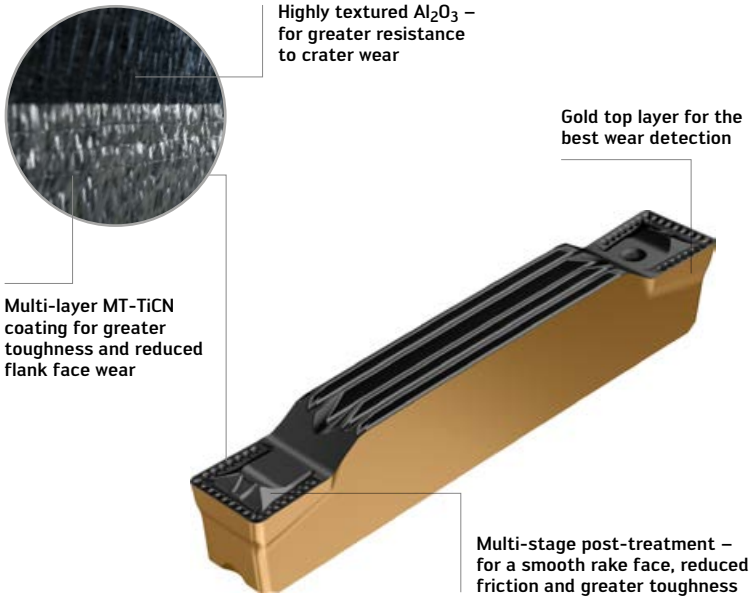
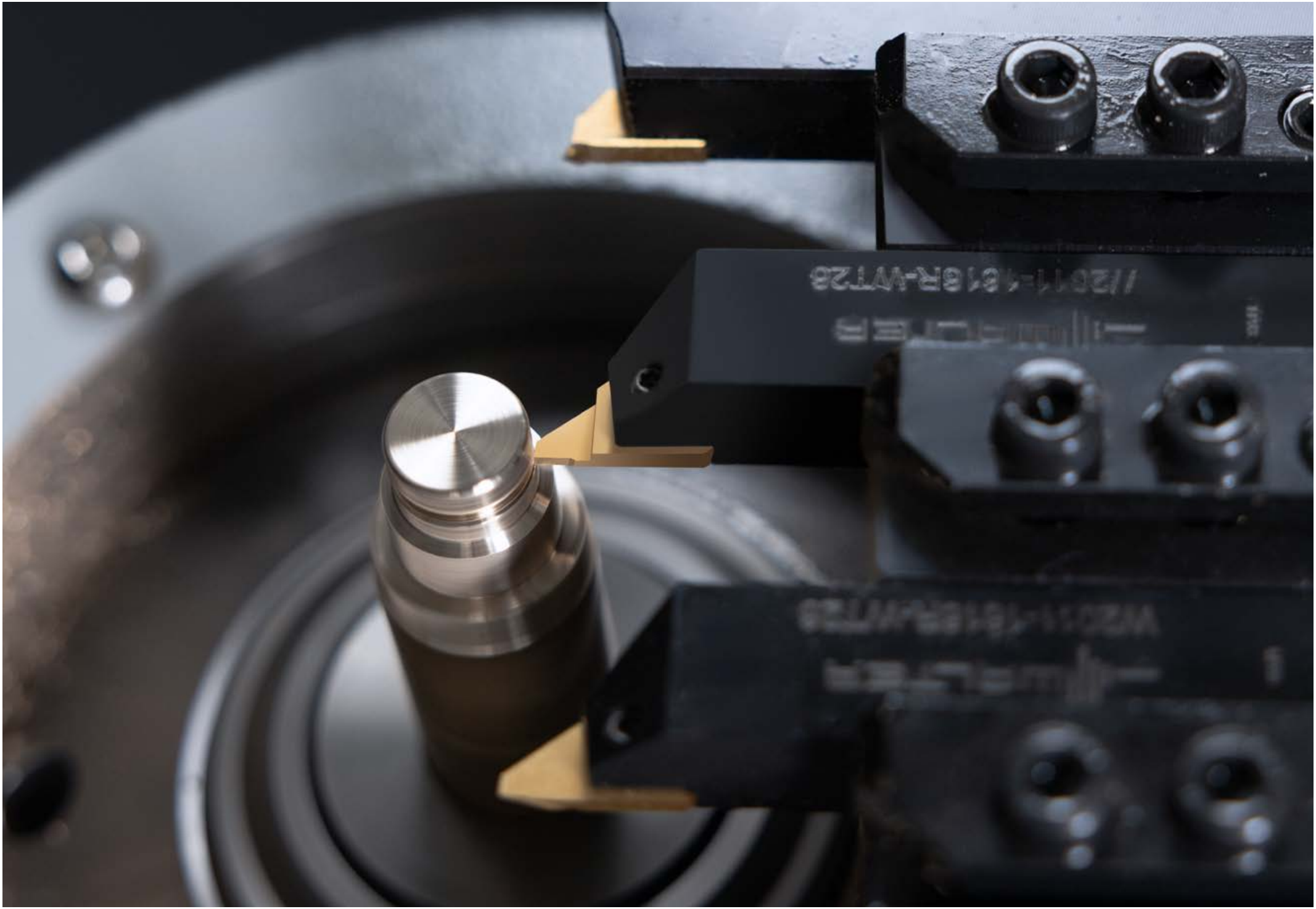


Fig.: GD26-4E400N04-UD4 WKP23G

POTENTIAL BENEFITS

- High level of cost-efficiency due to Tiger·tec® Gold coating
- Average increase in tool life of around 50%
- High productivity, short machining times – ideal for mass production
- Wear-resistant cutting tool material (alternative to WSM grades)



Full flexibility, complete precision.

NEW

THE TOOL

W3270/W3271 boring bars

- Dia.: 12 and 16 mm; 0.5 and 0.625" with clamping surface
- Coolant outlet on both sides for universal applicability
- Optimized coolant supply available for axial grooving
- Available in steel and carbide

WE interchangeable heads

- "Walter Exchangeable" (WE) head for internal machining from min. dia. 7 mm
- Axial grooving from min. dia. 12 mm
- "Walter Exchangeable" (WE) positive engagement for stability and accuracy
- Precision-ground cutting edge
- Chip breaker geometry available

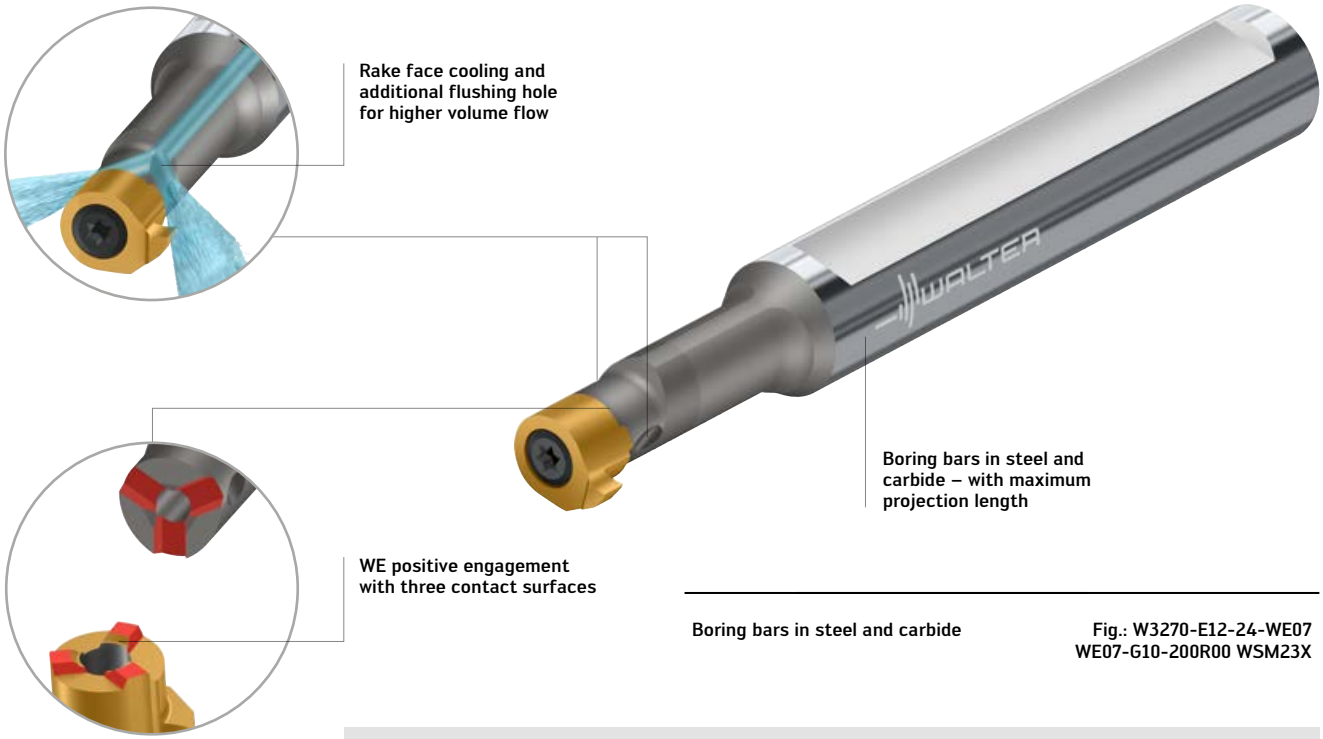
THE GRADE

WSM23X

- Primary application: Steel ISO P25, stainless steel ISO M25, materials with difficult cutting properties ISO S25
- Secondary application: Non-ferrous metals ISO N25
- Universal PVD grade for parting off/grooving and turning with moderate to low v_c and a_p
- PVD multi-layer TiAlN and TiN top layer

WSM13X

- Primary application: Steel ISO P15, stainless steel ISO M15, materials with difficult cutting properties ISO S15, NF metals ISO N15
- Higher wear resistance (compared to WSM23X) for stable machining conditions
- PVD multi-layer TiAlN



Boring bars in steel and carbide

Fig.: W3270-E12-24-WE07 WE07-G10-200R00 WSM23X

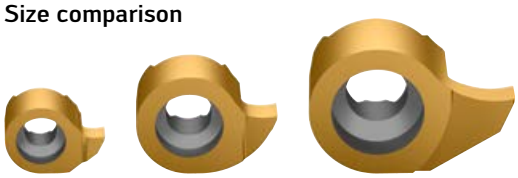
POTENTIAL BENEFITS

- Process reliability and high level of stability due to WE positive engagement
- Repeatable machining quality and minimized rejection rate
- Maximum flexibility due to WE exchangeable head replacement in the same toolholder (from D_{min} 7 mm)
- Large standard range (as well as special products with a shorter delivery time)
- Maximum precision and tool life due to precision-ground, sharp cutting edge

THE APPLICATION

– High-precision components

Size comparison

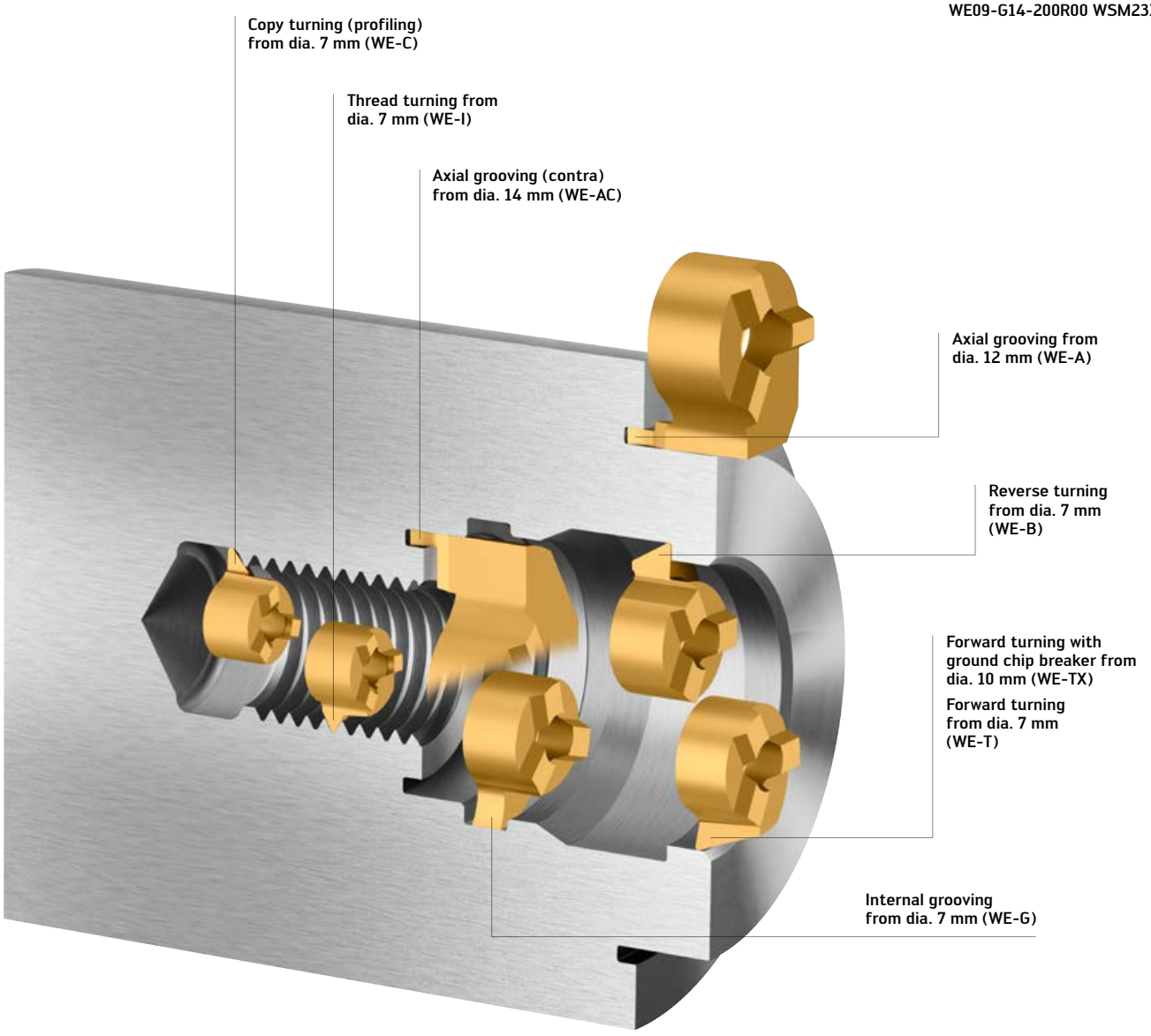


WE05 D_{min} > 7 mm | WE07 D_{min} > 10 mm | WE09 D_{min} > 12 mm

WE exchangeable heads

Fig.: WE05-G07-150R00 WSM23X
WE07-G10-200R00 WSM23X
WE09-G14-200R00 WSM23X

Exchangeable head types and applications



Maximum sharpness for ultimate precision.

EXPANSION OF THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- WT26 partial-profile thread turning inserts
- WT26 full-profile thread turning inserts

THE TOOL

- From a workpiece diameter of 1 mm – for automatic lathes and multi-spindle machines
- Precision-ground indexable inserts and toolholders
- Indexable insert screw can be accessed from both sides for simple insert indexing
- Shank sizes: 10 × 10, 12 × 12 and 16 × 16 mm

THE INDEXABLE INSERTS

- Tangentially installed WT26 indexable inserts for machining precision turned parts
- Sharp cutting edges for optimum machining results at low feeds
- Precision-ground cutting edge and chip breaker groove for ultimate precision

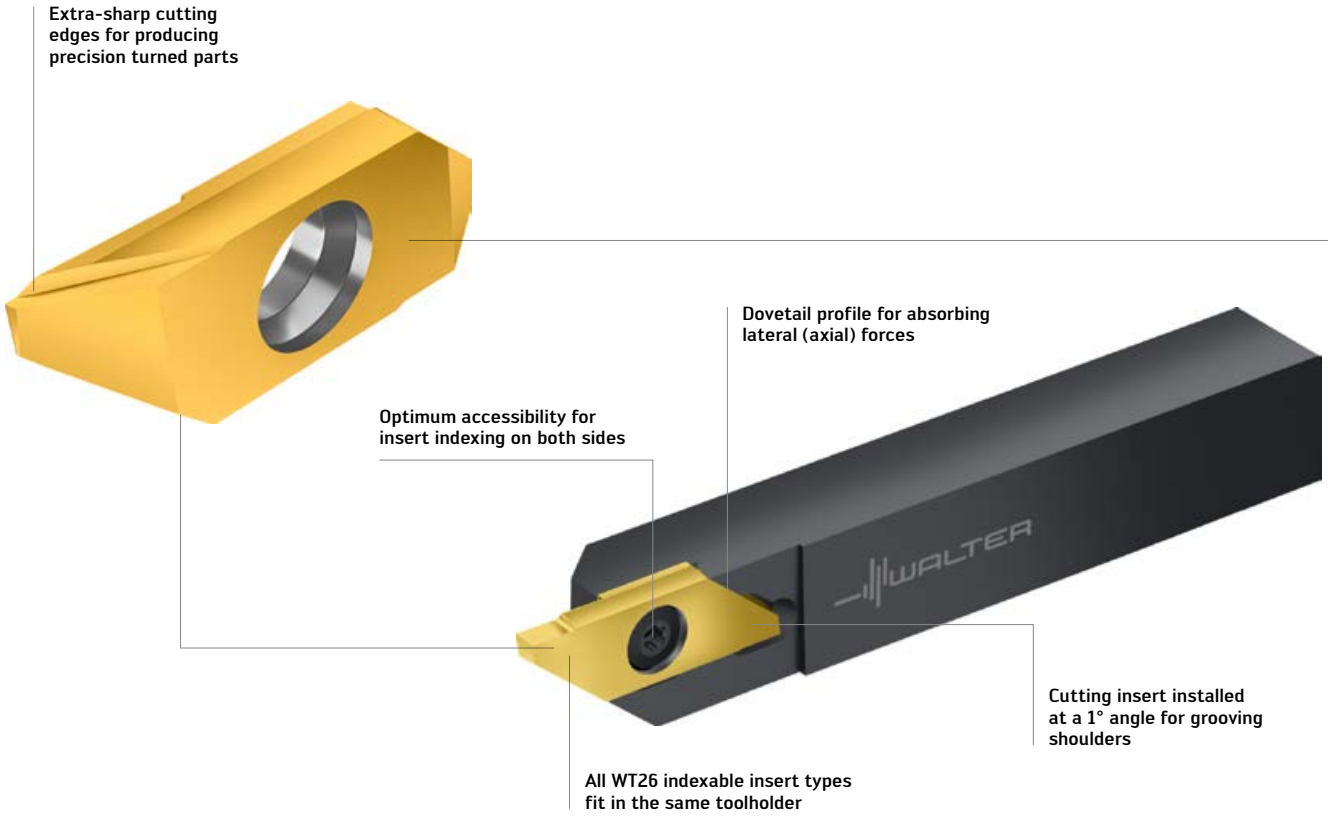
THE GRADE

WSM23X

- Universal PVD grade for parting off/grooving and turning with moderate to low v_c and a_p
- Primary application: Steel ISO P25, stainless steel ISO M25, materials with difficult cutting properties ISO S25, non-ferrous metals ISO N25

WN23

- Uncoated carbide grade, extremely tough and abrasion-resistant for ISO N
- Primary application: ISO N20; secondary application ISO P, S and O



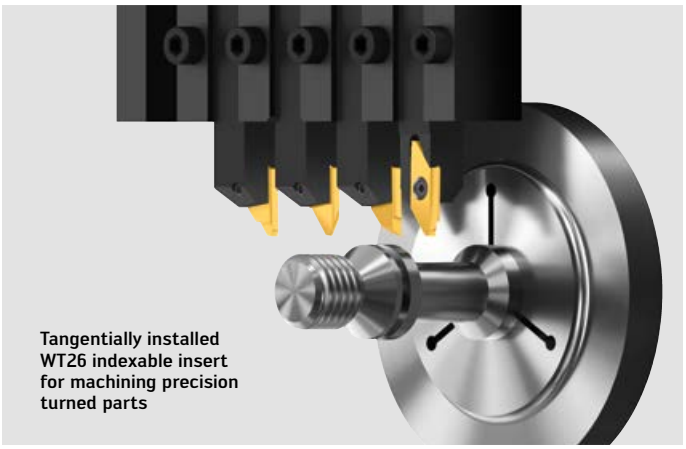
WT26 indexable insert and W2011 precision toolholder

Fig.: WT26-R300R010-VG8 WSM23X
Fig.: W2011-1212R-WT26

THE APPLICATION

- Parting off and grooving, forward and reverse turning; thread turning on sliding-head (Swiss turning) lathes and multi-spindle machines
- Grooving along close shoulders thanks to installation of the cutting insert at a 1° angle
- High-precision components

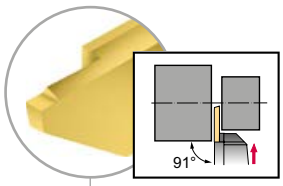
Walter solutions for automatic lathes



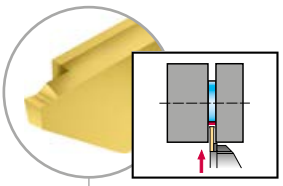
Tangentially installed WT26 indexable insert for machining precision turned parts

THE GEOMETRIES

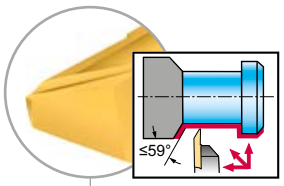
CD8 chip breaker geometry for parting off



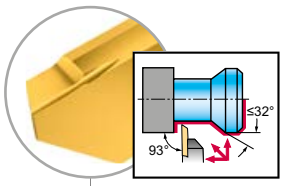
GD8 chip breaker geometry for grooving



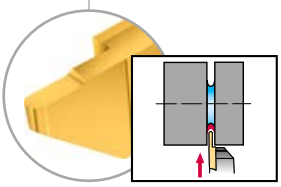
VG8 chip breaker geometry for reverse turning and copy turning



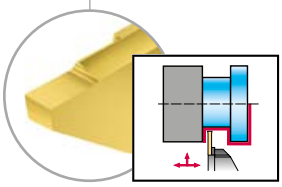
DG8 chip breaker geometry for forward turning



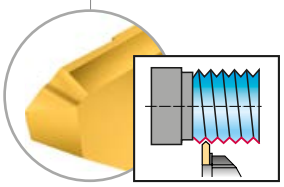
RA8 chip breaker geometry for radius grooving



UA8 chip breaker geometry for grooving and longitudinal turning



ISO partial-profile thread geometry
ISO full-profile thread geometry



NEW

POTENTIAL BENEFITS

- High level of flexibility: All WT26 indexable insert types can be inserted in the same toolholder
- User-friendly due to tangential screw clamping which can be operated from both sides
- Maximum precision and tool life due to precision-ground, sharp indexable inserts

Thread turning with Tiger technology.

NEW

THE TOOL

- T1011 External threading tools with carbide-pin claw clamping
- Rigid clamping and carbide pin contact for high thread precision

THE INDEXABLE INSERTS

- TS thread turning inserts in sizes TS16 & TS22 mm
- Precision-ground multi-tooth indexable inserts for high accuracy and productivity
- Chip breaker geometries F5 and M5
- Large standard program; specials on request

THE GRADE

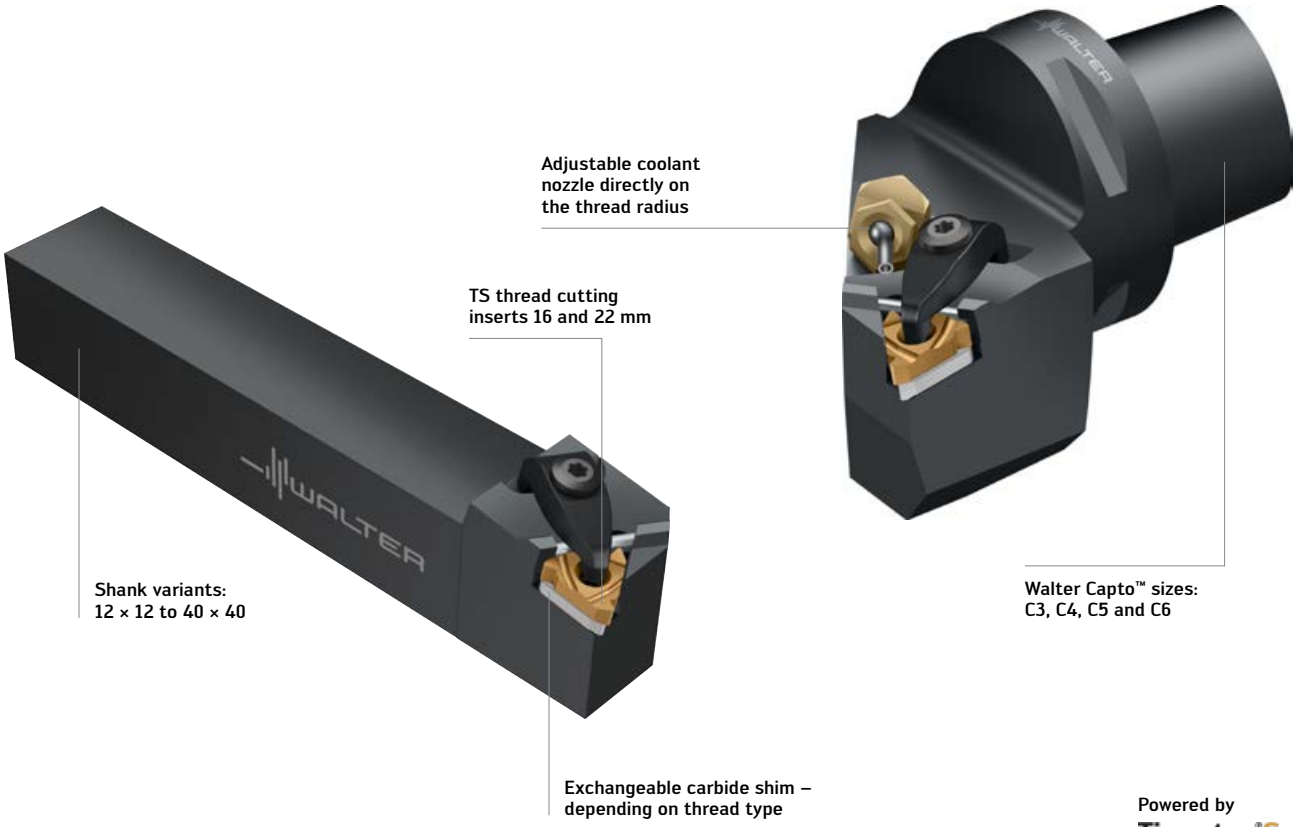
- New Tiger-tec® Gold PVD grades specially developed for thread turning

WMP22G

- Wear-resistant grade for maximum cutting speeds
- Main application: ISO P steel, ISO M stainless steel
- Secondary application: difficult-to-machine materials ISO S, secondary application: difficult-to-machine materials ISO S, non-ferrous metals ISO N and cast iron ISO K

WMP32G

- Universal grade for 80 % of all applications with high process reliability
- Main application: ISO-P steel, ISO M stainless steel
- Secondary application: difficult-to-machine materials ISO S, cast iron ISO K

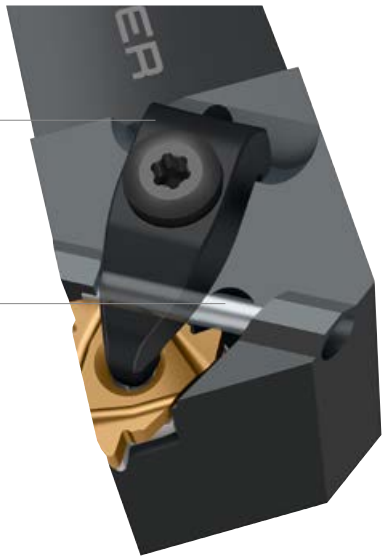


Powered by Tiger·tec Gold

TS threading system

Fig.: T1011-2525L-TS16-S
Fig.: T1011-C5R-35060-TS16

THE TECHNOLOGY



Stable rigid clamping for optimum indexable insert attachment

Carbide pin for indexable insert contact (no insert seat deformation!)

THE APPLICATION

- Reusable full-profile threads: ISO, UN and UNJ
- Permanent full-profile threads for pipes and fittings: W, BSPT, NPT/NPTF, RD
- Motion-transmitting full-profile threads: TR, ACME, BUTT
- Partial profile thread: 55° and 60° V-profile

THE GEOMETRY

F5 geometry for ISO P / M

- Precision-sintered
- “Narrow” pressed-in chip recess
- Fine threads on steel and stainless steels
- Very good chip breaking behavior with both low and high in-feed methods

M5 geometry for ISO M / P

- Center pressed-in chip recess “more open”
- External thread on stainless steels and steel
- Very good chip breaking behavior with all in-feed methods
- Low burr formation

2/3 multi-tooth geometry for ISO P / M

- Precision-ground
- Multi-tooth external thread on steel and stainless steels
- First choice for mass production
- 40% fewer passes, resulting in shorter machining times

POTENTIAL BENEFITS

- High stability and process reliability thanks to carbide pin fixation in the insert seat
- Maximum tool life thanks to stable indexable insert system
- Very good chip breaking
- Maximum productivity and service life thanks to multi-tooth inserts and Tiger-tec® Gold grades

Thread·tec™ – the versatile and universal thread range.

NEW

THE TOOL

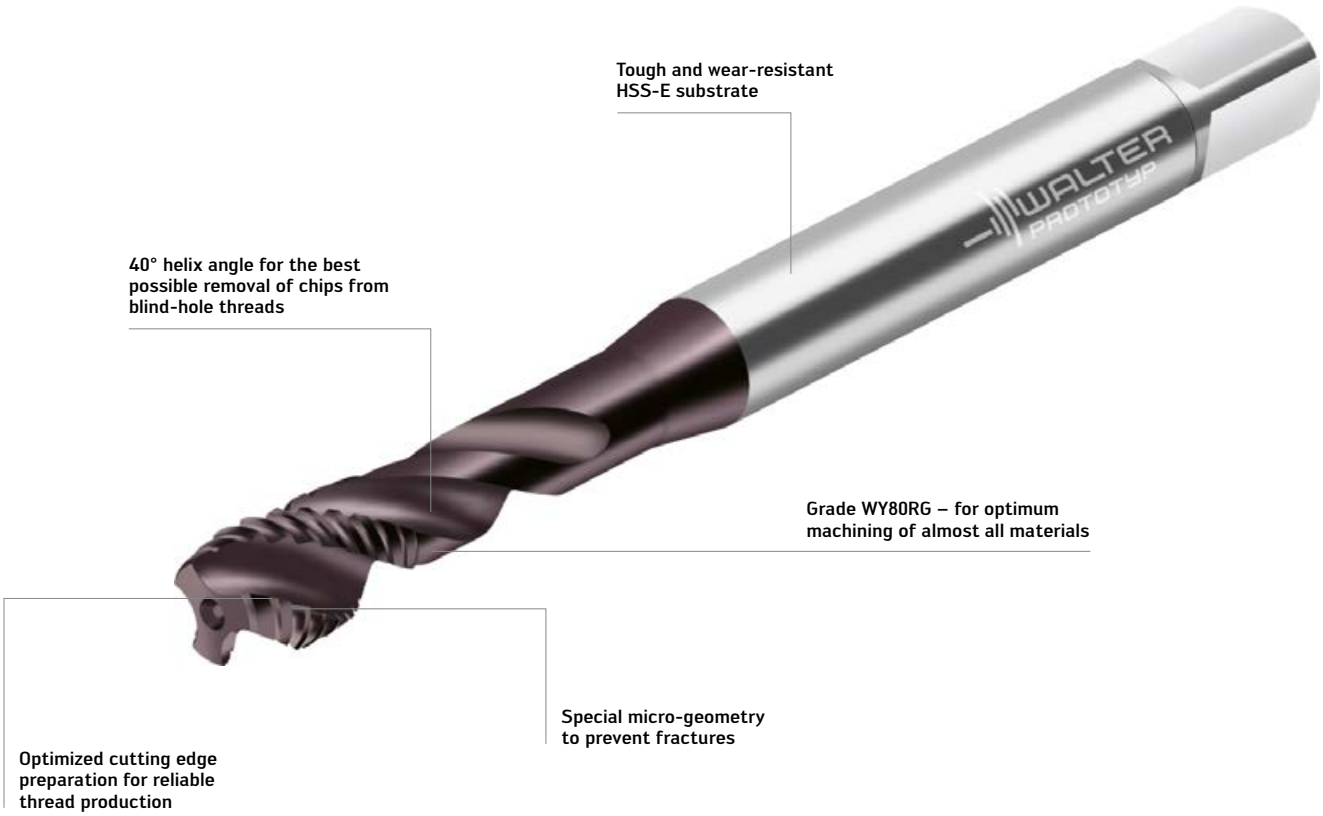
- HSS-E blind hole tap
- Grades: WY80FC, WY80RG and WY80AA
- Tolerances: 6HX, 6GX and 6Hmod
- Variant: Extra-long
- Chamfer forms: C and E

Dimensions:

- Metric: M1.6 – M42
- Metric: M3–M20 (DIN/ANSI)
- Metric fine: M4×0.5 – M30×2
- Thread insert: EGM10 – EGM16

THE APPLICATION

- Blind-hole thread up to 2.5 × D_N
- Suitable for ISO materials P, M, K and N
- Area of use: General mechanical engineering



Thread·tec™ Omni TD117 Advance

Fig.: TD117-M10-C0-WY80RG

P	M	K	N
●●	●●	●●	●●

Grade WY80FC:
Universal application with excellent chip formation

P	M	K	N
●	●●	●	●●

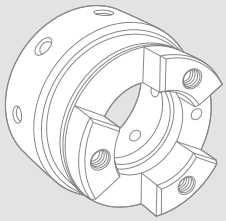
Grade WY80RG:
High performance in ISO M and ISO N materials

P	M	K	N
●●	●	●●	●

Grade WY80AA:
First choice for ISO P and ISO K materials

APPLICATION EXAMPLE

Coupling flange

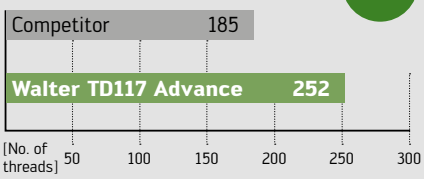


Material:	11SMn30/1.0715
Strength:	650 N/mm² / 195 HB
Dimension:	M10
Tap:	TD117-M10-E0-WY80RA

Cutting data	Competitor	**Walter TD117 Advance**
v_c (m/min)	18	18
Thread depth (mm)	22	22
Cooling	external	external
Tool life (number of threads)	185 – Breakage	252 – No breakage

Comparison: Tool life

+36%



POTENTIAL BENEFITS

- Reliable thread production
- Universal application for numerous materials
- Reduction of tool and inventory costs

Thread·tec™ – a safe choice for every application.

NEW

THE TOOL

- HSS-E through hole tap
- Grades: WY80FC, WY80RG and WY80AA
- Tolerances: 4HX, 6HX, 6GX and 7GX
- Variants: Long, extra-long and left-hand cutting
- Chamfer form B

Dimensions:

- Metric: M1–M56
- Metric: M3–M20 (DIN/ANSI)
- Metric fine: M2.2×0.25 – M50×1.5

THE APPLICATION

- Through-hole thread up to 3 × D_N
- Suitable for ISO materials P, M, K and N
- Area of use: General mechanical engineering

P	M	K	N
••	••	••	••

Grade WY80FC:
Universal application with a wide selection of dimensions in the standard range

P	M	K	N
•	••	•	••

Grade WY80RG:
High performance in ISO M and ISO N materials

P	M	K	N
••	•	••	•

Grade WY80AA:
First choice in ISO P and ISO K materials

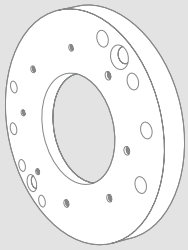
HSS-E substrate with greater hardness – optimizes wear resistance and tool life

Thread·tec™ Omni TD217 Advance

Fig.: TD217-M10-C0-WY80RG

APPLICATION EXAMPLE

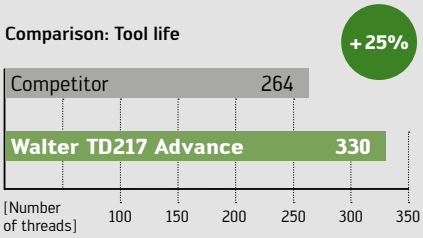
Guide flange



Material:	42CrMo4/1.7225/4140
Strength:	900 N/mm² / 266 HB
Dimension:	M12
Tap:	TD217-M12-E0-WY80AA

Cutting data	Competitor	**Walter TD217 Advance**
v_c (m/min)	15	21
Thread depth	18	18
Cooling	external	external
Tool life (number of threads)	264	330

Comparison: Tool life



POTENTIAL BENEFITS

- Reliable thread production
- Universal application for various materials
- Reduced tool and inventory costs

Low vibration – thanks to DeVibe and multi-row design.

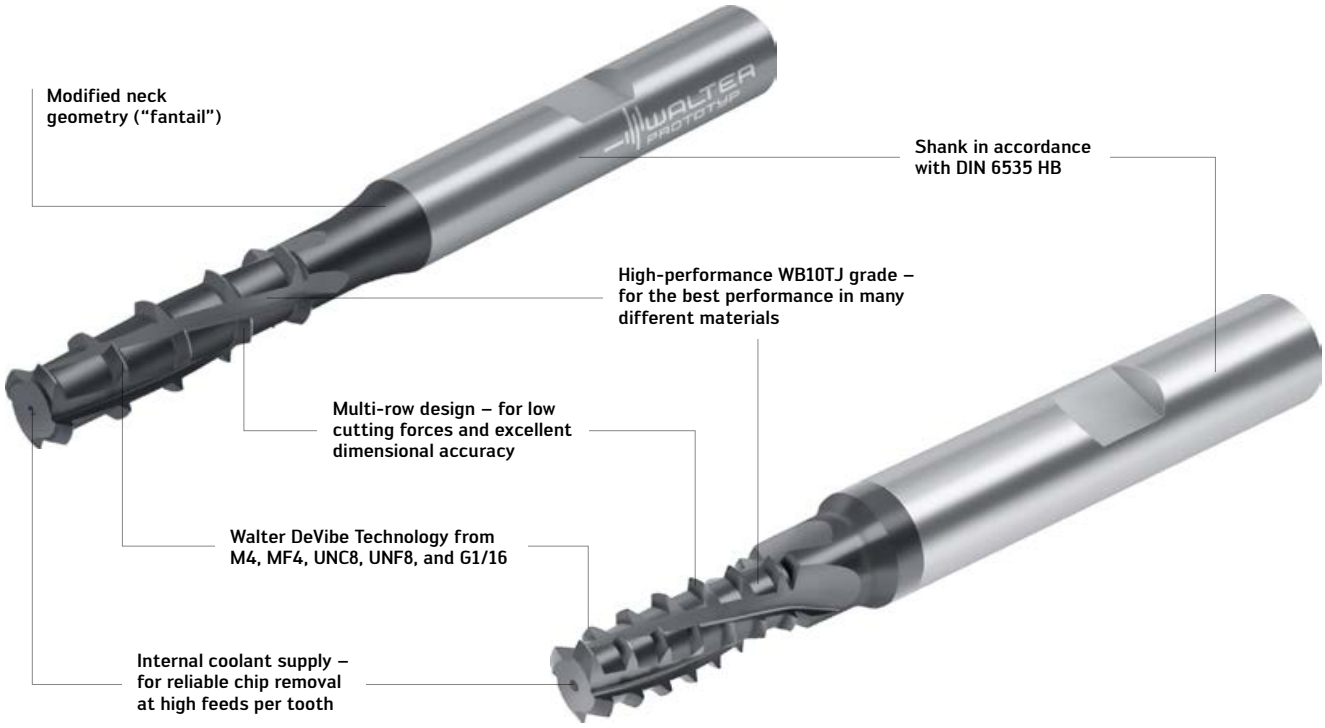
EXPANSION OF THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- Walter DeVibe Technology for
- 3 × D_N – M4 – M20
- 2 and 2.5 × D_N from M4; UNC8
- 2 × D_N from UNF10; M4×0.5
- 2 × D_N – G1/16 – G1/2

THE TOOL

- Multiple-row thread milling cutter for universal application
- Walter DeVibe technology for vibration damping



Multi-row solid carbide thread milling cutter

Fig.: TC620-M10-W5F-WB10TJ
Fig.: TC620-G1/4-W5D-WB10TJ

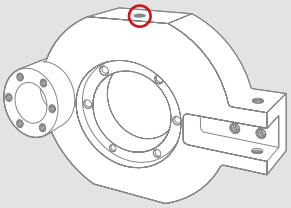
POTENTIAL BENEFITS

- Low cost per thread thanks to fast machining time and high tool life quantity
- High level of process reliability and easy handling due to extremely infrequent radius corrections
- Walter DeVibe technology: Reliable machining, even in extreme conditions
- Universal application in many different materials

Walter Xpress

APPLICATION EXAMPLE

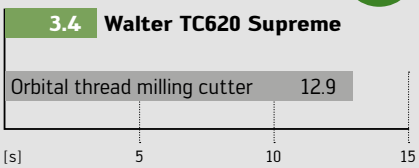
Holder



Material:	42CrMo4/1.7225/4140
Strength:	820 N/mm²
Thread size:	M6
Thread depth:	18 mm
Blind/through hole:	Blind hole
Tool:	TC620-M6-W5F-WB10TJ

Cutting data	Orbital thread milling cutter	**Walter TC620 Supreme**
v_c (m/min)	97	121
F_z (mm)	0.067	0.079
Strategy	Climb Milling	Conventional Milling
Cooling	external	internal
Processing time (s)	12.9	3.4

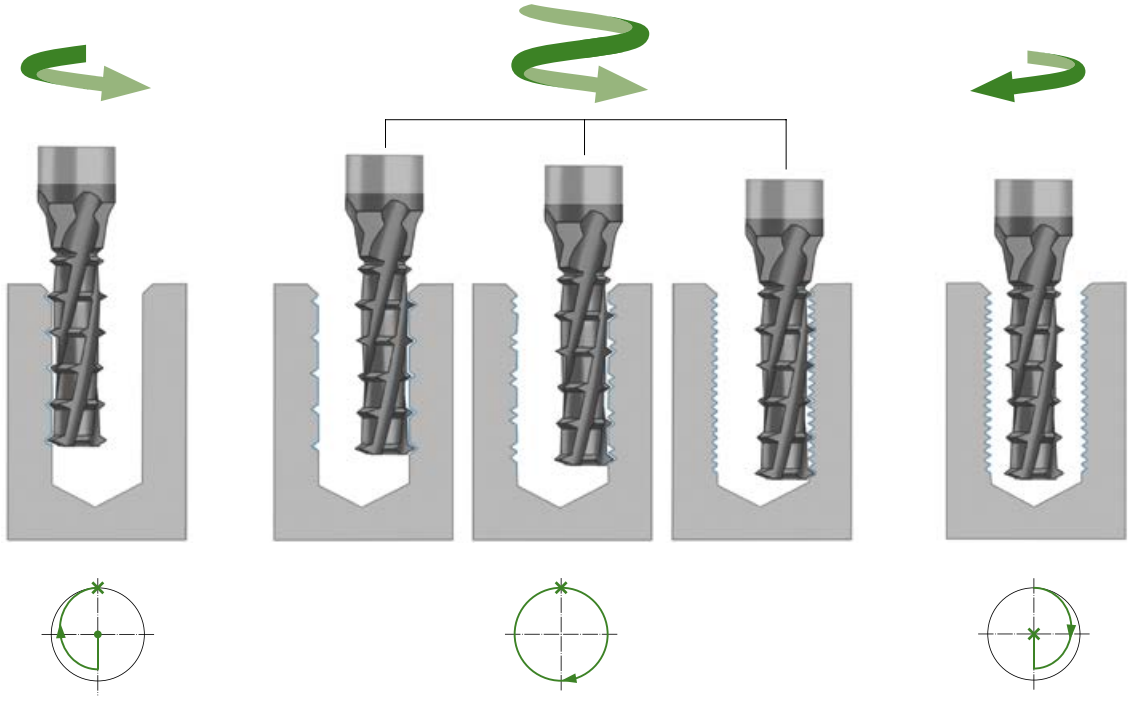
Comparison: machining time **– 74%**



THE APPLICATION

- Blind-hole and through-hole threads
- ISO materials P, M, K, N and S up to 48 HRC
- Thread depths 2 – 3 $\times D_N$
- Ideal for strict requirements on process reliability (e.g. for expensive components)

THE STRATEGY



Entry loop

Producing the thread using helical interpolation until the row spacing is bridged

Exit loop

Thrill·tec™ – quick and universal, even for larger threads.

EXPANSION OF THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- 2 and 2.5 × D_N M14 – M20
- 2 and 2.5 × D_N UNC 9/16 – 3/4
- 2 × D_N G1/2

THE TOOL

- Orbital drill/thread mill for universal machining
- Creation of core hole and thread in one operation
- Can also be used for chamfering
- IMPORTANT: Left-hand cutting tool

THE APPLICATION

- Blind-hole and through-hole threads
- ISO materials P, M, K, N and S up to 48 HRC
- Thread depths of 2 and 2.5 × D_N

Thrill·tec™

Solid carbide orbital drill/thread mill

Fig.: TC645-M16-A1D-WB10TJ

POTENTIAL BENEFITS

- Maximum process reliability thanks to high stability
- Very low cost per thread (high tool life quantity, fast machining time)
- Reduces the number of tool positions and the tool change time
- Universal application

Walter Xpress

Customized and cost-effective – delivery time of just three weeks.

SPECIAL TOOL

THE TOOL

- TC610/TC611 Supreme full effective thread milling cutter
- TC620 Supreme multi-row thread milling cutter
- TC630 Supreme orbital thread milling cutter
- Thrill·tec™ orbital drill/thread mills – TC645 and TC685 Supreme

THE GEOMETRY

- Internal/external cooling or shank cooling
- With and without countersink, deburring chamfer, DeVibe
- M, MF, UNC, UNF, EG thread
- NPT/NPTF
- Note: G and J threads in the next step

THE INTERFACE

- Shank types in accordance with DIN 6535 HA, HB or HE

THE APPLICATION

- Blind-hole and through-hole threads
- ISO material groups P, M, K, N, S and H
- Universal or speciality applications
- Thread depths up to 4 × D_N
- Areas of use: General mechanical engineering, mold and die making, aerospace, medical technology, automotive and energy industries

Different tool types (depending on the area of application)

Various cooling types (internal, external, coolant grooves on the shank)

Thrill·tec™

Solid carbide orbital thread milling cutter

Fig.: TC630-SUNF1/4-A0D-WB10RA
Fig.: TC645-G1/4-A1D-WB10TJ
Fig.: TC685-M8-A1D-WB10RC

Different substrate versions (coating/carbide) depending on the area of application

Shank types:
HA, HB and HE

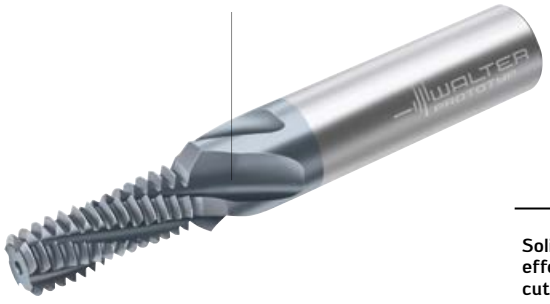
Multi-row solid carbide thread milling cutter

Fig.: TC620-M8-W5E-WB10TJ

Solid carbide full effective thread milling cutter

Fig.: TC610-M8-W1-WJ30RC

With/without:
Countersink, deburring chamfer, DeVibe



Solid carbide full effective thread milling cutter with countersink

Fig.: TMC - H5055016

POTENTIAL BENEFITS

- Greater flexibility due to delivery time of just three weeks
- Fewer tool design errors through a rule-based design approach in accordance with the component definition
- Superior results due to proven standard technology plus optimum special design

Walter Xpress

Think lightweight. Together.

NEW

NEW ADDITION TO THE PRODUCT RANGE

– MP270, MP271 and MP470 PCD milling cutter ranges

MP270

– MP270 PCD milling cutter with solid carbide shank

MP271

– MP271 PCD milling cutter with solid carbide shank

MP470

– MP470 PCD ball-nose end mill with solid carbide shank

THE TOOL

– MP060 face milling cutter with maximum number of teeth; dia. 40–125 mm
– MP160 shoulder milling cutter with cylindrical shank and ScrewFit adaption; dia. 16–40 mm
– MP260 routing cutter with cylindrical shank and ScrewFit adaption; dia. 4–20 mm

THE GRADE

– WDN20

THE APPLICATION

– Milling operations with the highest surface quality
– Non-ferrous metals (e.g. aluminium, Al-Si alloys, magnesium and magnesium-based alloys), as well as plastics and fibre-reinforced plastics
– Can be used with emulsion, oil and MQL
– Areas of use: Automotive industry, aerospace industry, general mechanical engineering

MP270

NEW

PCD routing cutter **Fig.: MP270 WDN20**

MP470

NEW

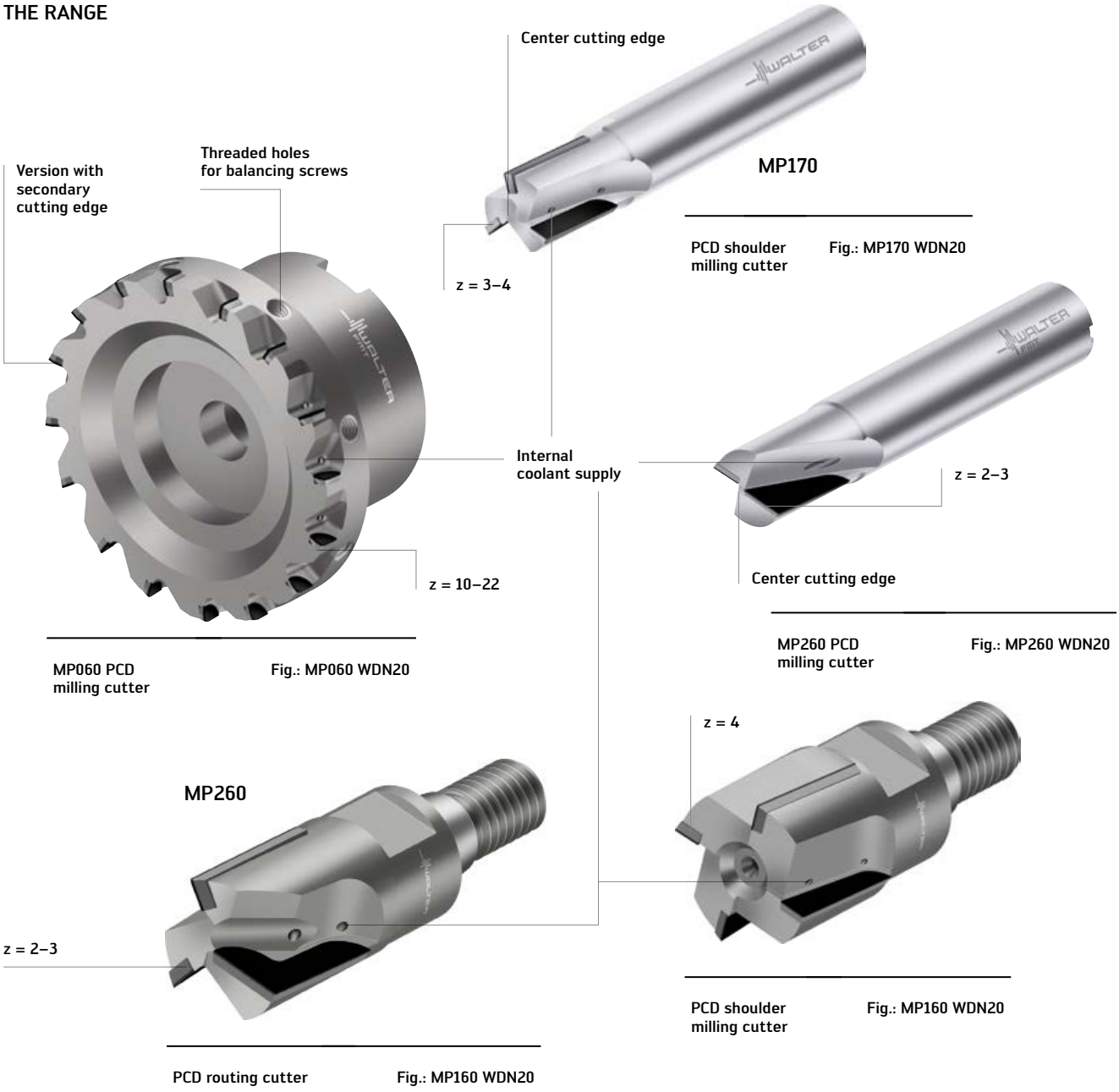
PCD ball-nose end mill **Fig.: MP470 WDN20**

MP271

NEW

PCD shoulder/slot milling cutter **Fig.: MP271 WDN20**

THE RANGE



POTENTIAL BENEFITS

- Cost-effective, precise machining
- Reduced cutting forces and minimal vibration tendency due to optimised geometries
- Low cutting tool material costs due to tool life being 20 to 200 times longer
- Possibility of reconditioning and/or reconfiguration

Advanced specialists for aluminium.

EXPANSION OF THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

MC166 Advance
– z2 and z3 – without corner radius

MC267 Advance
– z3 without corner radius (DIN 6527 L)

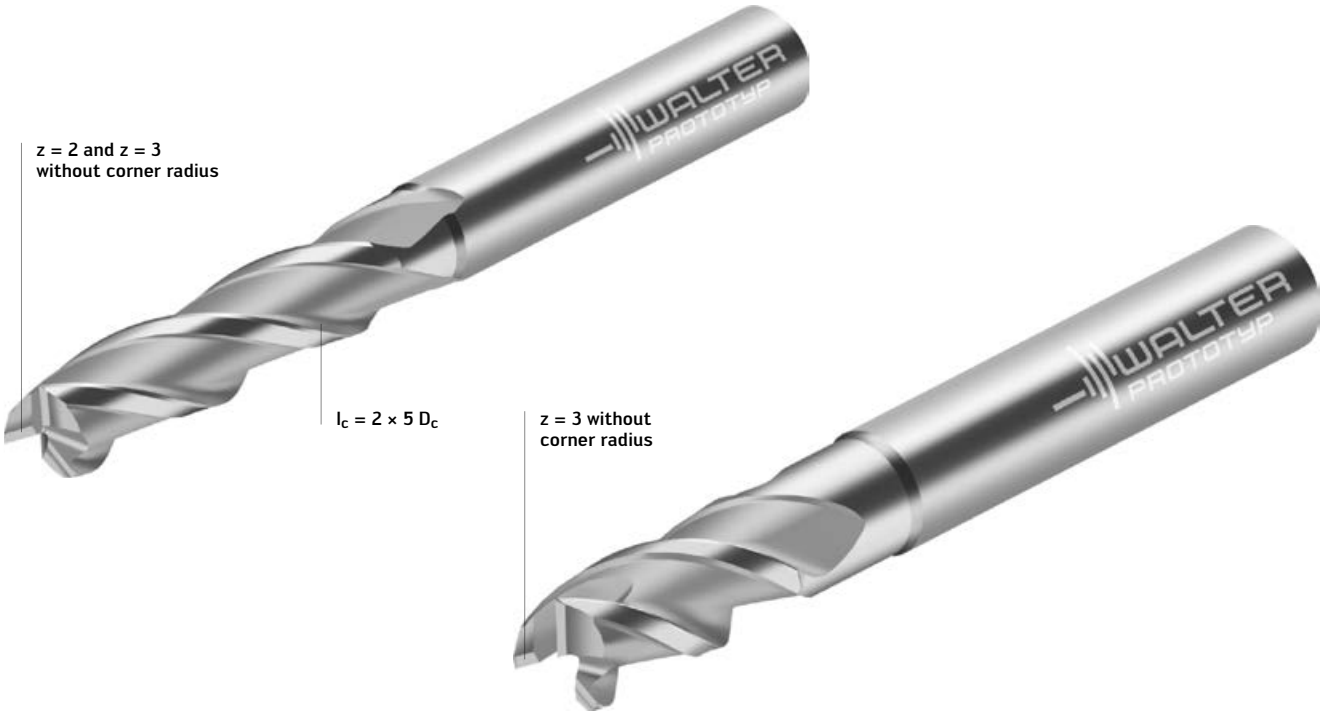
MC467 Advance
– Radius copy milling cutter
– z2

THE TOOL

MC166 Advance
– Dia. 12–20 mm/z3
– Increased core stability
– WJ30UU grade (uncoated)

MC267 Advance
– MC267 Advance: z2 and z3, dia. 1–20 mm with and without neck; with and without radius; coated and uncoated; centre cut
– Universal high-performance milling cutter and universal milling cutter for ISO N machining

MC467 Advance
– Radius copy milling cutter
– z = 2
– DIN 6527 L



Solid carbide milling cutter

Fig.: MC166 Advance WJ30UU
Fig.: MC267 Advance WJ30UU

THE GRADE

– WJ30UU (uncoated)

THE APPLICATION

MC166 Advance

– Developed for finishing or dynamic roughing of deep pockets and cavities
– Specially designed for dynamic milling (low a_e, high a_p, large L_c)

MC267 Advance

– Can be used universally for roughing, semi-finishing and finishing
– Finish machining of tight radii in the aerospace industry
– Specialist for finishing high walls

MC467 Advance

– Machining of 3D contours

Solid carbide milling cutter

Fig.: MC467 Advance WJ30UU

POTENTIAL BENEFITS

MC166 Advance

– Consistent process reliability thanks to increased core stability

MC267 Advance

– Considerable process reliability and can be used universally in all sectors of industry
– Differential pitch for optimum operational smoothness and huge increase in tool life

MC467 Advance

– Universal applicability for machining of 3D contours
– High level of process reliability in unmanned machining

Walter Xpress

Top marks for precision in ISO S and M.

NEW

THE GRADE

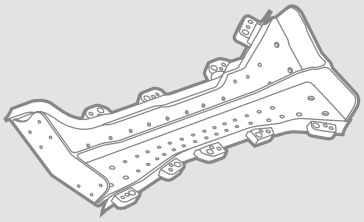
- PVD-coated Tiger·tec® Gold milling grades WSM36G
- AlTiN coating with excellent layer bonding
- Gold-colored ZrN top layer
- Layer thickness optimised for best coverage of sharp cutting edges
- Smooth layer with perfect balance between toughness and wear resistance

THE APPLICATION

- Precise copying and finishing of freeform surfaces and deep cavities
- Grade for machining of, for example, structural components made from titanium alloys
- Further fields of application: Nickel-based alloys and stainless steel
- Can be used in the Xtra·tec® XT M5460 copy finishing cutters
- Areas of use: Aerospace, energy industry, mould and die making, general mechanical engineering

APPLICATION EXAMPLE

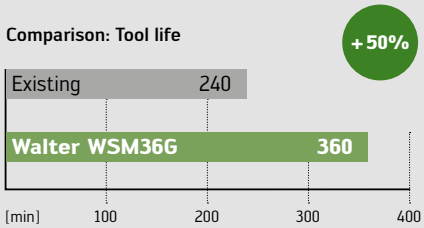
Structural component



Material:	Ti6Al4V
Strength:	34 HRC
Tool:	M5460-016-A16-02-08
Indexable insert:	P3204-D16 WSM36G

Cutting data	Existing	Walter WSM36G
v_c (m/min)	105	105
f (mm)	0.15	0.15
v_f (mm/min)	1323	1323
a_p (mm)	0.5	0.5
a_e (mm)	0.63	0.63
Cooling	Emulsion – internal	

Comparison: Tool life



Xtra·tec® XT M5460 – with ScrewFit, cylindrical-modular interface or cylindrical shank

Cutting diameter (D_c): 8–32 mm, 3/8"–1.0"

P3204 exchangeable insert with fully ground circumference

Tiger·tec® Gold

New Tiger·tec® Gold grade WSM36G in copying and finishing

Fig.: M5460-020-T18-02-10 P3204-D20 WSM36G

POTENTIAL BENEFITS

- Maximum process reliability due to strong cutting edges
- Best surface quality due to smooth coatings with optimum chip removal
- Maximum cost-efficiency due to high cutting speed
- Best wear detection due to ZrN top layer

Shiny surfaces – gold finish.

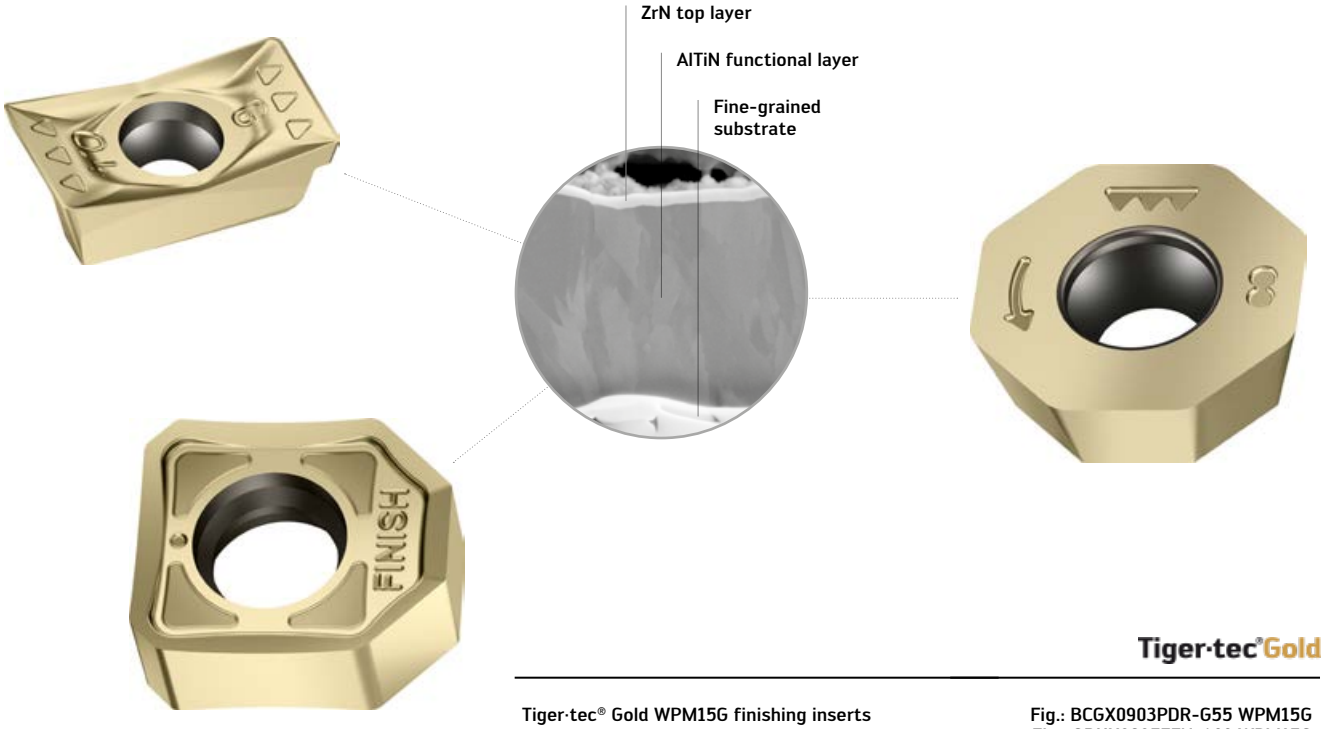
NEW

THE GRADE

- PVD-coated Tiger·tec® Gold milling grades WPM15G
- AlTiN coating with the best layer bonding
- Gold-colored ZrN top layer
- Layer thickness optimised for best coverage of sharp cutting edges
- Smooth layer with perfect balance between toughness and wear resistance

THE APPLICATION

- For finish-milling
- Available for all finishing inserts for Xtra·tec® XT, Walter BLAXX and M4000
- Steels, stainless steels and cast iron
- Areas of use: General mechanical engineering, mold and die making, aerospace, energy and automotive industries



Tiger·tec® Gold

Tiger·tec® Gold WPM15G finishing inserts

Fig.: BCGX0903PDR-G55 WPM15G
Fig.: ODHX0605ZZN-A88 WPM15G
Fig.: XNGX0904ANN-F67 WPM15G

POTENTIAL BENEFITS

- Good wear detection due to ZrN top layer
- Maximum surface quality on the component
- Universal application in many different materials

Insider with exceptional flexibility and versatility.

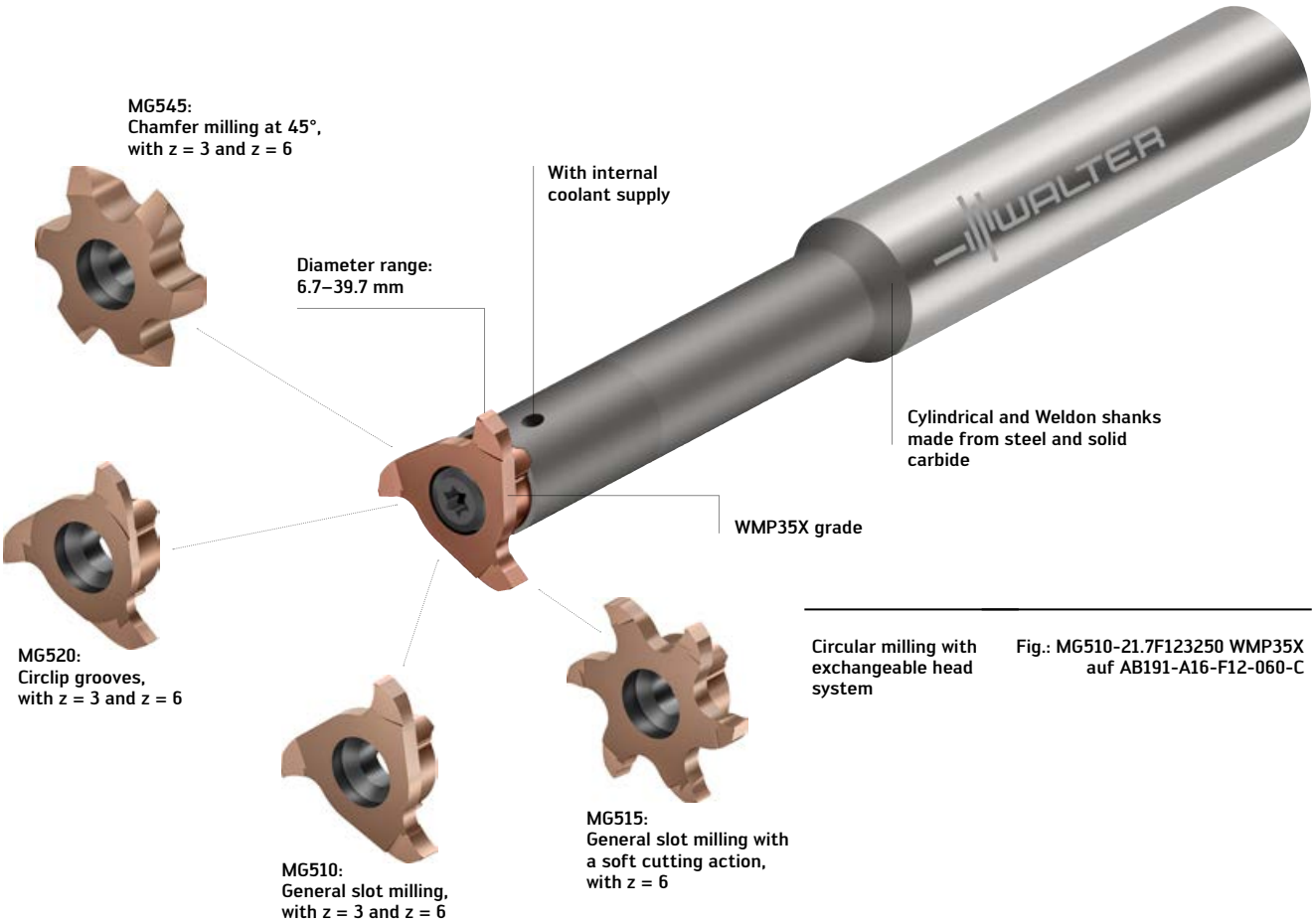
NEW

THE TOOL

- Circular milling tools to create various different recesses in holes
- Weldon and cylindrical shanks made from steel and solid carbide
- Diameter range: 6.7–39.7 mm
- Exchangeable heads with z3 and z6
- Four different exchangeable head versions: MG510, MG515, MG520 and MG545

THE APPLICATION

- Internal machining of holes: Slot milling, circlip grooves, chamfer milling
- Areas of use: General mechanical engineering and the automotive industry
- Primary application: Steel, stainless steel, cast iron and hardened steel
- Secondary application: Non-ferrous materials and materials with difficult cutting properties



Circular milling with exchangeable head system

Fig.: MG510-21.7F123250 WMP35X auf AB191-A16-F12-060-C

POTENTIAL BENEFITS

- Lower tool costs and less effort thanks to exchangeable head system for universal application
- High level of process reliability due to stable solid carbide shanks
- High productivity due to high-quality coating and up to six teeth
- Universal application in all materials
- High level of flexibility due to the variety of different versions in the modular tooling system

C8 interface – for a wider Walter Capto™ range.

NEW

THE TOOL

– In accordance with ISO 26623

AB001-C

– For shell end milling cutters with tenon in accordance with DIN 1880
– Bore adaption sizes: 16–60 mm

AB044-C

– For tools with a parallel shank and lateral clamping flat according to DIN 1835-B and DIN 6535-HB
– Diameter range: 6–40 mm

THE INTERFACE

– Walter Capto™ C3–C8

THE APPLICATION

– Can be used on all common machining centres with spindles in accordance with ISO 26623
– Areas of application:
General mechanical engineering, automotive, aeronautical industry, food and medical industries

AB001-C

– Milling
– Tools with indexable inserts

AB044-C

– Milling and drilling
– Solid carbide tools

Walter Capto™ shell mill cutter adaptor

Shell mill arbor adaptors Fig.: AK155.8.C8.030.22

Walter Capto™ Weldon adaptor

Weldon adaptors Fig.: C8-391.20-16 070

POTENTIAL BENEFITS

– Maximum process reliability due to stable design
– High repeat accuracy
– Flexibility due to modular components such as adapters and extensions
– Excellent torque transmission due to positive engagement

HSK Program – more variety, more possibilities.

NEW

THE TOOL

- In accordance with ISO 12164/DIN 69893-1 A
- Internal coolant supply
- Balanced G2.5 at 25,000 rpm

AB001-H

- For shell end milling cutters with tenon in accordance with DIN 1880
- Bore adaption sizes: 16–60 mm
- Three lengths: 50, 100 and 160 mm
- Concentricity ≤ 6 µm

AB009-H

- For collets in accordance with DIN 6499
- Five lengths: 75, 100, 130, 160 and 200 mm

AB044-H

- For tools with a parallel shank and lateral clamping flat according to DIN 1835-B and DIN 6535-HB
- Diameter range: 6–40 mm
- Three lengths: 65, 120 and 160 mm

AB009-H / AB044-H

- Concentricity (L1) up to 160 mm ≤ 3 µm
- Concentricity (L1) over 160 mm ≤ 4 µm

THE INTERFACE

- HSK-A 63
- HSK-A 100

THE APPLICATION

- Can be used on all common machining centers with spindles in accordance with ISO 12164/DIN 69893
- Areas of application: General mechanical engineering, automotive, aeronautical industry, food and medical industries

AB001-H

- Milling
- Tools with indexable inserts

AB009-H

- Drilling and threading

AB044-H

- Milling and drilling

AB009-H / AB044-H

- Solid carbide tools

Interface, machine side

Interface, tool side

Shell mill arbor adaptors Fig.: AB001-H63-B22-050

Interface, machine side

Weldon adaptors Fig.: AB044-H63-W12-120

Interface, machine side

ER collet adaptors Fig.: AB009-H63-ER20-100

POTENTIAL BENEFITS

- Universal application
- High precision concentricity for improved tool life and better surfaces
- All adaptors with internal coolant supply
- Varied range of products allows for versatility

Large variety for most applications.

NEW

THE TOOL

- In accordance with ISO 7388-1/DIN 69871 AD/B
- Version AD/B
- Balanced G6.3 at 15,000 rpm
- Concentricity ≤ 3 µm

AB001-S

- For shell end milling cutters with tenon in accordance with DIN 1880
- Bore adaption sizes: 16–60 mm
- Three lengths: 50, 100 and 160 mm

AB009-S

- For all common ER collet sizes: ER16–ER40
- For collets in accordance with DIN 6499
- Three lengths: 70, 100 and 130 mm

AB044-S

- For tools with a parallel shank and lateral clamping flat according to DIN 1835-B and DIN 6535-HB
- Diameter range: 6–40 mm
- Three lengths: 65, 120 and 160 mm

THE INTERFACE

- SK40
- SK50

THE APPLICATION

- Can be used on all common machining centers with spindles in accordance with ISO 7388-1/DIN 69871
- Areas of application: General mechanical engineering, automotive, aeronautical industry, food and medical industries

AB001-S

- Milling
- Tools with indexable inserts

AB009-S

- Can be used for milling, drilling and threading

AB044-S

- Can be used for milling and drilling

AB009-S / AB044-S

- Can be used for solid carbide tools

ER collet adaptors — Fig.: AB009-S40-E20-100

Shell mill arbor adaptors — Fig.: AB001-S40-B22-160

Weldon adaptors — Fig.: AB044-S40-W10-100

POTENTIAL BENEFITS

- Universal application
- High precision concentricity for improved tool life and better surfaces
- All adaptors with internal coolant supply
- Varied range of products allows for versatility

Wide range, versatile.

NEW

THE TOOL

- In accordance with ISO 7388-2/JIS B 6339
- Version AD/B
- Balanced G6.3 at 15,000 rpm
- Concentricity ≤ 3 µm

AB001-J

- For shell end milling cutters with tenon in accordance with DIN 1880
- Bore adaption sizes: 16–60 mm
- Three lengths: 50, 100 and 160 mm

AB009-J

- For all common ER collet sizes: ER16–ER40
- For collets in accordance with DIN 6499
- Three lengths: 70, 100 and 160 mm

AB044-J

- For tools with a parallel shank and lateral clamping flat according to DIN 1835-B and DIN 6535-HB
- Diameter range: 6–40 mm
- Three lengths: 65, 120 and 160 mm

THE INTERFACE

- MAS-BT40
- MAS-BT50

THE APPLICATION

- Can be used on all common machining centers with spindles in accordance with ISO 7388-2/JIS B 6339
- Areas of application:
  General mechanical engineering, automotive, aeronautical industry, food and medical industries

AB001-J

- Milling
- Tools with indexable inserts

AB009-J

- Can be used for milling, drilling and threading

AB044-J

- Can be used for milling and drilling

AB009-J / AB044-J

- Can be used for solid carbide tools

ER collet adaptors — Fig.: AB009-J40-ER20-070

Weldon adaptors — Fig.: AB044-J40-W08-160

Shell mill arbor adaptors — Fig.: AB001-J40-B27-100

POTENTIAL BENEFITS

- Universal application
- High precision concentricity for improved tool life and better surfaces
- All adaptors with internal coolant supply
- Varied range of products allows for versatility

Enables new projects and machine equipment.

NEW

THE TOOL

– Balanced G2.5 at 25,000 rpm

AB017

– For tools with commercially available shank types: Cylindrical
– For Form A: With smooth shank in accordance with DIN 1835 and DIN 6535 HA
– For Form AB: With flat face and cylindrical shank as well as driving planes in accordance with DIN 1835 and DIN 6535 HB
– For Form B: With lateral driving planes in accordance with DIN 1835
– For Form E: With inclined clamping surface in accordance with DIN 1835 and DIN 6535 HE
– Concentricity and repeat accuracy during indexing: ≤ 3 µm at 2.5 × D

Ø - ranges

– HSK-A63, HSK-A100; SK40; MAS-BT40: 6–32 mm
– SK50; MAS-BT50: 12–32 mm
– CAT-V40: 6–20 mm, 1/4–3/4"
– CAT-V50: 12–32 mm, 1/2" to 1-1/4"

AB025

– Version: 4.5°
– Concentricity (L1) up to 160 mm ≤ 3 µm
– Concentricity (L1) over 160 mm ≤ 4 µm
– Diameter range: 3–32 mm
– Available in four lengths: 80, 120, 160 and 200 mm

THE INTERFACE

AB017 + AB025

– HSK-A63, HSK-A100
– SK40, SK50
– MAS-BT40, MAS-BT50

AB017

– MAS-BT30
– CAT-V40, CAT-V50

THE APPLICATION

– Can be used on all conventional machining centres
– Can be used for milling and drilling
– Can be used for solid carbide tools
– Areas of application:
General mechanical engineering, automotive, aeronautical industry, food and medical industries

Shrink-fit adaptors — Fig.: AB025-H63-P08-200

Hydraulic expansion adaptors — Fig.: AB017-H63-P10-080

POTENTIAL BENEFITS

– Increased spindle service life due to high taper quality
– Maximum productivity and cost-efficiency
– Varied range of products allows for versatility
– Precise adjustment of tool lengths and clamping against an adjustable stop

AB017

– High level of concentricity and vibration-damping effect especially when milling

Xill·tec®
Universal eXcellence in milling.

With Xill·tec®, the solid carbide milling cutters from the MC230 Advance range, Walter offers you unprecedented universality and excellence in milling: Universal, due to versatility for virtually any application and any material. Excellent, due to the unique combination of a new high-performance geometry with Walter's own wear-resistant WK40TF high-performance grade. This makes Xill·tec® a byword for the greatest operational smoothness, tool life increases and process reliability. And all with outstanding cost-effectiveness.

www.solid-carbide-milling.walter

walter-tools.com

WALTER
Engineering Kompetenz

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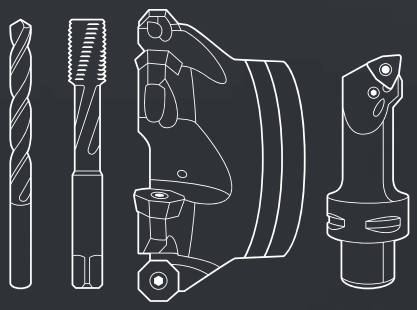

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