

Turning, holemaking, threading, milling

Product highlights Edition 2021-1

_PRODUCT HIGHLIGHTS

Moving ahead with innovations.



How to find and order your tool solution:



Personal - worldwide

You can contact us by phone, fax or e-mail. The contact details for your local contact can be found on our website at: walter-tools.com



The Walter General Catalogue 2017

contains the entire standard range of our competence brands Walter, Walter Titex and Walter Prototyp. It is supplemented regularly with the latest Product Innovations catalogues.

At walter-tools.com, you can access and order your Walter products quickly and conveniently online – via smartphone, tablet or PC. The benefit for you: Direct access from any device, displayed in an optimised form, at any time.

Walter online catalogue



Tool-specific search

You can find products in the Walter online catalogue using the familiar structure of our product catalogue as well as filter and search functions. Other features: A shopping function and links to drawings and models.

Walter GPS



Application-based search

With Walter GPS, it takes just a few steps to find the optimum machining solution for your component, online and offline – and the solution can be transferred directly to the Walter TOOLSHOP if required.

Walter Innotime®



Component-based search

With Walter Innotime®, you can find the most cost-effective machining solution for your component, including all the tools, machining steps and machining parameters required for this. Simply by uploading your 3D model.

Digital ordering methods



TOOL SHOP



Walter TOOLSHOP & EDI

The Walter TOOLSHOP offers customers opportunities to find information and place orders quickly.

EDI (electronic data interchange) also makes it possible to exchange documents (e.g. orders) – even special tools can be ordered.

Walter highlight flyer

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A – Turning

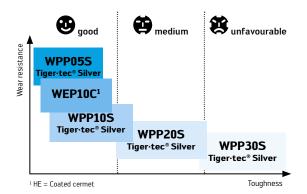
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A – Turning

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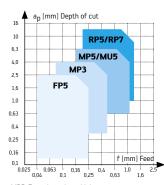
Tiger-tec® Silver grades and geometries

Machining steel ISO P



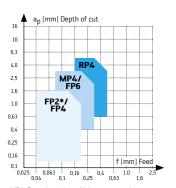
Negative basic shape





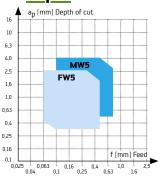
MP5: For universal machining
MU5: Easy-cutting – for ISO P and ISO M
RP5: For universal machining
RP7: For interrupted cuts,

cast skin/forged skin

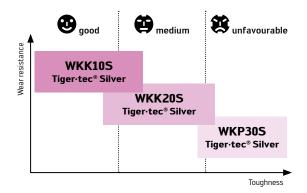


MP4: For universal machining, copy turning FP6: For semi-finishing operations * Fully ground circumference

Wiper

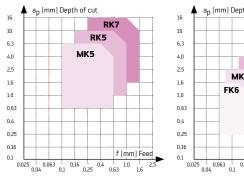


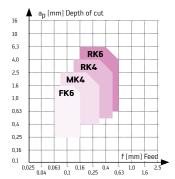
Cast iron machining ISO K



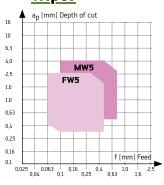
Negative basic shape





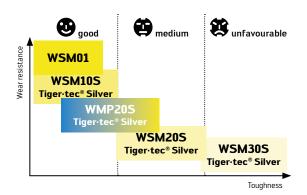


Wiper

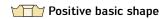


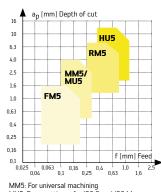
Tiger-tec® Silver grades and geometries

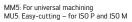
Stainless steel ISO M

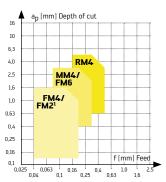


Negative basic shape

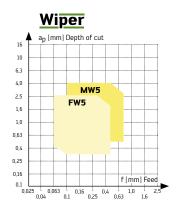




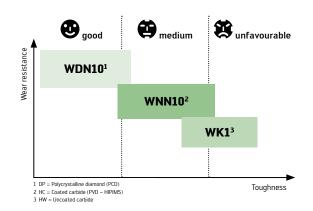




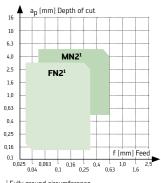
MM4: For universal machining, copy turning FM6: For semi-finishing operations ¹ Fully ground circumference



NF metals ISO N

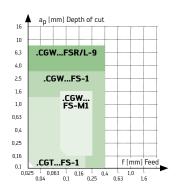


Positive basic shape Carbide

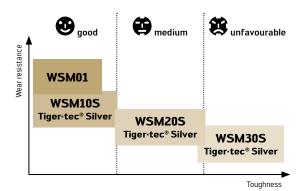


¹ Fully ground circumference

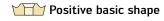
Positive basic shape PCD



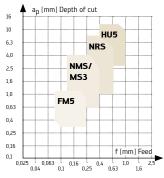
ISO S high-temperature alloys and titanium alloys



Negative basic shape







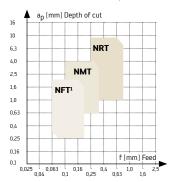
NMS: For universal machining MS3: For low cutting pressure

Ni, Co, Fe and titanium-based alloys a_p [mm] Depth of cut 16 10 6,3 4,0 RM4 2,5 MM4/ FM6 1,6 1,0 0.63 FM4/ FM2¹ 0,4 0,25 0,16 f [mm] Feed

0,16 0,25 MM4: For universal machining, copy turning FM6: For semi-finishing operations ¹ Fully ground circumference

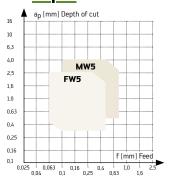
0,063 0,04 0,1

Titanium-based alloys



¹ Fully ground circumference

Wiper



Combines maximum stability with the very best cost-efficiency.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

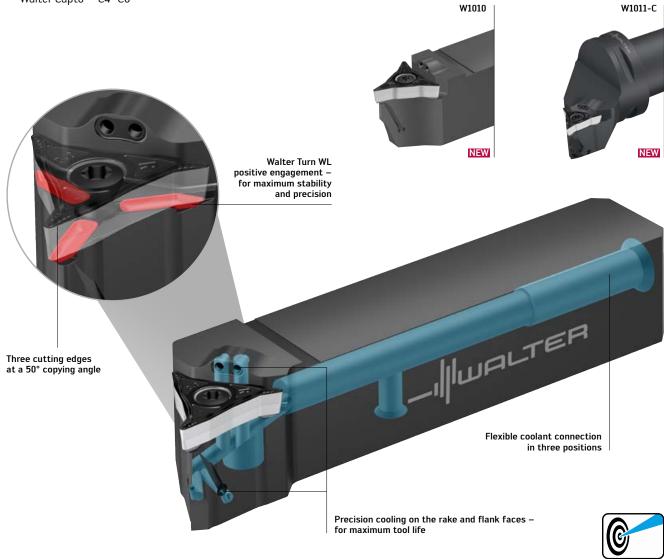
- W1010/W1011/WL25 copy turning systems available with and without precision cooling (-P)
- W1010 = neutral version
- W1011 = right-handed/left-handed version

THE TOOL

- WL positive engagement on toolholder and insert
- Square shank: 16×16 , 20×20 and 25×25 mm
- Walter Capto™ C4–C6

THE APPLICATION

- Copy turning of recesses up to 30°, 50° (W1011) and 72.5° (W1010)
- Dynamic turning
- High-precision components
- Replacement for ISO VBMT, VCMT, DCMT indexable inserts (with just two cutting edges and lower stability)





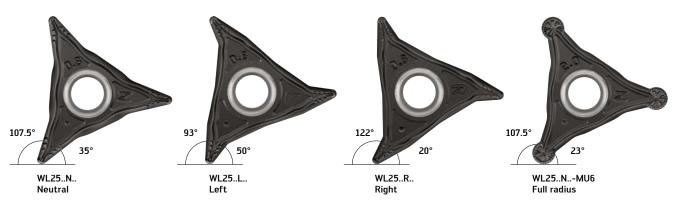
Walter Turn copy turning system

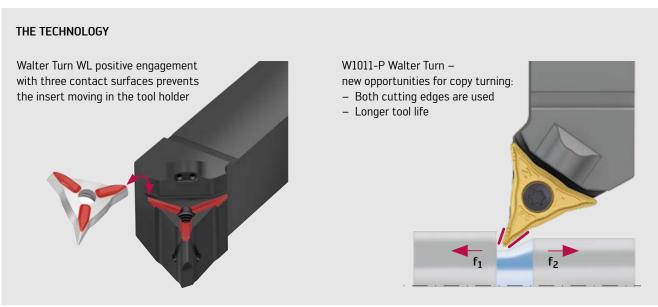
Fig.: W1011-2525R-WL25-P

THE INDEXABLE INSERTS

- Three-edge, positive indexable inserts with WL positive engagement
- Neutral, left-hand and right-hand versions fit into the same tool
- FP4, MP4, FM4 and MM4 geometry with 35° point angle
- MU6 geometry, full-radius indexable inserts
- Grades: WPP10S, WPP20S, WMP20S, WSM10S, WSM20S, WSM30S

Four indexable insert types and applications





- High level of dimensional stability thanks to positive-locking, robust WL connection
- Cost-effective: Lower tool costs thanks to three cutting edges
- Longer tool life when copy turning
- High level of flexibility: Four indexable insert types fit in the same tool
- 50% higher indexing accuracy compared to ISO indexable inserts

Accure-tec – the best results for long components.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

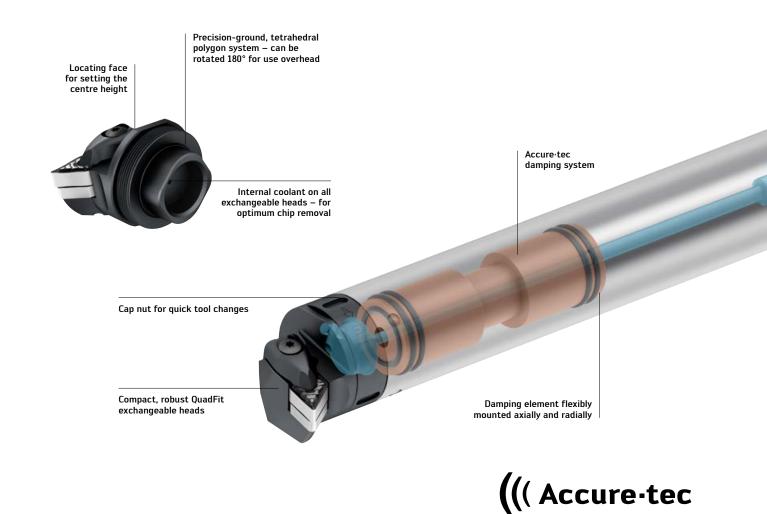
- Accure·tec A3000, dia. 25 mm
- Walter Capto[™] C4/C5
- HSK-T 63
- QuadFit: Thread turning; additional sizes

THE APPLICATION

- From $6 \times D$ to $10 \times D$
- Counterboring and internal copy turning of long bores
- Areas of use: Aerospace industry (e.g. engines), oil and gas industries (e.g. pumps) and general mechanical engineering

THE TOOL

- Vibration-damped, preset boring bar adaptor
- QuadFit Large intermediate adaptor
- Lengths: $6 \times D$, $8 \times D$, $10 \times D$
- Boring bar diameters: 25–50 mm; 1–2" (other dimensions available on request)
- Interface to the machine:
 - Parallel shank 25-50 mm
 - Walter Capto[™] C4–C8
 - HSK-T 63-100

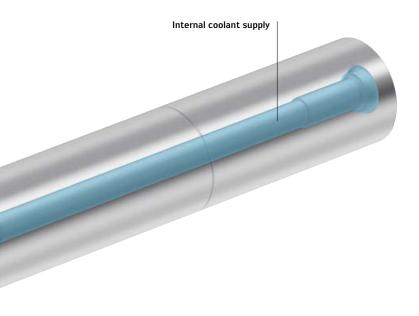


Vibration-damped boring bar from $6 \times D$ to $10 \times D$

Fig.: A3000-40-Q40-208

THE INTERFACE

- QuadFit quick-change heads; 0.002 mm indexing accuracy
- Only one cap nut for clamping the exchangeable head
- No loose "assembly parts" (e.g. screws)
- Precision-ground, tetrahedral polygon system can be rotated 180° for use overhead
- Internal coolant for all exchangeable heads



QuadFit exchangeable heads



ISO turningRigid clam

- Rigid clampingNegative indexa
- Negative indexable inserts
- CNMG12/16, DNMG11/15, WNMG06/08



ISO turning

- Screw clamping
- Positive indexable inserts
- CCMT09/12, DCMT11, TCMT16, VBMT16



NEW Thread turning

- Precision cooling
- NTS-IR16, NTS-IR22

BENEFITS FOR YOU

Accure-tec boring bars

- Broad scope of applications for machining expensive components safely and quickly
- Low-vibration bore machining for optimum productivity and surface quality
- Maximum damping thanks to damping element flexibly mounted axially and radially
- Vibration damping "preset" at the factory ready for immediate use, no time lost tuning

QuadFit exchangeable heads

- Quick and precise tool change (±0.002 mm)
- Less non-productive time due to fast tool changes
- Broad range of products with different machine interfaces allows for versatility

Accure-tec – low-vibration turning of large bores.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- A2201 QuadFit Large intermediate adaptor for larger f dimensions
- Boring bar diameters: 60-100 mm; 2.5-4"; lengths: $6 \times D$ and $10 \times D$ (other dimensions available on request)

THE TOOL

- Preset, modular, vibration-damped boring bar adaptor
- Interface to the machine:
 - Parallel shank 60-100 mm; 2.5-4"
 - Walter Capto[™] C8
 - HSK-T 100

THE APPLICATION

- Counterboring with 6 to $10 \times D$
- Boring length of up to 1000 mm is possible with standard tool

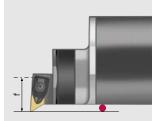
Walter Capto™, HSK-T

or parallel shank

Fig.: T1820-Q50R-16I-P, A2201-QL80-23-27-Q50, A3001-C8-QL60-421

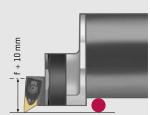
- Can be used for:
 - Counterboring with positive and negative indexable inserts
 - Thread turning with precision cooling T1820-Q...-P

The ideal solution for any application



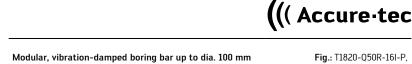
Standard A2201 Intermediate adaptor for reduced radial forces



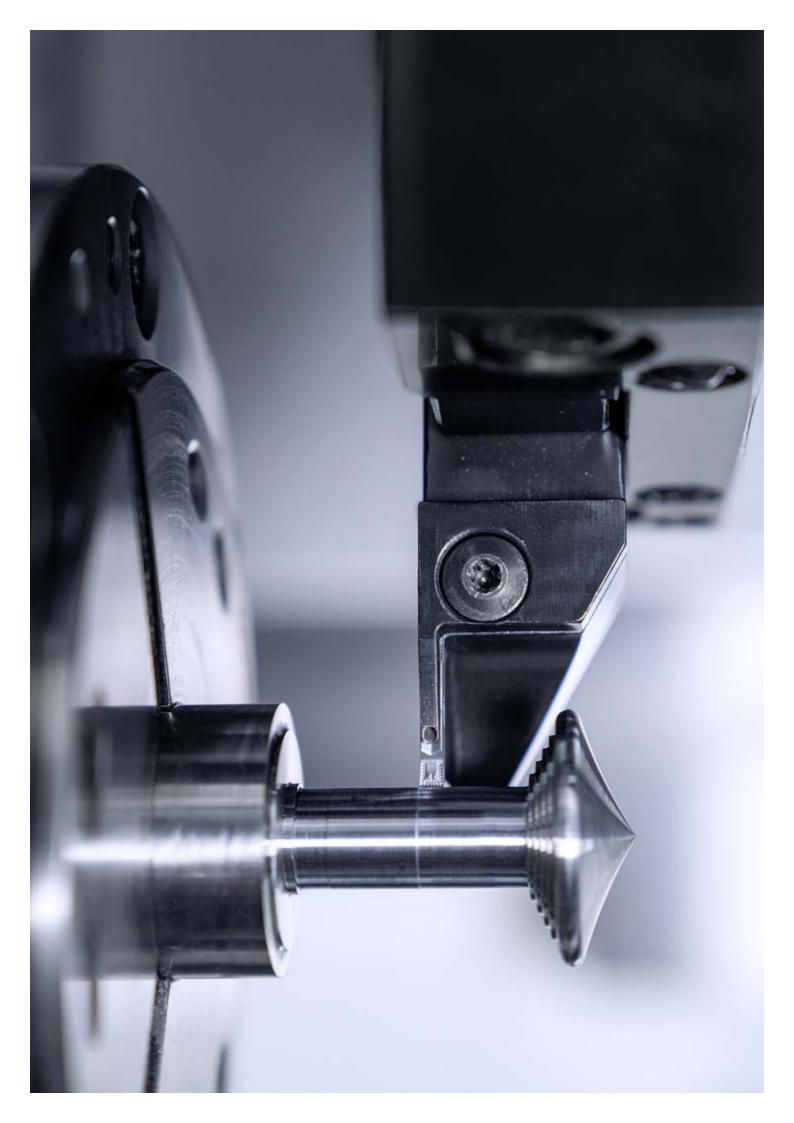


A2201 with larger f dimension

More space between the bore wall and boring bar for improved chip removal with very deep bores



- High productivity and surface quality thanks to low-vibration bore machining
- Time saving thanks to quick, precise tool changes (± 0.002 mm) with QuadFit exchangeable heads
- Reliable due to excellent chip removal from the bore thanks to larger f dimension
- Vibration damping "preset" at the factory ready for immediate use, no time lost tuning



Maximum cooling and tool life with ISO M and ISO S thanks to jet guiding geometry.

NEW

THE GEOMETRIES

FM5 - Finishing

- For optimal chip breaking
- Machining parameters: f: 0.03-0.25 mm a_{n} : 0.1–2.0 mm

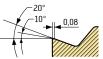
MM5 - Medium machining

- Universal geometry with large range of applications
- Machining parameters: $f: 0.1-0.4 \ mm$ a_{p} : 0.5-4.5 mm

RM5 - Roughing

- For optimal coolant supply beneath the chip
- Machining parameters: f: 0.20-0.60 mm $a_{\rm D}$: 1.0-5.0 mm

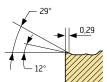
Main cutting edge



Main cutting edge



Main cutting edge



THE APPLICATION

Primary application ISO M - Stainless steels

- Austenitic stainless steels (e.g. DIN 1.4571/AISI 316Ti)
- Duplex steels (e.g. DIN 1.4462/AISI 318LN)

ISO S - High-temperature alloys

- Nickel-based alloys (e.g. Inconel 718)
- Cobalt-based alloys

Secondary application ISO P - Steel



Grades: WSM10S, WSM20S, WSM30S, WMP20S

Fig.: RM5 jet guiding geometry

RM5 geometry

New:

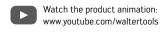
New:

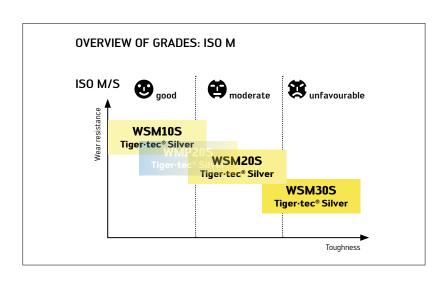
Jet guiding geometry

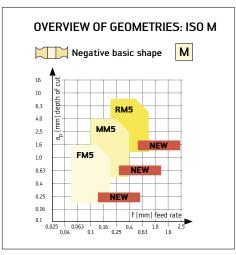
Rake face cooling

Double positive macro-geometry

- Optimal cooling and maximum productivity
- Double positive macro-geometry reduces notch formation and crater wear for up to 100% increase in tool life
- High wear resistance and maximum tool life due to PVD-Al₂O₃ heat shield
- Can be used universally in standard ISO turning toolholders with or without precision cooling
- Burr-free components and reduced build up on the edge







NEW ADDITION TO THE PRODUCT RANGE

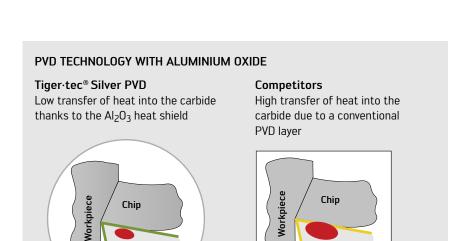
- MM5 geometry basic shapes: CNMG, DNMG, SNMG, TNMG, VNMG, WNMG
- RM5 geometry basic shapes: CNMG, DNMG, SNMG, TNMG, WNMG

THE GRADES

- Tiger·tec® Silver PVD-Al₂O₃ grades: WSM10S, WSM20S, WSM30S
- Tiger·tec® Silver CVD grade: WMP20S

Cutting edge

= Temperature



= Aluminium oxide (Al₂O₃) = Conventional PVD layer

Cutting edge







WNMG-RM5

Maximum metal removal rate for stainless steel and high-temperature alloys.

NEW

THE INDEXABLE INSERT

- Single-sided indexable insert for maximum stability
- Basic shapes:
 - CNMM12, CNMM16, CNMM19
 - DNMM15
 - SNMM12, SNMM15, SNMM19, SNMM25
- Corner radii: 0.8, 1.2, 1.6 and 2.4 mm

THE GRADES

- WPP10S, WPP20S
- WSM20S, WSM30S, WMP20S

THE APPLICATION

- Roughing operations with maximum machining volume
- Where a soft-cutting geometry with low cutting pressure is needed

Primary application:

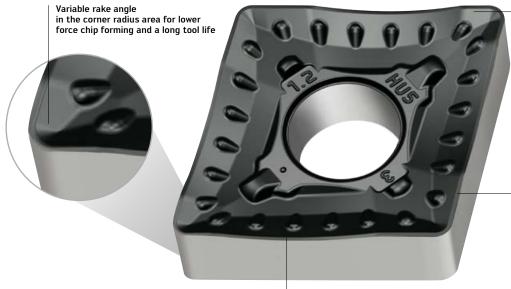
- ISO M: Stainless steels, e.g. austenitic steel 1.4301, duplex steel 1.4462
- ISO S: High-temperature alloys, e.g. Inconel 625

Other applications:

- ISO P: Long-chipping steel materials, e.g. S355J0 (St52)
- ISO K: Low cutting pressure

Machining parameters:

- f: 0.30-1.00 mm
- a_n: 2.5-10.0 mm



Tiger·tec® Silver grades with the highest wear resistance for steel, stainless materials and high-temperature alloys

Protected main cutting edge prevents fractures when machining thro' hard surface zones

Curved cutting edge and deep chip breaker groove for low cutting forces at high feeds

Single-sided roughing indexable insert

Fig.: CNMM160612-HU5 WSM20S

Main cutting edge - HU5

THE GEOMETRIES - HU5

- Specially developed for tough roughing operations
- Extremely soft cutting action for low machining temperatures
- Main cutting edge protected by negative chamfer ($0.1 \times -5^{\circ}$) (enables machining of skins and hard surface zones)

Corner radius - HU5





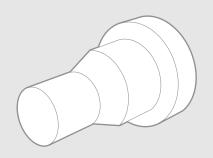
MACHINING EXAMPLE

Valve: Oil and gas industry, dia. 100 mm/length 150 mm

Material: DIN 1.4301 / X5CrNi18-10 / AISI304

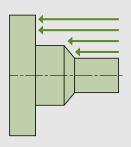
Machine: DMG MORI CTX Beta 200

Tool: PCLNL2525M12

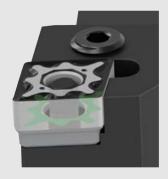


Comparison of double-sided vs single-sided geometries

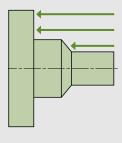
Existing: CNMG120408-MM5 WMP20S



4 cutting actions/ 3 mm depth of cut Smaller contact surface in the tool holder

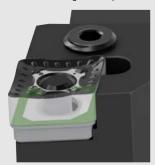


New: CNMM120412-HU5 WMP20S



3 cutting actions/ 4 mm depth of cut

Maximum contact surface in the tool holder – for higher feeds and greater depth of cut



Cutting data:

Indexable insert	Existing CNMG120412-MM5 WMP20S	NEW CNMM120412-HU5 WMP20S
v _c (m/min)	180	180
f (mm)	0.30	0.45
a _p (mm)	3.0	4.0
Tool life (components)	20	35
Metal removal rate (cm³/min)	162	324
Machining time per workpiece (min)	2.8	1.26
Machining costs per workpiece	100%	48%

Maximum metal removal rate

By increasing the metal removal rate [Q], the machining time can be reduced and the production costs lowered.

Calculation formula:

 $Q = v_c \times a_p \times f [cm^3/min]$



Machining time reduction per workpiece



- Additional machine capacity, as the HU5 geometry enables higher feeds and greater depth of cut (components can be machined faster)
- Universal insert for ISO M and ISO S simplifies the application on new components
- Up to 75% longer tool life thanks to soft cutting action and Tiger-tec $^{\circ}$ Silver cutting tool materials

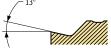
Ideal combination of low cutting pressure and long tool life.

NEW

THE GEOMETRY

- For medium and semi finish machining
- Machining parameters: f: 0.10-0.40 mm $a_p: 0.6-3.0 \text{ mm}$

Main cutting edge



THE GRADES

HIPIMS PVD grade: WSM01

- High-temperature alloys
- Austenitic stainless steels (e.g. DIN 1.4571/AISI 316Ti)

PVD-Al₂O₃ grades: WSM10S, WSM20S

- High-temperature alloys
- Austenitic stainless steels
- Machining operations on automatic bar feed machines and multi-spindle machines

CVD grades: WPP10S, WPP20S

- Free machining steels
- Long contact times
- Maximum wear resistance

THE APPLICATION

- Ideal for long overhangs and unstable or thin-walled components
- Prevents vibration thanks to low cutting pressure

Primary application:

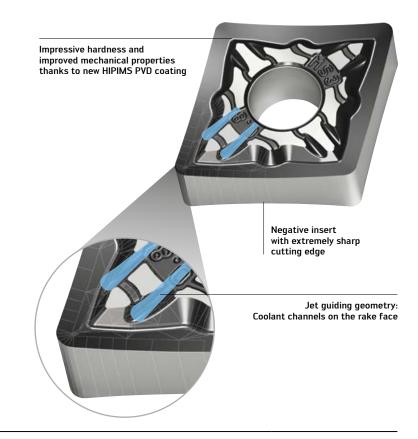
- ISO S: High-temperature alloys, nickel-based alloys e.g. Inconel 718, cobalt-based alloys

Secondary application:

- ISO P (steel)
- ISO M (stainless steels)
- ISO N (NF metals)

THE INDEXABLE INSERTS

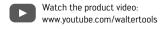
- Negative circumference-sintered and circumference fully ground design with chip breaker groove
- Basic shapes: CNMG, CNGG, DNMG, DNGG, TNMG, VNMG, VNGG, WNMG
- Corner radii: 0.1, 0.2, 0.4 and 0.8 mm



Grades: WSM01, WSM10S, WSM20S, WPP10S, WPP20S

Fig.: MS3 geometry

- Burr-free components
- Less build up on the edge thanks to sharp cutting edges
- Machines unstable components with no problems due to low cutting pressure
- Cooling directly at the cutting edge thanks to jet guiding geometry and curved cutting edge design



Precision cooling for ceramic inserts: Direct, efficient – straight to the point.

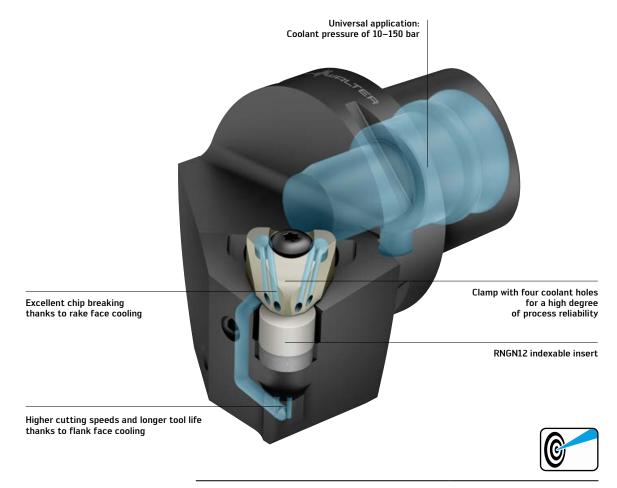
NEW

THE TOOL

- Coolant supplied directly through the clamp and along the flank face
- Tool variants:
 - Square shank 25 × 25 mm
 - Walter Capto[™] C6
- RNGN120700 indexable insert
- Other sizes and special tool versions are possible
- Clamp with four coolant exits for maximum cooling

THE APPLICATION

- High-temperature alloys (ISO S), e.g. engine components made from Inconel 718 in conjunction with WIS10 SiAION ceramic or WWS20 whisker ceramic
- Can be used starting from 10 bar up to a maximum coolant pressure of 150 bar; pressures up to 350 bar also possible following technical clarification
- Excellent chip breaking, easy chip removal



Walter Capto™ tool with precision cooling for RNGN12

Fig.: C6-CRSNR-45065-12-P

BENEFITS FOR YOU

- Short chips thanks to precision cooling no adhesion to component
- Higher machine availability and satisfied machine operators
- Tool life increased by 30-150%



Watch the product video: www.youtube.com/waltertools

Now with precision cooling: Direct, efficient – straight to the point.

NEW TECHNOLOGY

NEW ADDITION TO THE PRODUCT RANGE

- Coolant clamps with four coolant exits for maximum effect
- Available for CNMG16, CNMG19 indexable inserts

THE TOOL

- Coolant supplied directly through the clamp and along the flank face
- Flexible coolant connection on the square shank:
 Direct coolant transfer between adaptor and shank tool
 (A2120-P/A2121-P) or via coolant hose set with
 G1/8" thread (K601)
- Tool variants:
 Square shank 20–25 mm; Walter Capto™ C4–C8

THE APPLICATION

- Stainless steels (ISO M), high-temperature alloys (ISO S) and steel (ISO P)
- Can be used from 10 bar up to a maximum coolant pressure of 150 bar
- Improved chip breaking, in particular at > 40 bar
- Multiple machine operations (e.g. multi-spindle machines), because the chips are removed effectively by the cooling system

Coolant pressure from 10 to 150 bar Rigid clamping guarantees high process reliability Powered by Tiger-tec*Silver

Clamp overview:



Two coolant holes for CNMG12, etc. Fig.: PK265R



Four coolant holes for CNMG16, etc. Fig.: PK267

Longer tool life and greater chip breaking range thanks to rake face cooling

Higher cutting speeds and longer tool life thanks to flank face cooling

Walter Capto™ tool with precision cooling

Fig.: C6-DCLNR-45065-16-P

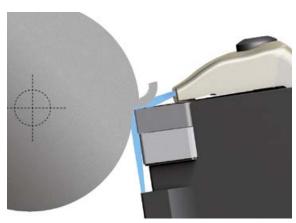
Watch the product video: www.youtube.com/waltertools

- Tool life increased by 30–150%
- Plug-and-play: Use of existing machines, as the cooling system can be used starting from a coolant pressure of 10 bar and without an interference contour on the tool
- Increase in cutting speed by up to 100%, while maintaining the same tool life

THE TECHNOLOGY

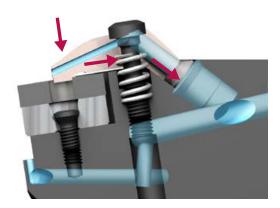
Precision cooling:

In tools with precision cooling, the adaptor, the turning toolholder and the indexable insert geometry are designed to ensure ideal cooling.



At the effective working area:

Precision cooling brings the coolant as close and flatly angled as possible to the effective working area. As a result, significant advantages can be achieved starting from a coolant pressure of just 10 bar.



Process reliability:

The rigid clamping mechanism presses the insert down and back into the insert seat. Consequently, the insert is not detached from its seat even during heavy roughing operations and the component dimensions are consistently maintained with complete accuracy.

THE SYSTEM

Jet guiding geometry:

The new FM5, MM5, RM5 and MS3 jet guiding geometries guide the coolant directly beneath the chip and thereby even closer to the cutting edge.

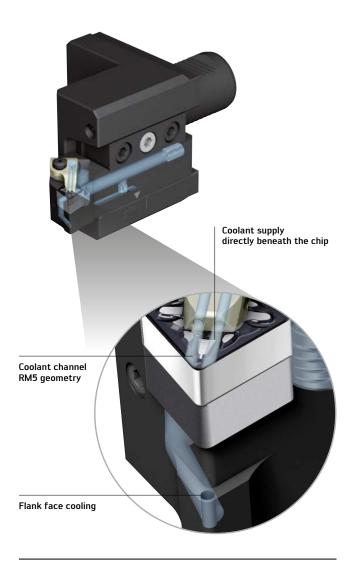


Fig.: DCLN-P shank tool, VDI A2120-P adaptor and RM5 jet guiding geometry

The next generation of universal wiper geometries.

NEW

THE GEOMETRIES

- Wiper geometry for universal use
- Circumference-sintered indexable insert
- New: With short and long wiper curved cutting edge
- Basic shapes:

FW5

CNMG12

- DNMG11, DNMG15
- TNMG16
- WNMG06, WNMG08

MW5

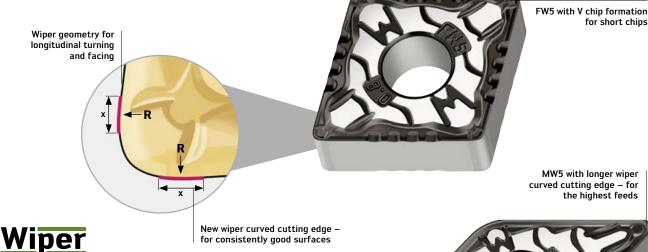
- CNMG12
- DNMG11. DNMG15
- TNMG16
- WNMG06. WNMG08

THE APPLICATION

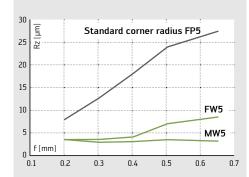
- Finishing with excellent surfaces at high feeds
- Reduced cutting pressure (e.g. for thin shafts and internal machining)
- a_p: 0.3–3.0 mm; f: 0.10–0.55 mm

MW5

- Medium machining with excellent surfaces at maximum feeds
- Increase in productivity through maximum feeds
- a_p: 0.8-5.0 mm; f: 0.15-0.70 mm



Achievable surface qualities



Material:

42CrMo4 (DIN 1.7225)

Indexable inserts:

CNMG120408-FP5 WPP20S CNMG120408-FW5 WPP20S CNMG120408-MW5 WPP20S

Cutting data:

v_c: 230 m/min; a_p: 2.0 mm





Indexable inserts with new wiper geometries

Fig.: CNMG-FW5; DNMG-MW5

- Consistently good surfaces throughout the entire tool life
- FW5 wiper geometries can also be used on components with long overhangs thanks to the reduced cutting pressure
- Reduced machining time by increasing the feed by up to 300% with the same surface quality

Peak performance on steel and stainless materials.

NEW

THE INDEXABLE INSERT

- Double-sided MU5 universal geometry
 Basic shapes:
- CNMG, DNMG, TNMG, WNMG
- Corner radii: 0.8/1.2 mm

Grades:

- WPP05S, WPP10S, WPP20S
- WSM20S, WMP20S

THE APPLICATION

- Medium machining of steels and stainless materials
- Alternative to MP5/MM5 geometry with soft cutting characteristics
- Machining parameters f: 0.15-0.60 mm, a_p : 0.5-6.0 mm

Primary application:

- ISO P: Steel

- ISO M: Stainless steels

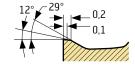
Secondary application:

- ISO K: Cast iron materials

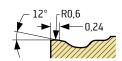
THE GEOMETRY

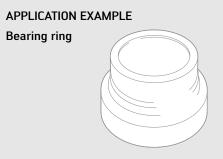
Corner radius

corner radius









Material: 100Cr6 (DIN 1.3505)

Tool: DWLNR2525M08

Indexable insert: WNMG080412-MU5

Grade: WPP10S

Cutting data:

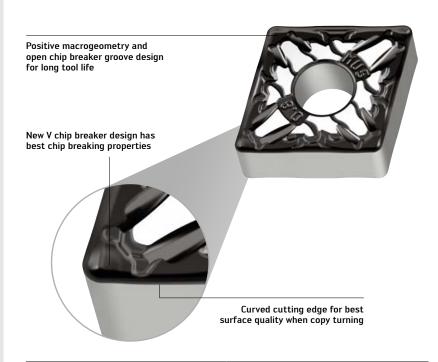
g	Existing WNMG080412 P10	NEW WNMG080412-MU5 WPP10S
v _c (m/min)	300	300
f (mm)	0.25-0.50	0.30-0.55
a _p (mm)	1–2	1–2

Comparison: Tool life quantity

Existing 70

Walter MU5 100

[Units] 20 40 60 80 100



Indexable insert

Fig.: CNMG120408-MU5 WMP20S

- Can be used universally in a wide range of applications
- Soft cutting action and maximum resistance to crater wear in the medium cutting area – therefore reducing tool costs
- Maximum process reliability thanks to controlled chip removal and chip breaking

Efficient, reliable, highest quality.

NEW

NEW ADDITION TO THE PRODUCT RANGE

 Walter Perform line: Indexable inserts for turning applications in ISO P and ISO K

THE GRADES

- Versatile cutting tool materials
 - WPV10 (ISO P)
 - WPV20 (ISO P)
 - WKV10 (ISO K)
 - WKV20 (ISO K)

THE GEOMETRIES

Negative basic shape: ISO P

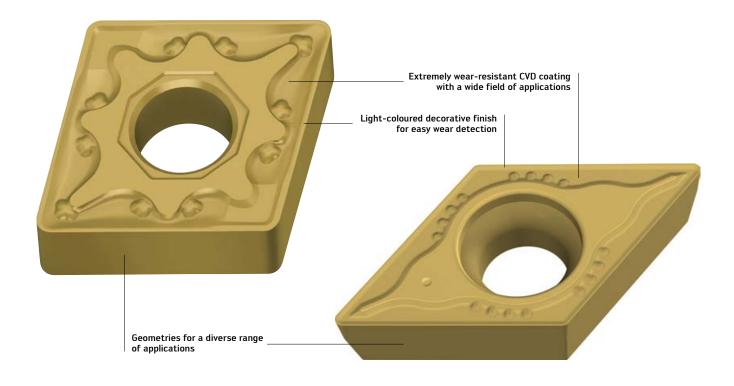
- FV5: Finishing operation
- MV5: Medium machining
- RV5: Roughing operation ISO K
- MV7: Medium machining
- RV7: Roughing operation

Positive basic shape:

- FV4: Finishing operation
- MV4: Medium machining

THE APPLICATION

- Versatile use for an extremely wide range of materials and applications
- Areas of application: General mechanical engineering, single-part production and other industries



Perform line ISO indexable inserts

Fig.: CNMG120408-MV5 WPV20, DCMT11T304-MV4 WPV20

- Efficient machining with tried-and-tested technology
- Extremely reliable and wear-resistant
- Simple geometry selection and wear detection
- Flexible use in a wide range of applications
- Highest product quality made by Walter

Hard, harder, WSM01 – the no.1 grade for demanding machining operations.

NEW

THE GRADE

- PVD HIPIMS coating technology for a smooth surface
- Excellent layer bonding with sharp cutting edges
- Extremely hard, wear-resistant ultra fine-grain carbide substrate

THE GEOMETRIES

- Negative basic shape: MS3, NMS, NRS
- Positive basic shape: FM2, MM4, MN2

THE APPLICATION

Primary application:

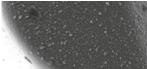
- ISO S e.g. finishing of engine components made of Inconel 718
- ISO M e.g. valves made of 1.4462 duplex steel

Secondary application:

- ISO P e.g. precision finishing of tool steel
- ISO N e.g. high-polish turning
- ISO H e.g. machining of hardened steel with 56 HRC

SURFACE COMPARISON:

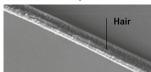
Standard PVD process: Increased droplet formation



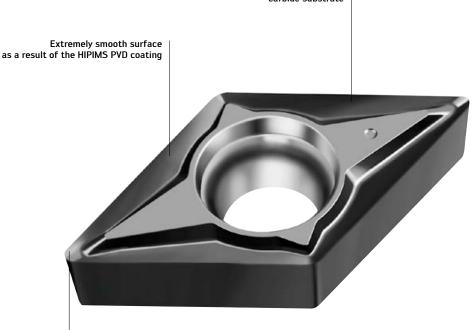
HIPIMS PVD process (WNN10): Extremely smooth surface



HIPIMS surface and structure of a hair as a direct comparison

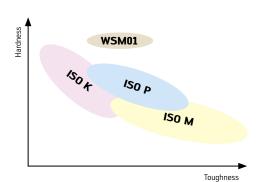


Extremely hard ultra fine-grain carbide substrate



Optimum layer adhesion on sharp cutting edges

CARBIDE COMPARISON - WSM01 GRADE:



Grade: WSM01

Fig.: DCGT – FM2 WSM01

- Maximum tool life for high-strength materials
- Optimum surface qualities thanks to HIPIMS coating
- High-quality workpieces over a long tool life

Perfect performance thanks to the new HIPIMS grade.

NEW

THE GEOMETRIES

FN2 – Positive indexable inserts for finishing ISO N:

- Finishing insert with circumference fully ground
- For low cutting forces
- Polished rake face
- For long, small-diameter shafts with a tendency to vibrate

MN2 – Positive indexable inserts for medium machining of ISO N:

- Can be used universally for non-ferrous metal
- Sharp cutting edge with circumference fully ground
- Polished rake face
- Precision finishing on steel and stainless materials

Main cutting edge



Main cutting edge



THE APPLICATION

Primary application

Finishing and roughing of:
 ISO N alloys
 Aluminium-based alloys (e.g. 3.2382, AlSi10Mg(Fe))
 Copper-based alloys (e.g. 2.0265, CuZn30)
 Magnesium-based alloys (e.g. 3.5200, MgMn2)

Secondary application

- Fine finishing of small components made from:
 ISO P (steel)
 ISO M (stainless steels)
 ISO S (high-temperature alloys)
- Finishing and roughing of:
 ISO 0 (thermosets and thermoplastics)

Extremely smooth surface as a result of the HIPIMS procedure



Excellent layer bonding with sharp cutting edges with circumference fully ground

Grade: WNN10

Fig.: FN2 geometry

- Excellent surface quality and dimensional accuracy
- High process reliability thanks to the new WNN10 grade
- No layer flaking and even wear due to excellent layer bonding
- Longer tool life on materials with a tendency to stick (adhesion) thanks to improved surface roughness

Highly positive and double-sided ideal for ISO N machining.

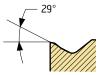
NEW

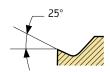
THE GEOMETRY

- Double-sided, polished MN3 geometry
- Highly positive cutting edges

Corner radius - MN3

Main cutting edge - MN3





Polished rake face -

THE INDEXABLE INSERT

Basic shapes:

Extremely sharp cutting edge - for a soft cutting action

- CNGG, DNGG, VNGG, WNGG
- Corner radii with negative tolerance for maximum precision: 0.2/0.4/0.8 mm

Grades:

- WNN10 (with HIPIMS PVD coating for an extremely smooth surface)
- WN10 (uncoated and polished)

THE APPLICATION

- Machining parameters: f = 0.05-0.40 mm; $a_p = 0.5-4.0$ mm

Primary application:

- Medium machining of non-ferrous metals
- ISO N alloys, e.g.:
- · Aluminium alloys
 - Copper alloys
- Brass alloys
- · "Lead-free" materials

Further applications:

- Fine finishing of small components made from steel and stainless materials, as well as high-temperature alloys
- Best surface qualities up to R_z 3 μm

at low depths of cut for optimal chip evacuation High level of wear resistance thanks to HIPIMS PVD hard layer

Double-sided MN3 indexable insert geometry

Fig.: VNGG160401M-MN3 WN10, CNGG120404M-MN3 WNN10

BENEFITS FOR YOU

- High level of cost-efficiency and productivity thanks to negative basic shape with double the number of
- Long tool life on materials with a tendency to stick (adhesion) thanks to optimised surface roughness
- Machines unstable components or components with long overhangs with no problems due to low cutting
- Improved chip breaking (even with lead-free materials, e.g. CuZn21Si3P) thanks to chip breaker protrusions and highly positive cutting edges



Chip breaker protrusions for good chip breaking even

The ideal CBN insert – for any application.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

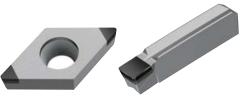
Complete range of CBN grades:
 WBH10C, WBH10, WBH20, WBS10, WBK20 and WBK30





WRH10

- Finish cut
- Wiper geometry available
- Chip formation available



WBH20

- Finish cuts and slightly interrupted cuts
- Average cutting speeds



WBK20

- Finishing of grey cast iron and other ISO K materials
- Roughing and finishing of sintered materials
- Finishing of hardened steel with heavily interrupted cuts

THE APPLICATION

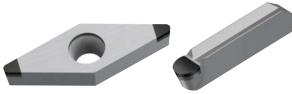
- For all applications in ISO turning and recessing (incl. wiper geometries and chip breaker)
- Application-specific special inserts within four to six weeks





WBH10C

- Finish cut
- Optimal cutting parameters with TiAlSiN coating
- Wiper geometry available



WBS10

- Finishing of nickel/cobalt-based high-temperature alloys
- Interrupted cuts and finish cuts



WBK30

- Roughing of ISO K materials, even in poor conditions (e.g. cast skin)
- Roughing of sintered materials
- Large depths of cut and heavily interrupted cuts in hardened steel

ISO material groups

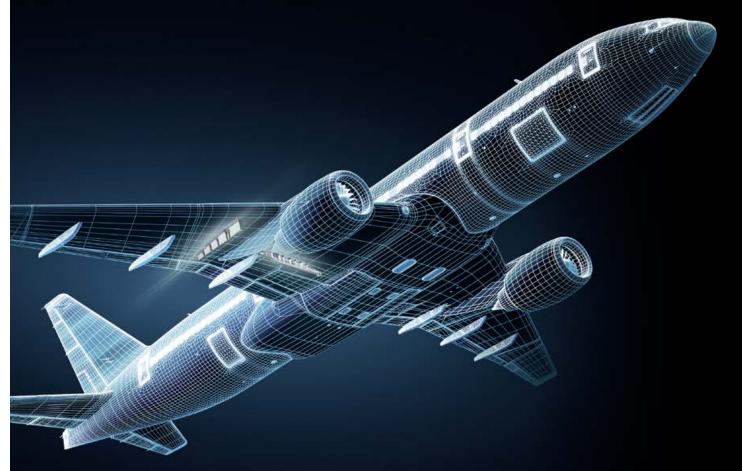
	Р	М	K	N	S	Н
Grades	Steel	Stainless steel	Cast iron	NF metals	Materials with difficult cutting properties	Hard materials
WBH10C						••
WBH10						••
WBH20						••
WBS10			•		••	
WBK20			••			•
WBK30			••			•

Primary application

Additional application

- The right CBN indexable insert grade and geometry for any application
- Resistant to abrasive wear in cast iron and sintered steel (WBK20/WBK30)
- Dimensionally stable and protected and fractures in case-hardened steels (WBH10C/WBH10)
- High level of toughness against fractures in bearing steel (WBH20)
- High cutting speeds of 250–300 m/min with Inconel (WBS10)

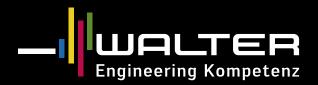
Can we stop lighter planes being a weighty issue.



The number of passenger aircraft is set to double to more than 40,000 by 2030. Twenty-first-century long-haul aircraft have a take-off weight of up to 500 tonnes. The task of lifting these goliaths into the air economically is about more than keeping the weight of materials and components down – our future needs require stepping up process reliability and quality when machining them too. This is presenting suppliers to the aviation and aerospace industries with a huge challenge. Having a tool partner that keeps costs firmly on the ground is therefore crucial.

Lofty ambitions made easy: with Engineering Kompetenz from Walter.





The latest CBN generation hard machining at the highest level.

NEW

THE INDEXABLE INSERTS

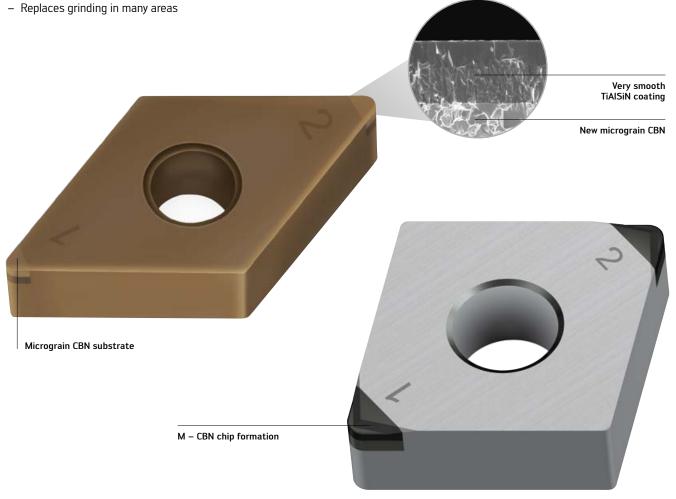
- New CBN grades for hard machining
- Technology update for chip formation and wiper geometry

THE APPLICATION

- Hard materials up to 65 HRC
- ISO H materials
- For continuous and interrupted cuts

THE COATING TECHNOLOGY

- New TiAlSiN coating technology
- Finest surface structure and layer smoothness
- Defect free coating and superb layer adhesion
- Very high thermal stability and oxidation resistance



ISO H CBN indexable inserts

Fig.: DNGA150608TM-2 WBH10C, CNGA120408TM-M2 WBH10

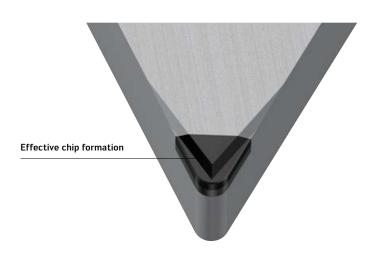


Watch the product video: www.youtube.com/waltertools

- Optimum component surface finish thanks to the latest wiper technology
- High process reliability thanks to the latest production technology
- Long tool life thanks to the TiAlSiN coating technology with extremely fine surface structure

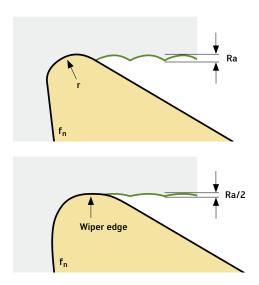
THE CHIP FORMATION

- M CBN chip formation
- Controlled chip removal
- Series production without interruptions



THE WIPER GEOMETRY

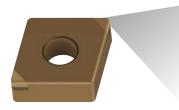
- MW wiper geometry
- Higher feed
- Better surface quality

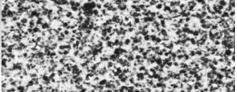


THE CBN GRADES*

WBH10C (ISO H10)

- CBN substrate (grain size dia. $1.5~\mu m$)
- Coated with new TiAlSiN coating technology
- Wear-resistant at highest v_c

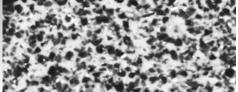




WBH10 (ISO H10)

- CBN substrate (grain size dia. 1.5 μm)
- Wear-resistant at high v_c



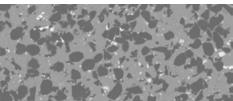


WBH20 (ISO H20)

- CBN substrate (grain size dia. 2.0 μ m)
- Wear-resistant with interrupted cuts and medium $\ensuremath{v_{\text{C}}}$







Developed for difficult challenges with interrupted cuts.

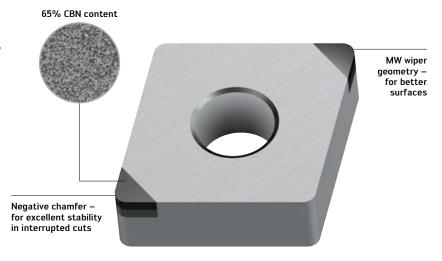
NEW

THE INDEXABLE INSERTS

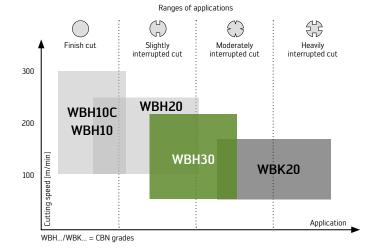
- CBN grade WBH30 for hard machining
- Inserts with and without MW wiper geometry
- 65% CBN content
- Dia. grain size 5.0 μm
- Ceramic binder

THE APPLICATION

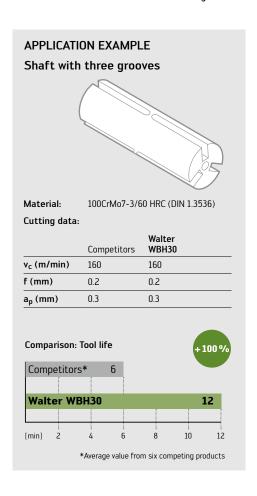
- Hard ISO H materials up to 65 HRC
- Interrupted cuts
- Replaces grinding in many areas (e.g. turning gears)



CBN grade Fig.: WBH30



- Excellent toughness thanks to good distribution of different CBN grain sizes
- Chemical stability thanks to TiN binder prevents crater wear and flank face wear
- Wear-resistant in hardened steels thanks to 65% CBN content
- Reliably high-performance CBN substrate thanks to homogenous sintering process
- Higher feeds, surface quality and stability due to wiper geometry



Finishing heat-resistant high-temperature alloys at 250 m/min.

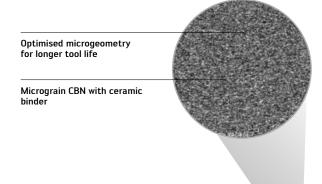
NEW

THE INDEXABLE INSERT

- New CBN grades for ISO S materials
- Optimised microgeometry for longer tool life

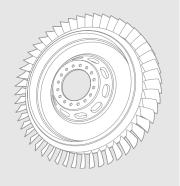
THE APPLICATION

- Continuous and interrupted-cut finishing operations
- Areas of use: Aerospace industry, general mechanical engineering



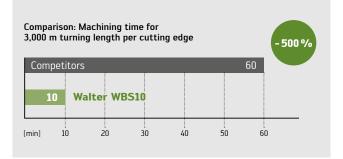
APPLICATION EXAMPLE

Facing – blisk



Material:	(2.4668)	
Tool:	SVHCL2525M16	
Indexable insert:	VCGW160408EM-2	
Grade:	WBS10 Competitors Carbide ISO S	Walter CBN WBS10
v _c (m/min)	50	250
f (mm)	0.10	0.10
a _p (mm)	0.25	0.25
Unwound turning length/ hour (m)	3,000	15,000
Comment	Structural changes	No structural changes

Inconel 718-42HRc





CBN indexable insert - ISO S

Fig.: CNGA120408-EM2 WBS10



Watch the product video: www.youtube.com/waltertools

- High machining speeds with CBN compared to carbide
- No structural changes in the cutting zone
- Higher output thanks to shorter machining times

The new CBN generation for cast iron and sintered metals.

NEW

THE INDEXABLE INSERT

- New CBN grades for ISO K and H materials
- Optimised microgeometry design for the relevant application

THE APPLICATION

WBK20

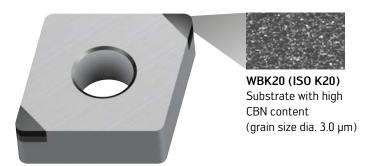
- ISO K materials: Finishing

WBK30

- ISO K materials: Roughing
- ISO H materials: Machining with large depths of cut

WBK20 + WBK30

- Sintered materials: Roughing and finishing
- ISO H materials: Finishing with heavily interrupted cuts
- Areas of use: Automotive industry, general mechanical engineering, among others





CBN indexable inserts

Fig.: CNGA120408TS-2 WBK20/CNGN120412TM-S WBK30

BENEFITS FOR YOU

- Maximum tool life in ISO K and ISO H thanks to new CBN grades
- Highly productive and reliable due to high-precision manufacturing
- Wear-resistant in cast iron and sintered steel (WBK20) and at high a_p in hardened steel (WBK30)

APPLICATION EXAMPLE WBK20 - spindle boring the casing Material: GG25 - EN-GJL-250 B3230.C8.135-178.Z1.CC06 Indexable insert: CCGW060204TS-2 Grade: WBK20 **Cutting data:** Competitors Walter WBK20 v_c (m/min) 190 250 f (mm) 0.07 0.07 a_p (mm) 0.5 0.5 Comparison: Tool life quantity [units] +100% 100 Competitors Walter WBK20 200



100

200



Your navigation system for the best machining solution.

Find the right tool with a click of the mouse.

In just four clicks, Walter GPS takes you from the definition of your target to the most cost-efficient tool and machining solution. Walter GPS is surprisingly comprehensive. Be it holemaking, threading, turning or milling: Full information on all tools from Walter, Walter Titex and Walter Prototyp can be displayed in an instant. Access essential usage data, such as accurate cutting data or precise cost-efficiency calculations, on your screen.

Walter GPS is now also available for smartphones and tablet PCs. This means that you are able to access all the required tool information at any time, wherever you are, even without a PC: In the workshop, at the machine or on the move.





Double the tool life thanks to unparalleled wear resistance.

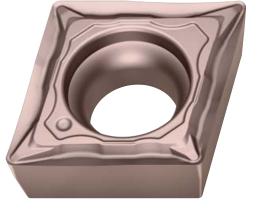
NEW

THE TECHNOLOGY

The extremely fine-grain titanium carbon-based cermet substrate, combined with the highly wear-resistant multilayer coating, provides clear advantages during finishing operations compared to coated tungsten carbide indexable inserts.

THE INDEXABLE INSERTS

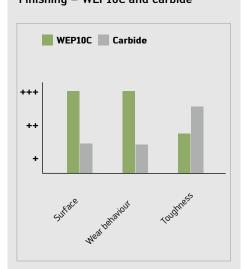
- Indexable insert with wear-resistant TiCN/CN-based cermet substrate with Ni/Co binder
- Extremely hard TiCN outer layer
- Extra fine cermet substrate grain
- Finishing chip former for versatile use with FP4 soft-cutting geometry
- CCMT, DCMT, TCMT, VCMT indexable insert shapes





Watch the product video: www.youtube.com/waltertools

COMPARISON
Finishing – WEP10C and carbide





Grade: WEP10C

Fig.: FP4 finishing geometry

- No readjustment necessary, maximum dimensional accuracy
- Longer tool life and higher productivity in comparison to carbide
- Extremely wear-resistant cermet substrate with multilayer coating
- Reflective surfaces at high and low cutting speeds

THE APPLICATION

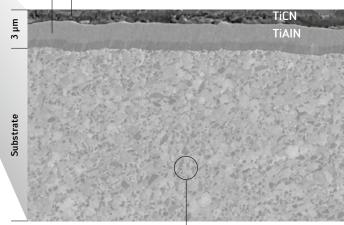
- Finishing with continuous and slightly interrupted cut
- Ideal for steels, stainless steels and cast iron workpieces
- Application areas: General mechanical engineering, energy and automotive industries

ISO material groups

	F	•	М	K	N	S	Н	0
Grades	Steel < 1000 N/mm²	Steel > 1000 N/mm²	Stainless steel	Cast iron	NF metals	Difficult-to-machine materials	Hard materials	Other
WEP10C	••	•	•	•				
WSM01	•	••	••		•	••	•	

High level of resistance to flank face wear

High level of resistance to crater wear



Cermet substrate, extra fine grain, maximum dimensional stability

APPLICATION EXAMPLE

Finishing - Threaded bolt

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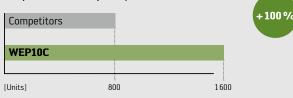
Indexable insert: VCMT160404-FP4

Grade: WEP10C

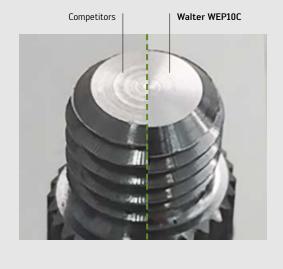


	Competitors	Walter
v _c	270 m/min	270 m/min
f	0.08 mm	0.08 mm
a _p	0.3 mm	0.3 mm

Comparison: Tool life quantity [units]



Consistently good surface quality right up to the end of tool life $% \left(1\right) =\left(1\right) \left(1\right)$



Best quality and tool life in unstable conditions.

NEW

THE GRADE

- New cermet micrograin grade WEP10C
- PVD TiCN TiAIN coating

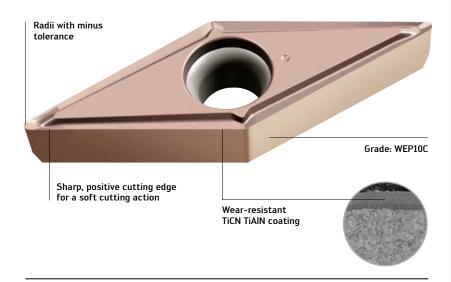
THE INDEXABLE INSERT

- Chip formation FP2
- Fully ground circumference; sharp cutting edge
- Basic shapes:
 - CPGT05...; CCGT06...; CCGT09...
 - DCGT07...; DCGT11...
 - TCGT06...; TCGT09...; TCGT11...
 - VCGT11...; VCGT16...
- Radius minus tolerance for exact radius machining on the component:
 - 005M = radius 0.03 mm
 - 01M = radius 0.07 mm
 - 02M = radius 0.17 mm
 - 04M = radius 0.37 mm
 - 08M = radius 0.77 mm

THE APPLICATION

- Finishing of components with small diameters, long components, components with unstable clamping, and thin-walled components
- $-a_p$: 0.12-4.5 mm; f: 0.02-0.45 mm

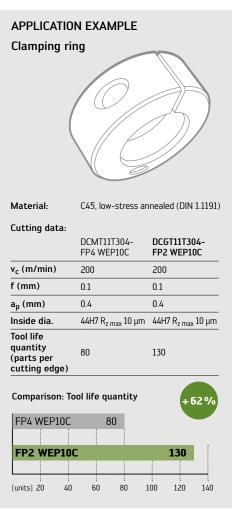




FP2 cermet indexable insert

Fig.: VCGT160404M-FP2 WEP10C

- Consistently long tool life throughout the entire duration of use
- Reduced vibration tendency with thin-walled components
- Excellent surface quality and high level of dimensional stability
- Low cutting pressure thanks to positive FP2 geometry and cutting edge preparation



Coated mixed ceramic – for all hardness cases.

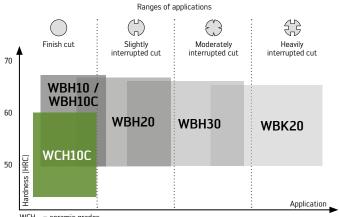
NEW

THE INDEXABLE INSERTS

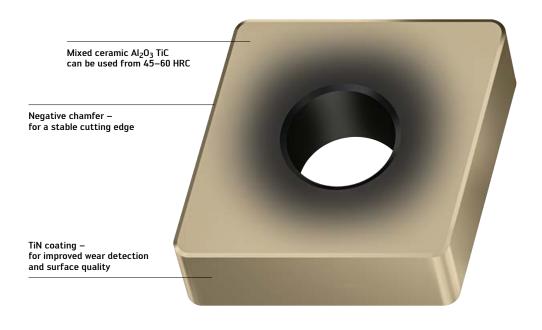
- Coated mixed ceramic grade WCH10C
- Mixed ceramic Al₂O₃ TiC
- TiN PVD coating
- Inserts with and without MW wiper geometry

THE APPLICATION

- For hard materials up to 60 HRC
- Finish cut; cuts in the hard/soft area
- For varying hardness measurements after hardening
- For roughing weld seams and localised hardening
- As a cost-effective alternative to CBN cutting tool materials



WCH... = ceramic grades WBH.../WBK... = CBN grades



Coated ceramic indexable insert

Fig.: CNGA120408SM-S WCH10C

- Cost-effective hard machining, as lower costs per cutting edge
- High level of process reliability in the hard/soft area thanks to high chemical and thermal stability of the aluminium oxide base
- High repeat accuracy due to homogeneity in the sintering process
- Tough and wear-resistant thanks to connection with titanium carbide structure
- Best surfaces thanks to uniform grain distribution in the substrate

Fast and productive on cast iron.

NEW

THE INDEXABLE INSERT

- A variety of versions:
 - With hole (e.g. CNGA), flat top insert
 - Without hole (e.g. CNGN)
 - With cavity clamping (e.g. CNGX)
- Different basic shapes: C, D, S, T, W
- Different corner radii: 0.8; 1.2 and 1.6 mm

THE GEOMETRIES

- With negative chamfer on the cutting edge 0.2 mm \times 20 $^{\circ}$
- Further cutting edge versions as a special option

THE APPLICATION

- First choice for grey cast iron materials
- Cutting speeds of up to 1000 m/min
- Suitable for turning and milling
- For roughing and finishing



WCK10 indexable inserts in various designs

Fig.: CNGN, WNGA, SNGX

- Optimum productivity due to maximum cutting speeds
- Long tool life due to wear-resistant ceramic cutting material
- Increased process reliability in tough machining conditions (in comparison to carbide indexable inserts)

Specialist for electromobility: Two tools in one – ultra efficient.

SPECIAL TOOLS

THE TOOL

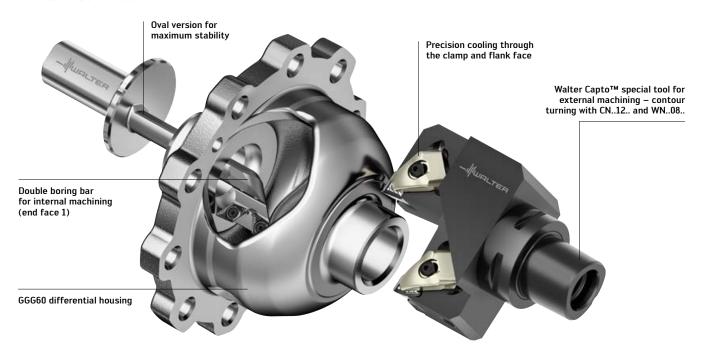
- Special tools for facing and longitudinal turning with two insert seats on a single tool
- Precision cooling on the rake and flank faces
- Oval boring bars, tough and adapted to the component

THE INDEXABLE INSERTS

- DCM..11T3../DCG..11T3.. for internal machining with low cutting pressure
- CN..1204.. with eight cutting edges (incl. fully usable cutting edge) for longitudinal and contour turning
- WN..0804.. with six cutting edges for facing and longitudinal turning
- Can be combined with MX, DX and GX grooving inserts as well as other ISO indexable inserts

THE APPLICATION

- Internal facing and longitudinal turning, external facing and longitudinal turning (and a combination of the two)
- Machining operations with a focus on time savings, easy handling and component precision
- Typical components: Differential housing, wheel bearing, stator housing (e.g. for hybrid and electric vehicles), etc.



Double toolholder for external and internal machining

Fig.: D21PS; D61NP

- More components per hour: With the twin turning tools and boring bars we can increase the indexing interval of the inserts by 100%
- High level of stability thanks to tailored solution
- Excellent accuracy, fewer tools in use (and therefore fewer clamping operations)
- Huge time savings compared to standard tools, as multiple machining operations are possible with a single tool

Grooving and recessing – fast and universal.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

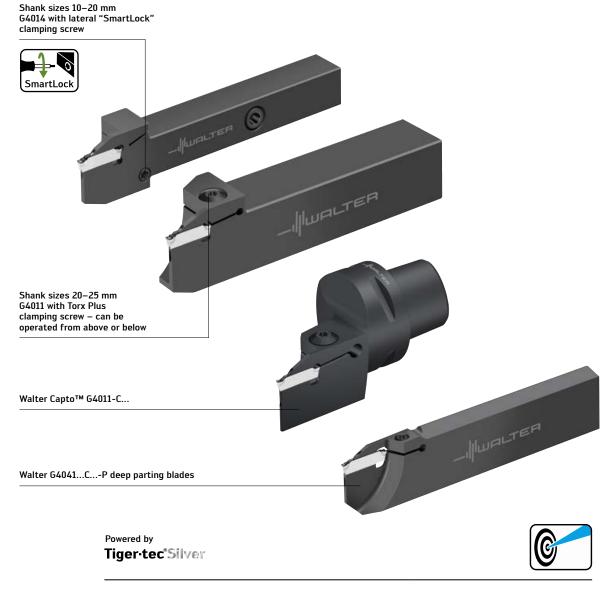
- Walter Cut G4011.../G4011-P monoblock shank tools
- Universal tool for grooving and recessing
- -20×20 and 25×25 mm: With and without precision cooling
- Insert widths: 2.0/2.5/3.0/4.0 mm
- Cutting depths: 10 mm (for recessing, grooving and parting off without diameter limit), 17.5 mm (with reinforced support)

THE INDEXABLE INSERTS

- Double-edged DX18 cutting inserts with positive engagement
- Insert widths: 1.5/2.0/2.5/3.0/4.0 mm
- PVD grades: WSM13S, WSM23S, WSM33S, WSM43S
- MT-CVD grades: WKP13S, WKP23S, WKP33S

THE APPLICATION

- Parting off: CF6, CF5, CE4
- Grooving and parting off for a flat groove base: GD3, GD6
- Universal grooving and recessing: UF4, UD4, UA4
- Copy turning: RD4, RF7



Walter Cut DX monoblock tools

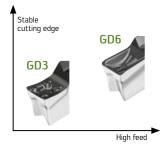
Fig.: G4014-P, G4011, G4011-C, G4041-P

THE GEOMETRIES

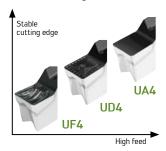
Parting off



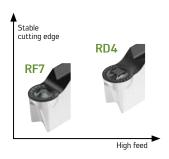
Grooving and parting off for a flat groove base



Universal grooving and recessing



Copy turning



THE TECHNOLOGY



Existing grooving insert: The low chip shoulder makes the chip longer, meaning that it partially rubs against the top clamp.



grooving insert:
Protects the top clamp and produces short chips.
The chip runs towards the shoulder and is directed into small, thinner chip ribbons. These are easier to transport out of the groove.

NEW Elevated



engagement:
The insert is not positioned at the rear contact point and can move in the event of lateral forces.

Existing insert seat

without positive



NEW Insert seat with

positive engagement:
The positive engagement
in the insert seat ensures
reliable installation and
maximum stability.
Particularly with lateral forces,
the insert is held securely
in the positive engagement
and can no longer move – for
higher cutting values and a
longer tool life for the cutting
insert and tool.

- Process reliability and reduced costs thanks to unique DX positive engagement design (the cutting insert does not move; wear and breakages are minimised)
- Tool change time reduced by 70% during insert changeover in the machine with SmartLock
- Higher productivity thanks to improved chip breaking (no chip jams, longer tool life)

Patented parting-off system with SmartLock.

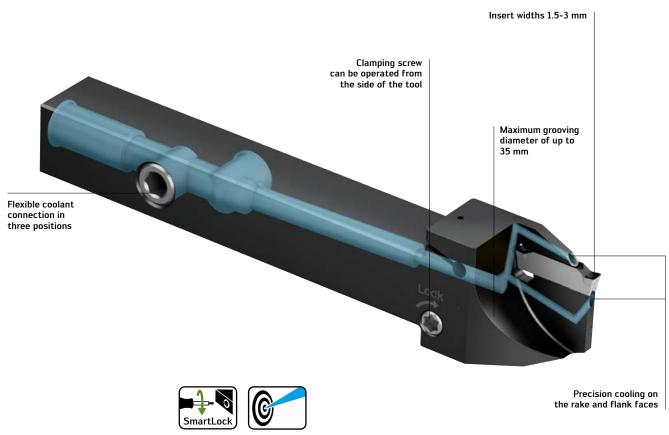
NEW

THE TOOL

- Patented G4014-P/DX18 grooving and parting-off tool with precision cooling
- Screw clamping on the side for easy insert changeover
- New clamping method: 30% higher clamping forces compared to conventional tools on the market
- Patented positive engagement at the insert locating surface
- Shank sizes: 10×10 , 12×12 , 16×16 , 20×20 mm

THE INDEXABLE INSERT

- Double-edged DX18 cutting inserts with second prism
- Insert widths: 1.5/2.0/2.5/3.0 mm
- Chip formation geometries: CE4, CF5, CF6 and GD6
- Grades: WSM23S, WSM33S, WSM43S, WKP23S



Powered by

Tiger-tec°Silver

Walter G4014-P/DX18 parting-off system

Fig.: G4014-1616R-3T17DX18-P

- Reliable thanks to patented positive engagement design (no incorrect fitting of the cutting insert, particularly for small insert widths)
- Tool change time reduced by 70% thanks to simple insert changeover in the machine
- Increased cutting parameters and tool life thanks to new insert clamping
- Maximum productivity and tool life thanks to new generation Tiger·tec® Silver PVD grade

APPLICATION EXAMPLE Axis dia. 10 mm – parting off



THE APPLICATION

- Automatic lathe and multi-spindle machines having up to 150 bar of coolant pressure
- Parting off with low burr and pip formation (by 6°, 7° and 15° angled parting-off inserts)
- Grooving and parting off along the main or counter spindle up to dia. 35 mm for flexible use
- For replaceable components (as tool operation can be modified)

THE TECHNOLOGY

Raised insert design protects the top clamp and produces short chips



The patented positive engagement in the insert seat prevents the inserts from being incorrectly fitted



Material: X8CrNiS18-9 (DIN 1.4305)

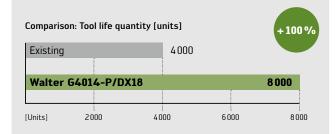
Tool: G4014.1616R-2T17DX18-P

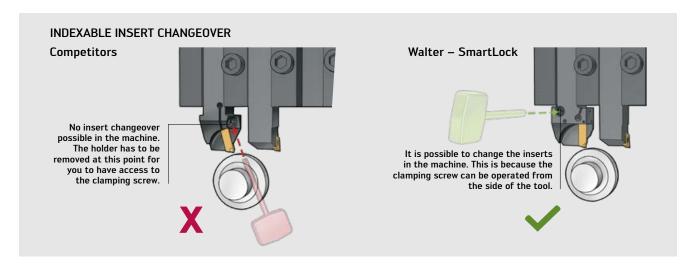
Indexable insert: DX18-1E200N02-CF5

Grade: WSM33S

Cutting data:

	Existing G1011.1616R- 2T15GX16-P GX16-1E200N02-CF5 WSM33S	NEW G4014.1616R- 2T17DX18-P DX18-1E200N02-CF5 WSM33S
v _c (m/min)	80	80
f (mm)	0.12	0.12
Insert width (mm)	2	2
Cutting depth (mm)	5	5





Grooving and recessing – fast and universal.

NEW

THE TOOL

Walter Cut G4011.../G4011-P monoblock shank tools

- Universal tool for grooving and recessing
- 25 × 25 mm: With and without precision cooling
- Insert widths: 2.0/2.5/3.0 mm
- Cutting depths: 10 mm (for recessing, grooving and parting off without diameter limit), 17.5 mm (with reinforced support)

Walter Cut G4041..R/L-P parting blades with reinforced shank

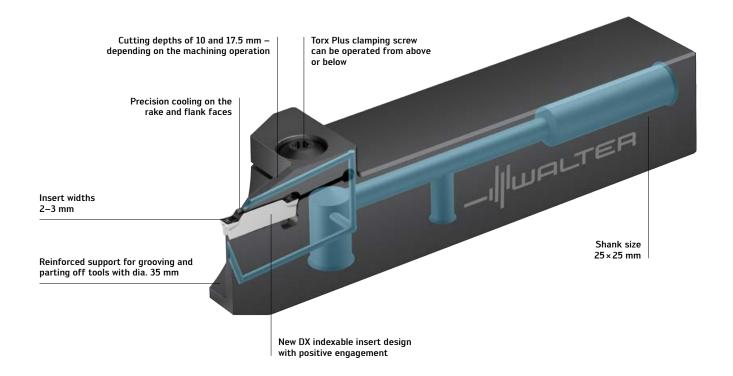
- Reinforced parting blades for parting off and grooving with and without precision cooling
- Available in right-hand, left-hand and contra versions
- Blade height: 26-32 mm

THE INDEXABLE INSERT

- Double-edged DX18 cutting inserts with positive engagement
- Insert widths: 1.5/2.0/2.5/3.0 mm
- PVD grades: WSM13S, WSM23S, WSM33S, WSM43S
- MT CVD grades: WKP13S, WKP23S, WKP33S

THE GEOMETRIES

- Parting off: CE4, CF5, CF6
- Grooving and parting off for a straight groove base: GD6, GD3
- Universal grooving and recessing: UA4, UD4, UF4
- Copy turning: RD4/RF7





Tiger-tec Silver





Walter Cut G4011-P/DX18 monoblock shank holder

Fig.: G4011-2525R-3T17DX18-P

THE APPLICATION

 Radial grooving and parting off, recessing, copy turning

Shank sizes 10–20 mm G4014 with lateral "SmartLock" clamping screw





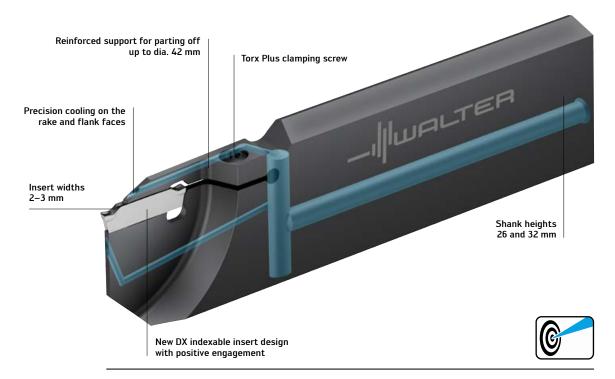
THE TECHNOLOGY



Raised insert design – protects the top clamp and produces short chips



The unique DX positive engagement in the insert seat prevents the inserts from being incorrectly fitted



Walter Cut G4041-P/DX18 reinforced parting blade

Fig.: G4041-26R-2T17DX18C-P

- Reliable thanks to unique DX positive engagement design (no incorrect fitting of the cutting insert)
- G4011: High degree of flexibility universal tool for all machining operations
- G4014: Tool change time reduced by 70% thanks to SmartLock and simple insert changeover in the machine
- G4041: Greater stability and lower vibration thanks to reinforced parting blades with screw clamping

Multiply your success – with four cutting edges.

NEW

THE INDEXABLE INSERTS

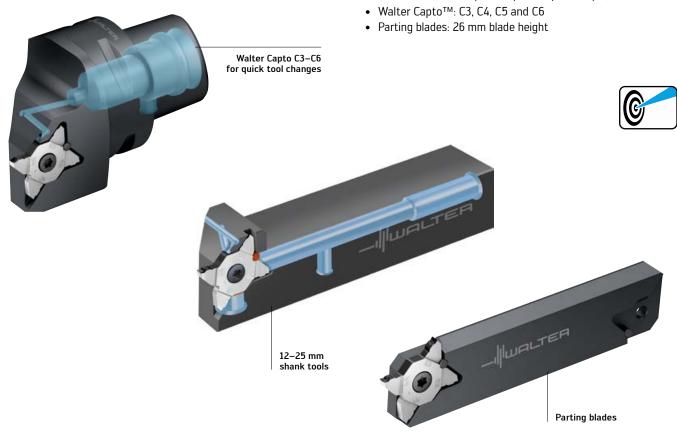
- Four precision-ground cutting edges ± 0.02 mm
- Insert widths from 0.80-5.65 mm
- Cutting depth up to 6 mm
- Four chip formation geometries: GD8, CF5, RF5 and AG
- One insert for left and right tool holders

THE APPLICATION

- Grooving, parting off, profiling, recessing and thread turning
- Where a high degree of precision and small diameters matter
- Areas of use: Swiss type auto lathe and multi-spindle machines, automatic lathes, machines with Walter Capto™ interface

THE TOOLS

- Grooving and parting off tool with precision cooling
- Stable, self-aligning, tangential insert mount
- Available tools:
 - Shank sizes: 10×10 , 12×12 , 16×16 , 20×20 , 25×25 mm



Walter Cut MX system

Fig.: G3011-C-P, G3011-P, G3041

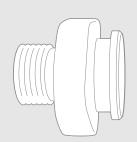


Watch the product video: www.youtube.com/waltertools

- Very user friendly thanks to self-aligning tangential screw clamping
- High level of flexibility: All cutting edge variants can be inserted in the same toolholder
- Maximum tool life thanks to the latest Tiger-tec® Silver PVD cutting tool materials

APPLICATION EXAMPLE

Grooving in stainless steel connector



THE GEOMETRIES

Grooving and parting off

GD8:



- Grooving operations
- Straight cutting edge for flat groove base

A60/



- Grooving and parting off operations
- Excellent chip control

Profiling and thread turning



- Full-radius grooving operations
- Contour turning with small machining allowances
- Thread turning operations where space is limited
 - Thread turning with the same



Walter press

X2CrNiMo17-12-2 Material: (1.4404)

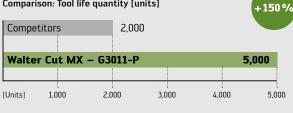
G3011-C3R-MX22-2-P Tool: Indexable insert: MX22-2E200N02-CF5

Grade: WSM23S

Cutting data:

	Competitors Five-edged grooving insert	Walter Four-edged grooving insert
v _c (m/min)	144	144
f (mm)	0.05	0.05
Cutting depth (mm)	1.5	1.5
Tool life (units)	2,000	5,000

Comparison: Tool life quantity [units]



THE TECHNOLOGY

Maximum change accuracy and user-friendliness

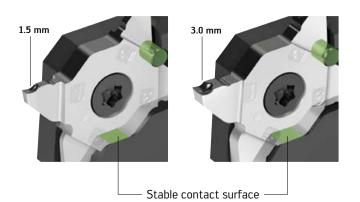
Other special profiles available from:

- ±0.03 mm ±0.05 mm

Tightening the screw pulls the insert against the contact surfaces and dowel pin

Maximum stability and precision

Stable, wide contact surface in the toolholder, regardless of cutting width

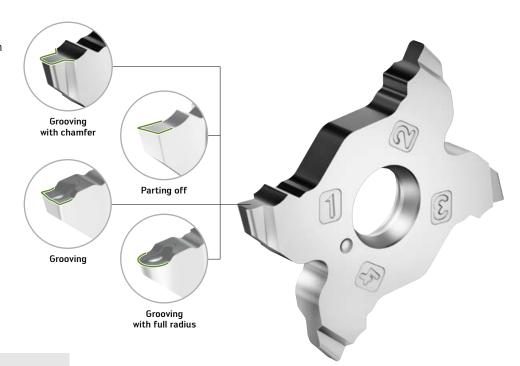


Walter Xpress – special profiles delivered within four weeks.

NEW

THE INDEXABLE INSERT

- Insert widths from 0.5-5.5 mm
- Cutting depths up to 6 mm
- Radii from 0.05-5.4 mm
- Parting off approach angles from 3-20°
- Chamfer angles from 30-60°



Walter // press

APPLICATION EXAMPLE

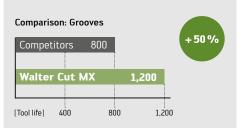
Grooving with chamfer shaft



42CrMo4 (1.7225) Material: G3011-C4R-MX22-2-P

Cutting insert: Xpress 2.2 mm with 0.2 × 45° chamfer

	Competitors Three-edged grooving insert	Walter Four-edged grooving insert
v _c (m/min)	140	140
f (mm)	0.12	0.12
T (mm)	1.1	1.1
Tool life (grooves)	800	1,200
Increase in pro	oductivity	+40%



THE APPLICATION

Existing:









Grooving and chamfering

Grooving

Chamfer left

Chamfer right

in a single step

Chamfering and grooving with corner radii Disadvantages: Longer runtime and higher peripheral cutting edge wear

Chamfering and grooving with Xpress special insert: Shorter runtime, lower peripheral cutting edge wear (distributed across the entire cutting edge) and higher tool life quantity

- Same-day grooving insert calculation including creation of drawing
- Grooving inserts in a four-week delivery time
- Special widths and radii with CF5/GD8 chip formation geometry
- Reduction of cost per part by reducing travel distances and multiple grooving

Grooving shoulders in a systematic way.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- G3051-P with MX22-L/R....-GD8 indexable inserts for shoulder machining
- New shank sizes: 12×12 , 16×16 , 20×20 , 25×25 mm

THE INDEXABLE INSERTS

- Four precision-ground cutting edges ±0.02 mm
- 3° installation position in the groove turning holder
- MX22-2L/R; insert widths from 1.50-3.00 mm; GD8 geometry
- MX22-2L/R; insert width 2.80 mm; VG8 geometry

THE APPLICATION

- Grooving and parting off shoulders and large diameters without interference contour; small dia. with high accuracy
- Can be used on CNC lathe and multi-spindle machines, automatic lathes

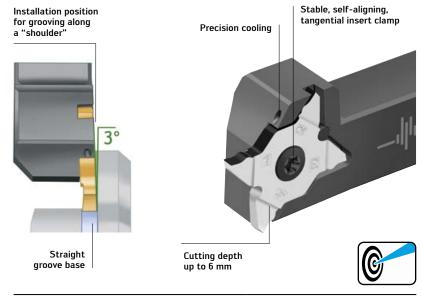
THE GEOMETRIES

GD8:

- For precision grooving
- Extremely soft cutting action
 - Light to moderate feeds



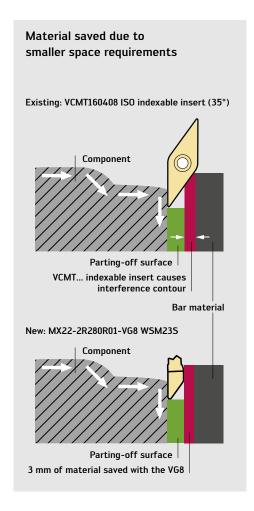
- For finishing operations on the rear face of a component
- Enormous savings on material compared to standard ISO indexable inserts



Walter Cut MX 3° – for shoulder machining

Fig.: G3051-2525R-MX22-2-P

- Tangential arrangement for outstanding flatness and surface quality
- User-friendly thanks to self-aligning screw clamping
- Enormous savings on material in mass production thanks to VG8 geometry
- Maximum tool life thanks to the latest Tiger·tec® Silver PVD cutting tool materials



Part off a diameter of up to 65 mm with two cutting edges.

NEW

THE TOOL

Walter Cut G1041..R/L-P parting blades with reinforced shank

- Precision cooling on the rake face and flank face
- Blade height 26-32 mm
- In right-hand, left-hand and contra versions

Walter Cut G1011...R/L-P monoblock tools

- Precision cooling on the rake face and flank face
- Shank sizes 20-25 mm
- Optimal application of force from below due to clamping screw
- G1/8" internal coolant connection

THE APPLICATION

- Deep grooving and parting off up to a diameter of 65 mm
- Parting off operations where space is limited
- Large tool overhangs

GX size comparison:

THE INDEXABLE INSERT

- 34 mm long grooving inserts, width 3-4 mm
- Three chip formations to choose from: Low to high feed

THE GEOMETRIES

CF5

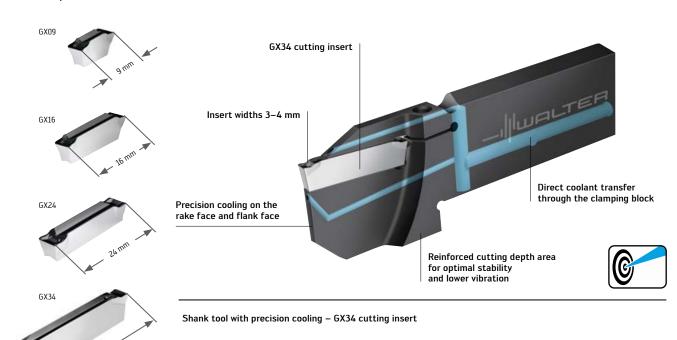
- Light to moderate feeds
- Good chip control
- 6° angle, low burr and pip formation

GD6:

- Medium feeds
- Long-chipping materials
- Average machining conditions

CE4:

- Moderate to high feeds
- Good chip constriction
- Stable cutting edge



- Maximum productivity and cutting values due to optimal cooling, stability and controlled chip breaking
- Efficient parting off with two cutting edges (up to a diameter of 65 mm)
- Best surface qualities and plane parallelism thanks to a long insert guide
- Shorter set-up times and greater process reliability due to omission of cooling nozzle alignment task

Double the cooling in the groove.

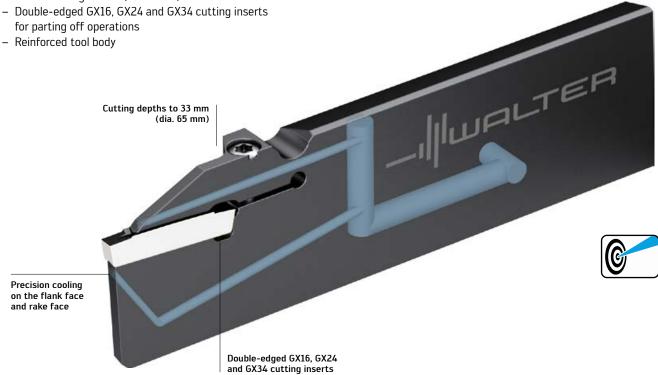
NEW

THE TOOL

- G1041..R/L-P parting blades with reinforced shank and precision cooling on rake face and flank face
- Blade heights 26-32 mm
- Insert widths 2-4 mm
- Grooving to a cutting depth of 33 mm and parting off up to a diameter of 65 mm
- Available in right-hand, left-hand, and contra versions - Double-edged GX16, GX24 and GX34 cutting inserts for parting off operations

THE APPLICATION

- Parting off operations where space is limited
- Parting off using long tool projections
- First choice when using parting blades
- Can be used from 10 bar up to a maximum coolant pressure of 80 bar



Reinforced blade with precision cooling

Fig.: G1041 . . R/L-P

BENEFITS FOR YOU

- Long tool life and high productivity
- Optimum cooling directly in the cutting zone starting from a coolant pressure as low as 10 bar
- Perfect chip control through precision cooling
- Reduced vibration tendency thanks to reinforced shank
- Little deflection due to reinforced tool body
- High cost efficiency thanks to two cutting edges

Right-hand version







E.g.: G1041 . 32R-3T32GX24C-P

Internal grooving and recessing with cool precision.

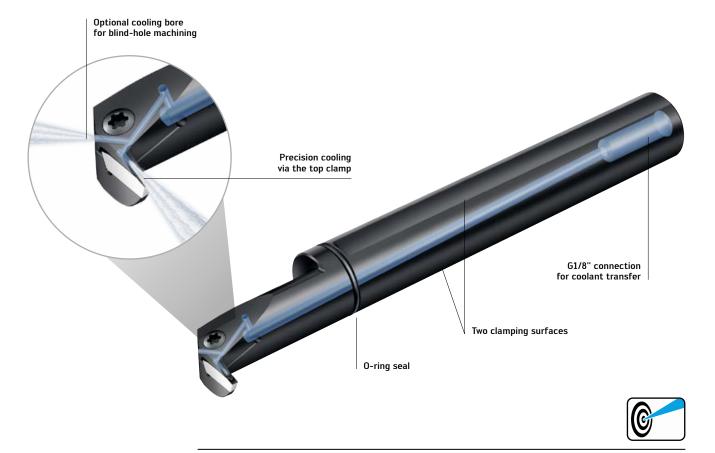
NEW

THE APPLICATION

- First choice for internal grooving and recessing
- Internal grooves with a diameter starting from $D_{min} = 16 \text{ mm}$
- Grooving to a depth of $T_{max} = 12 \text{ mm}$
- Insert widths of 2, 3, 4, 5 and 6 mm
- Can be used up to a coolant pressure of 80 bar
- Shank dia. 16–40 mm

THE TOOL

- Precision cooling via the top clamp
- Sealable axial coolant bore for blind-hole machining
- Connection using K601 coolant set (G1/8" thread on shank) or installation, e.g. using a Weldon basic adaptor
- Flexible O-ring seal for leak-free coolant transfer
- Two clamping surfaces



Grooving bar with precision cooling

Fig.: G1221-P

BENEFITS FOR YOU

- Interface between basic adaptor and tool free from pressure loss thanks to O-ring seal
- Unique chip flushing effect due to the axial cooling bore for blind-hole machining
- Excellent surface quality, process reliability and chip evacuation
- Maximum clamping force thanks to sophisticated clamping system



Watch the product video: www.youtube.com/waltertools

Grooving tools in just four weeks: So cost-effective – yet individual.

SPECIAL TOOL

THE TOOL

- G1011 monoblock special tools for GX09, GX16, GX24, GX30 and GX34 indexable inserts
- Left-hand, right-hand or neutral versions
- With and without precision cooling
- Approach angle: 0 to 90° possible
- Cutting depths: 5-33 mm
- Shank sizes: 10-50 mm
- Walter Capto™ C3–C8

THE APPLICATION

- Grooving and recessing with and without precision cooling
- Radial grooving, parting off and recessing
- Can be used from 10 bar up to a maximum coolant pressure of 150 bar (connections freely selectable)
- Ideal grooving tool design (e.g. reinforcement of the cutting insert support for a longer tool life and higher productivity)

Possible variants - approach angle and cutting depth



0° approach angle



90° approach angle



1-89° approach angle



Adapted cutting depths: 5-33 mm

Possible variants - cooling



Precision cooling on the rake and flank faces



Precision cooling on the rake face



Precision cooling on the flank face

Also available:



Walter Xpress for GX16 and GX24 cutting inserts

Walter Xpress - maximum stability for individual grooving solutions

Fig.: G1011-P

BENEFITS FOR YOU

- Greater flexibility thanks to four-week delivery time for little more than the standard price
- Rapid feedback thanks to quotes being returned within 24 hours
- Fewer tool design errors through a rule-based design approach in accordance with the component definition
- Superlative machining results thanks to proven standard technology plus optimal special design
- Walter Xpress is available for grooving tools and grooving inserts

Available from:



Universal geometry for copy turning with a soft cutting action.

NEW

NEW ADDITION TO THE PRODUCT RANGE

- RF7 geometry can be used universally for copy and relief turning
- Sharp cutting edge (reduces the cutting forces)
- Positive primary chamfer (stabilises the cutting edge)
- 230° machining angle (enables undercuts)

THE INDEXABLE INSERT

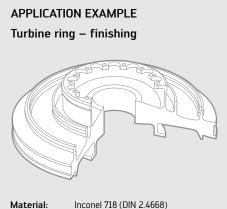
- Cutting edge widths: 2, 3, 4 and 5 mm
- Variants single-edged: "F"; double-edged: "E"
- Precision-sintered cutting inserts: DX18 and GX24

THE APPLICATION

- ISO materials M (e.g. turbochargers) and S (e.g. turbine discs)
- Finishing of ISO P materials (e.g. ball joints)
- Radial and axial machining with a high surface quality
- Copy turning of fragile components
- Areas of use: Aerospace and automotive industries, etc.

Sharp cutting edge reduces the cutting forces Radii from 1-2.5 mm Double-edged "E" version Positive engagement in the insert seat prevents the inserts from being incorrectly fitted

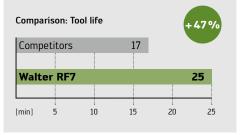
Powered by Tiger-tec*Silver

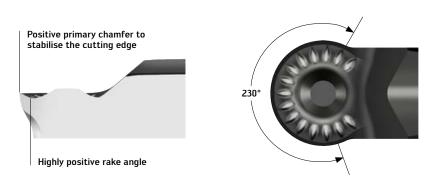


Inconel 718 (DIN 2.4668)

Cutting data:

	Competitors	Walter GX24-2E300N15-RF7 WSM13S
v _c (m/min)	45	45
f (mm)	0.12	0.12
a _p (mm)	0.3	0.3
Tool life (min)	17	25





Walter Cut RF7 copy turning geometry

Fig.: DX18-3E300N15-RF7 WSM13S

- Maximum cost-efficiency in ISO M and ISO S materials
- Excellent surface quality thanks to positive cutting edge and stabilising primary chamfer
- Production of undercuts thanks to machining angle > 180°

All in one: Grooving, parting off and recessing.

NEW

NEW ADDITION TO THE PRODUCT RANGE

- Geometry can be used universally for all grooving operations
- Circumference fully ground for maximum precision and change accuracy
- Cutting insert sizes: GX09, GX16, GX24 and GX30
- Cutting insert widths of 1.6-8.0 mm
- Tiger·tec® Silver WSM23S PVD cutting tool material

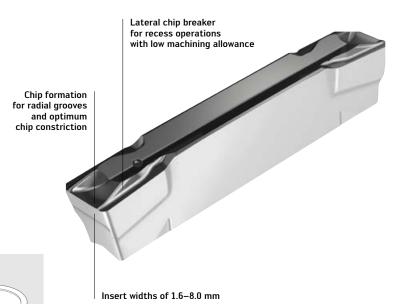
THE APPLICATION

- All grooving, parting off and recessing operations
- For DIN 471 circlip grooves with the tolerance class H13
- Ideal for machining ISO M and ISO S materials thanks to sharp, precision-ground cutting edge

THE GEOMETRY

UF8

- Good chip control in all grooving operations
- Low to average feed range
- Minimal force cutting behaviour thanks to ground cutting edge

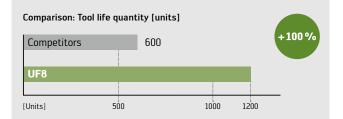


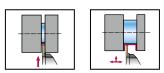
APPLICATION EXAMPLE Parting off - Bearing bush

Tool: Indexable insert:

Material: 44SMn28 (1.0762) G1011.2020R-3T21GX24 GX24-2E300N02-UF8 Grade: WSM23S

Cutting data:		
	Competitors Single-edged grooving insert	Walter Double-edged grooving insert
v _c	200 m/min	200 m/min
f	0.25 mm	0.25 mm
Cutting depth	17.5 mm	17.5 mm
Tool life quantity	600 units	1200 units
Note:	Chip control	Outstanding chip control





Powered by Tiger-tec[®]Silver

Grade: WSM23S

Fig.: UF8 geometry

- Optimum chip breaking for all grooving applications
- Short chips when radial and axial machining
- No production downtime caused by long chips
- Maximum tool life thanks to the latest Tiger-tec® Silver PVD cutting tool material

Enormous potential savings when machining rear faces.

NEW

NEW ADDITION TO THE PRODUCT RANGE

- VG7 geometry for Walter Cut GX grooving tools

THE INDEXABLE INSERT

- Two precision-sintered GX24 cutting edges
- For use in standard tools
- Indexable insert width of 2.8 mm (designed for 3 mm parting off)
- Corner radii of 0.2 and 0.4 mm

THE APPLICATION

- For finishing operations on the rear face of a component
- Machining parameters: f: 0.05-0.25 mm; a_p : 0.2-2.0 mm
- Machining operations on automatic bar machines and multi-spindle machines

Primary application:

- ISO P - steel

Secondary application:

- ISO M stainless steels
- ISO N non-ferrous metals

THE GRADE

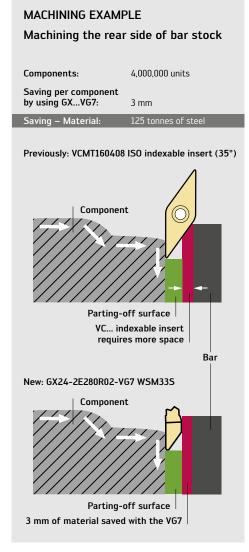
- PVD-Al₂O₃ grades: WSM23S, WSM33S



Walter Cut GX grooving tools

Fig.: GX24

- Enormous savings on material in mass production compared to standard ISO indexable inserts
- High level of efficiency for series production on automatic bar machines and multi-spindle machines
- $\,-\,$ Optimum chip breaking during finishing operations thanks to VG7 geometry
- Can be used on standard tools



WBS10 and WBH20 the new CBN generation.

NEW

THE GRADES

- New WBS10 grooving inserts for ISO S materials
- Optimised microgeometry for longer tool life

WBH20

- New CBN grade WBH20 for hard material machining
- Stable edge preparation with negative chamfer

THE APPLICATION

- Grooving on smooth cuts and interrupted cuts

WBS10

- ISO S materials
- Areas of use: Aerospace (e.g. Inconel on engine components), oil, gas and energy industries, general mechanical engineering

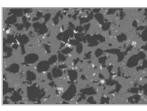
WBH20

- ISO H materials (e.g. 16MnCr5, 42CrMo, etc.) up to 65 HRC
- Areas of use: Automotive industry, general mechanical engineering

WBS10 (ISO S10)

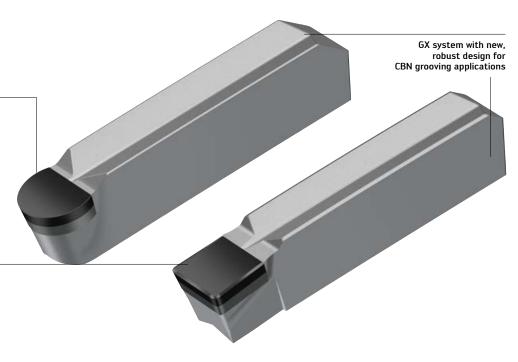
THE CBN GRADES

- CBN substrate (grain size dia. $< 1.0 \mu m$)
- Wear-resistant at highest v_c



WBH20 (ISO H20)

- CBN substrate (grain size dia. 2.0 µm)
- Wear-resistant at medium v_c



Full-radius and straight cutting inserts

Fig.: GX24-3F400N20EM-1 WBS10/GX24-3F400N02TM-1 WBH20

- Higher machining speeds with CBN (compared to carbide)
- Capacities increased for the same machinery
- Highly cost-effective thanks to low unit costs

- Reliable process thanks to stable design of inserts and geometry
- Maximum tool life thanks to new CBN grade
- High productivity due to higher operating parameters

Efficient grooving in aluminium and titanium alloys.

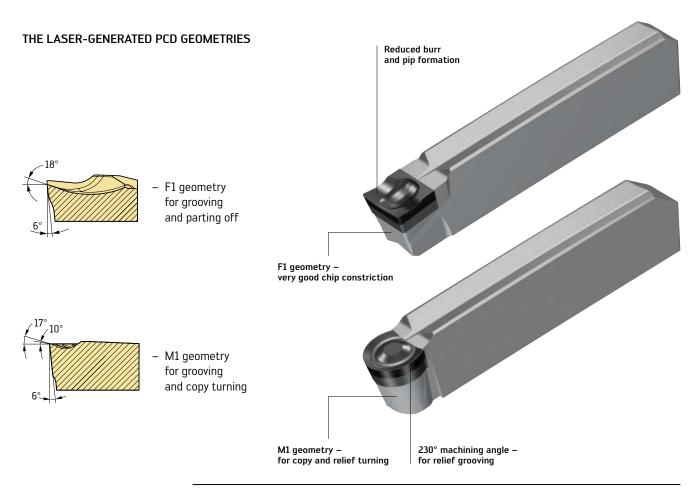
NEW

THE INDEXABLE INSERT

- Straight and full-radius grooving inserts
- Efficient, laser-generated chip formation for reliable grooving
- Insert widths from 2-8 mm

THE APPLICATION

- Parting off, grooving and recessing
- Areas of use: Aerospace industry, medical engineering, automotive industry
- Threaded aluminium joints, parting off, rim-base machining on aluminium wheels
- Parting off titanium bone screws



GX grooving inserts

Fig.: GX24-3F400N02FS-F1 WDN10, GX24-3F400N20FS-M1 WDN10

- High cutting speeds and long tool life
- Maximum process reliability through laser-generated chip formation geometry
- Maximum surface quality and constantly high grade

Robust and reliable heavy-duty cutting.

NEW

THE INDEXABLE INSERT

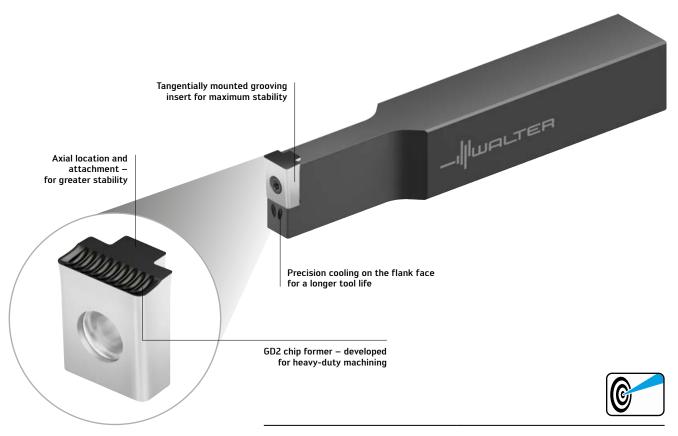
- Tangentially mounted cutting inserts for grooving and widening, with precision cooling
- Stable, tangential clamping
- Insert widths: 12 and 19 mm
- Shank sizes: 25×25 and 32×32 mm

THE GEOMETRY

- Universal GD2 chip formation geometry
- Very short chips when cutting to the maximum depth and when widening
- Feed rate f: 0.2-0.6 mm

THE APPLICATION

- Ideal for machining generator and turbine shafts
- Grooves into solid material to the required groove depth
- Widen grooves with small lateral depths of cut
- Areas of use: Energy industry, wind power, roller manufacturers, shipbuilding, general mechanical engineering



Walter Cut UX system for grooving

Fig.: G2016-2525N-12T40UX-P

- Reliable and with excellent chip control
- Cutting forces are optimally absorbed thanks to the tangential arrangement
- $\,$ $\,$ Widen grooves without "tipping" the cutting insert in the insert seat

Short and sweet – extreme stability.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

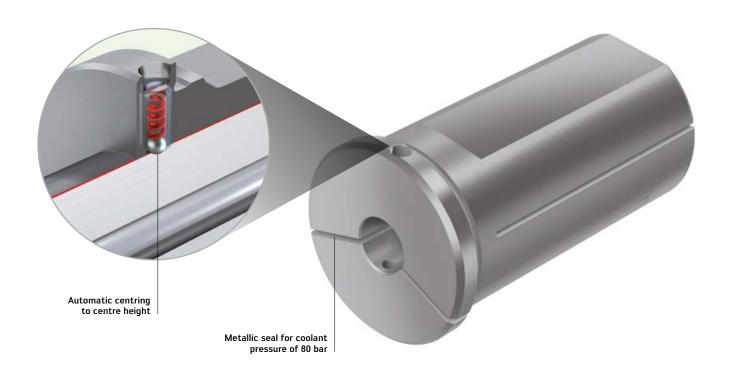
 AK600... is being replaced by A2140-...

THE TOOL

- A2140... adaptor for round shank boring bars using a spring-loaded ball to automatically set the centre height
- Completely enclosed cylindrical shank boring bars (-R) for maximum stability
- Lengths adjusted for VDI boring bar adaptors
- Outside dia.: 25, 32, 40 mm
- Inside dia.: 6, 8, 10, 12, 16, 20 mm

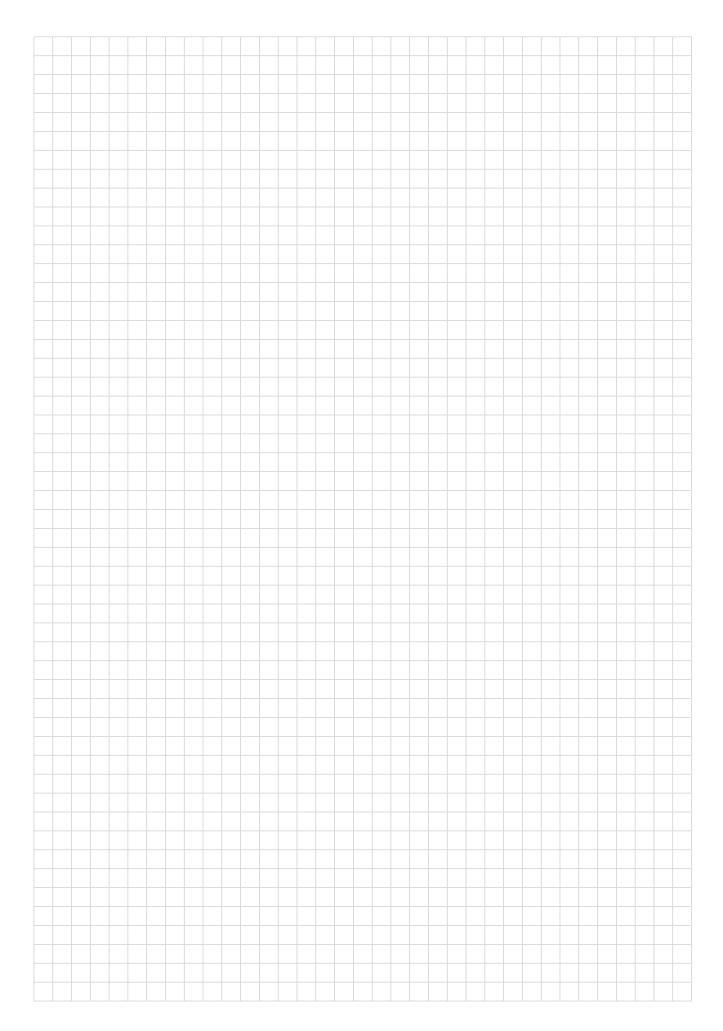
THE APPLICATION

- Internal turning
- Simple, stable boring bar clamping for cylindrical shank without flats
- Machining operations with vibration tendency
- Can be used up to a coolant pressure of 80 bar thanks to metallic seal



Boring bar adaptor Fig.: A2140

- Excellent workpiece surfaces due to exact alignment of the centre height for vibration-free machining
- Automatic alignment of the centre height saves time during tool changes
- One adaptor for solid carbide and steel boring bars



B – Holemaking

Drilling from solid

Solid carbide drilling and reaming tools	DB131/DB133 Supreme	
	DC160 Advance	68
	DC260 Advance	70
	DC150 Perform	71
	DC166 special tool	72
Drilling tools with indexable inserts	Walter drilling grade WSP45G	74
	D4120 indexable insert drill	76
	P6006 exchangeable-tip drill	78
	D4140 exchangeable-tip drill	79
	D4140 indexable insert drill	80
	D3120 indexable insert drill	81
HSS drilling and reaming tools	DA110 Perform HSS drill	82
Boring and precision boring		
Tools for boring and precision boring	Tangential/lateral indexable inserts for boring – P4130/P4160	83
	P4460 tangential/lateral indexable inserts	84
Indexable inserts for boring and precision boring	Special tool with tangential/lateral indexable inserts	85
	EB boring bars and cartridges with TC indexable inserts	86
	CCMT, WCMT, SCMT in E47 geometry	87
	ARS cartridge	88
	Cermet indexable inserts – WEP10	90
Cartridges	Walter precision boring cartridges	92
	ISO cartridges for special solutions	93



Precision down to the smallest detail.

NEW

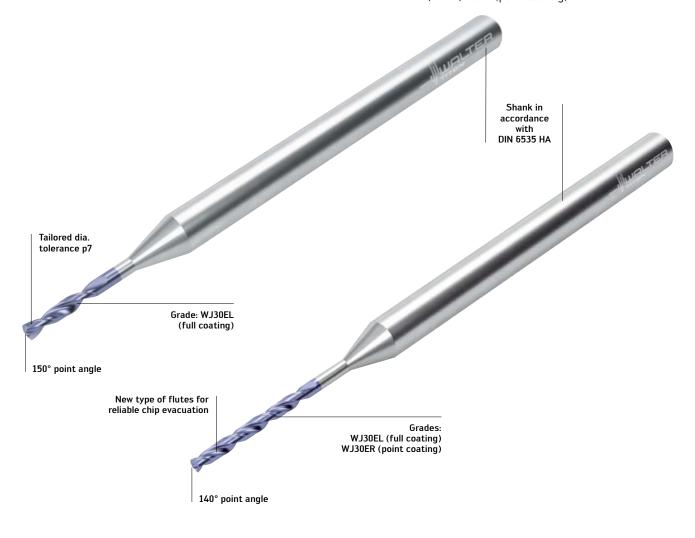
THE TOOLS

DB131 solid carbide micro pilot drill without internal coolant

- Dimensions in accordance with Walter standard: $2 \times D_c$
- Diameter range: 0.5-1.984 mm
- Shank in accordance with DIN 6535 HA
- Grade: WJ30EL, K30F, AlCrN (full coating)

DB133 solid carbide micro drill with internal coolant

- Dimensions in accordance with Walter standard: $5\times D_c,\, 8\times D_c,\, 12\times D_c$
- Diameter range: 0.7-1.984 mm
- Shank in accordance with DIN 6535 HA
- Grades:
 - WJ30EL, K30F, AlCrN (full coating)
 - WJ30ER, K30F, AlCrN (point coating)





DB131/DB133 Supreme solid carbide micro drill

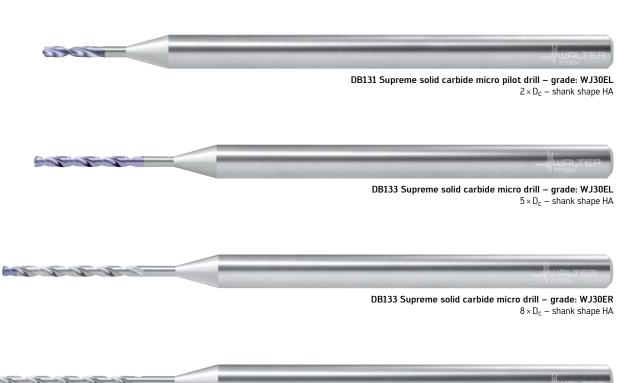
Fig.: DB131-02-01.000A0-WJ30EL/DB133-05-01.000A1-WJ30EL

Watch the product video: www.youtube.com/waltertools

THE APPLICATION

- ISO material groups P, M, K, N, S, H, O
- Can be used with emulsion, oil
- Areas of use: Medical technology, watchmaking industry, general mechanical engineering, mould and die making, energy and automotive industries

THE RANGE



DB133 Supreme solid carbide micro drill – grade: WJ30ER $12 \times D_c$ – shank shape HA

- Maximum process reliability combined with minimal dimensions
- Optimised dimensions for maximum stability
- Pilot drill with adjusted dia. tolerance and 150° point angle
- Excellent surface quality on the component thanks to the customised preparation of the cutting edges on the drill

X-treme Evo – the next generation of holemaking up to $30 \times D_c$

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

With internal coolant:

- $16 \times D_c$ in accordance with Walter standard
- $-\ 20\times D_c$ in accordance with Walter standard
- $-\ 25\times D_c$ in accordance with Walter standard
- $-30 \times D_c$ in accordance with Walter standard

Additional dimensions - with internal coolant:

- 3 × D_c in accordance with DIN 6537 short
- $-5 \times D_c$ in accordance with DIN 6537 long
- $-8 \times D_c$ in accordance with Walter standard
- $-12 \times D_c$ in accordance with Walter standard

Additional dimensions - without internal coolant:

- 3 × D_c in accordance with DIN 6537 short
- $-5 \times D_c$ in accordance with DIN 6537 long

Shank in accordance with DIN 6535:

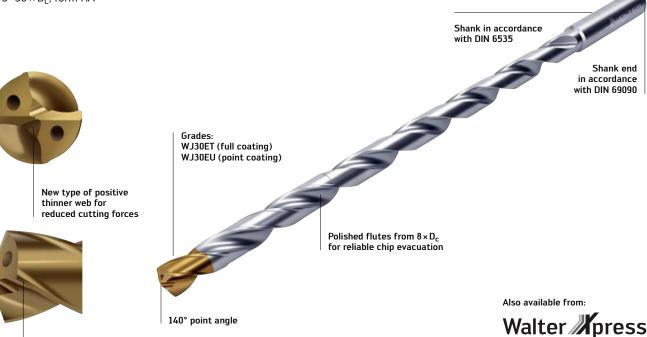
-3 and $5 \times D_c$, form HA and HE $-8-30 \times D_c$, form HA

THE TOOL

- DC160 Advance solid carbide drill with and without internal coolant
- Dia. 3-25 mm
- Dimensions from ${\sim}3\times D_c$ (in accordance with DIN 6537 short) up to $30\times D_c$ in accordance with Walter standard
- Grades:
 - WJ30ET, K30F TiSiAlCrN/AlTiN (full coating)
 - WJ30EU, K30F TiSiAlCrN/AlTiN (point coating)

THE APPLICATION

- ISO material groups P, M, K, N, S, H, O
- Can be used with emulsion, oil and MQL
- Areas of use: General mechanical engineering, mould and die making, energy and automotive industries



Fourth land in advanced position for rapid guidance in the drilled hole

DC160 Advance solid carbide drill

Fig.: DC160-16-08.500A1-WJ30EU



Watch the product video: www.youtube.com/waltertools

- XD Technology: Deep-hole drilling up to $30 \times D_c$ without pecking
- High productivity in many different materials
- Lands located in advanced position to ensure rapid guidance in the hole
- Remarkable positioning accuracy thanks to the innovative new thinner web
- Can be used universally

THE RANGE

DC160 ADVANCE - without internal coolant:



 $3\times D_c$ – shank shapes HA and HE



 $5\times D_c$ – shank shapes HA and HE

DC160 ADVANCE - with internal coolant:



 $3 \times D_c$ – shank shapes HA and HE



 $5\times D_c$ – shank shapes HA and HE



 $8 \times D_c$ – shank shape HA



 $12 \times D_{c}$ – shank shape HA



 $16\times D_c$ – shank shape HA



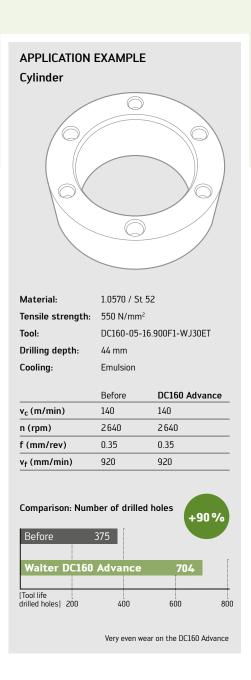
 $20\times D_c$ – shank shape HA



 $25 \times D_c$ – shank shape HA



 $30\times D_c$ – shank shape HA



Universal use, strong performance.

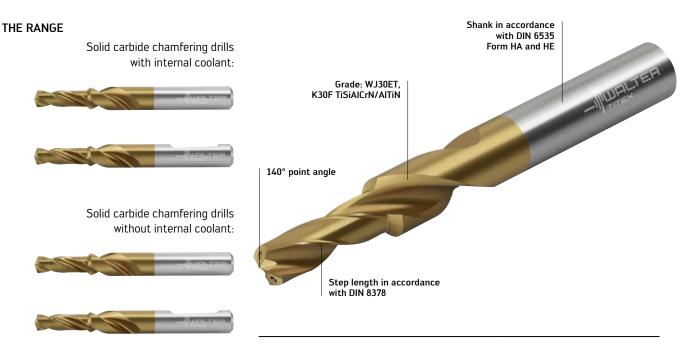
NEW

THE TOOL

- DC260 Advance solid carbide chamfering drill with and without internal coolant
- Dia. 3.3-14.5 mm
- For drilled thread core holes M4–M16, MF8 \times 1–16 \times 1.5
- Step length in accordance with DIN 8378
- Grade: WJ30ET, K30F TiSiAlCrN/AlTiN
- Dimensions: Walter standard with and without internal coolant

THE APPLICATION

- For drilled thread core holes
- ISO material groups P, M, K, N, S, H, O
- Can be used with emulsion, oil and MQL
- Areas of use: General mechanical engineering, mould and die making, energy and automotive industries



DC260 Advance solid carbide chamfering drill

Fig.: DC260-03-08.500A1-WJ30ET

BENEFITS FOR YOU

- High productivity in many different materials
- Lands located in advanced position to ensure rapid guidance in the hole
- Remarkable positioning accuracy thanks to the innovative new thinner web
- Universal application

Also available from:



New dimensions – now even more flexible.

NEW TO THE RANGE

 Areas of use: General mechanical engineering, mould and die making, energy and automotive industries

Shank =

cutting edge dia.

THE APPLICATION

- ISO material groups P, M, K, N, S, H, O

- Can be used with emulsion, oil and MQL

NEW ADDITION TO THE PRODUCT RANGE

- DC150 Perform solid carbide twist drill
- WJ30RE grade
- Dia. 1.5-2.9 mm

Without internal coolant:

 $-3 \times D_{c_i}$ dia. 1.5–1.9 mm in accordance with DIN 1897 > dia. 1.9 mm in accordance with DIN 6539

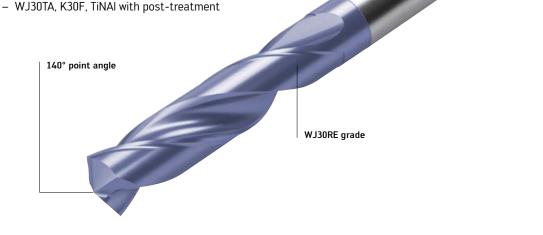
Additional dimensions - with internal coolant:

- $-3 \times D_c$ in accordance with DIN 6537 short; HA shank and double shank (HE/HB)
- $-5\times D_c$ in accordance with DIN 6537 long; HA shank and double shank (HE/HB)
- $-8\times D_c$ in accordance with Walter standard; HA shank $-12\times D_c$ in accordance with Walter standard; HA shank
- Additional dimensions without internal coolant:
 3 × D_c in accordance with DIN 6537 short; HA shank and double shank (HE/HB)

 $-5 \times D_c$ in accordance with DIN 6537 long; HA shank

THE GRADES

– WJ30RE, K30F, TiNAI



DC150 Perform solid carbide drill

Fig.: DC150-03-02.000U0-WJ30RE



Watch the product video: www.youtube.com/waltertools

- Cost-efficient machining of small and medium batch sizes
- Can be used universally with all materials
- Now even more flexible thanks to extended range of drills
- Shank variants for all adaptors typically used when holemaking: Weldon, whistle notch, hydraulic expansion chuck, collet chuck, shrink-fit chuck, power chuck
- Optimum protection against wear due to WJ30RE and WJ30TA grades

Superior productivity in all types of aluminium alloys.

SPECIAL TOOL

THE TOOL

- DC166 solid carbide high-performance drill with internal coolant
- Dia. 4–20 mm drilling depth up to $30 \times D_c$
- Step drill with up to three steps
- Uncoated or NHC-Tip-coated, polished flutes and face
- Special tools in line with customer's requirements

THE APPLICATION

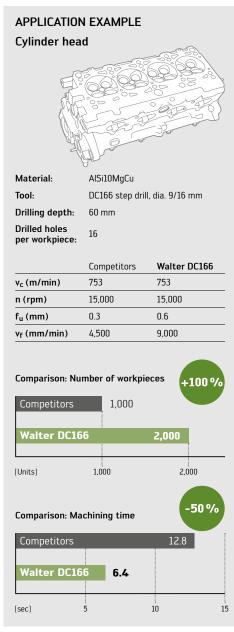
- ISO material group N
- Cast aluminium and wrought alloys
- Can be used with emulsion or MQL
- Areas of use: Automotive industry, general mechanical engineering, components with large batch sizes
- Deep-hole drilling up to $30 \times D_c$

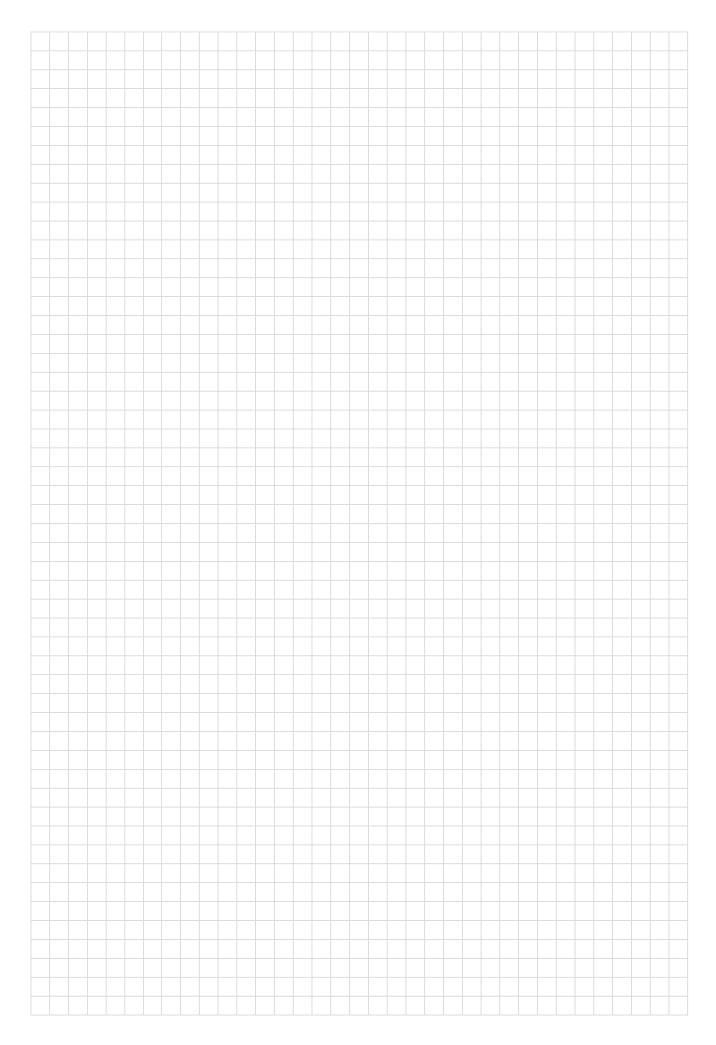


DC166 solid carbide step drill

Fig.: Ø 9/16 mm

- Customer-specific version adapted to the application
- Up to 30% higher feed rate for maximum productivity
- High process reliability thanks to reliable chip removal
- For cast aluminium and wrought alloys





Tiger-tec® Gold is pushing the boundaries.

NEW

THE GRADE

- Tiger·tec® Gold PVD-coated drilling grade WSP45G
- Unique PVD Al₂O₃ coating technology
- ZrN top layer for the best wear detection
- Perfect balance between wear resistance and toughness

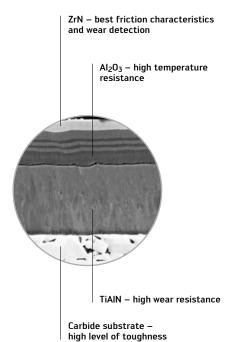
THE INDEXABLE INSERT

- P484. for D4120: Sizes 1-8
- P284. for D3120: Sizes 1-7
- LCMX for B321-DF and B321-U3F
- WOEX and WOMX for special tools

THE APPLICATION

- Can be used universally on ISO materials P, M and S (such as high-alloy and austenitic stainless steels or titanium alloys)
- Unfavourable conditions such as interrupted cuts and long overhangs
- Areas of use: For example, aerospace and automotive industries or general mechanical engineering

Indexable inserts with the only PVD Al_2O_3 coating of its kind in the world





P4840C-E67



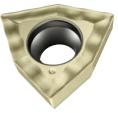
P4840P-A57



P2840S-E67



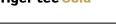
LCMX-E57



WOEX-E57



WSP45G



Tiger·tec® Gold PVD for drilling:

Fig.: P4840, P2840, LCMX, W0EX



THE TOOL

Can be used in all Walter indexable insert drilling and boring tools:

- D4120
- D3120
- B321*



D4120



D3120



APPLICATION EXAMPLE

Turbocharger



Material: GX35CrNiSi 25 12 (1.4837), ISO M

WSP45G

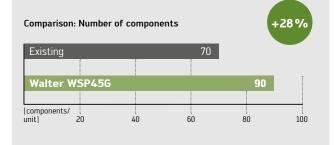
 Tool:
 B3212.DF.13,7.Z01.27R

 Indexable insert:
 LCMX050203-E57

Cutting data:

Grade:

	Existing	WSP45G
v _c (m/min)	100	100
n (rpm)	2323	2323
f _n (mm)	0.1	0.1
v _f (mm/min)	232	232
Drilling depth (mm)	30	30
Cooling	12% emulsion	12% emulsion
Adaptor	HSK63 – hydraulic expansion	HSK63 – hydraulic expansion



- Maximum process reliability thanks to the combination of high wear resistance and optimal toughness
- Long tool life thanks to unique PVD Al_2O_3 coating
- Can be used universally, even in difficult conditions and for materials with difficult cutting properties
- Best wear detection thanks to the gold-coloured top layer

Perfect performance and precision.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- D4120.02 (2 × D_c) dia. 0.531–1.625"
- D4120.03 (3 × D_c) dia. 0.531–1.625"
- D4120.04 (4 \times D_c) dia. 0.656–1.625"
- D4120.05 (5 × D_c) dia. 0.656–1.625"

THE TOOL

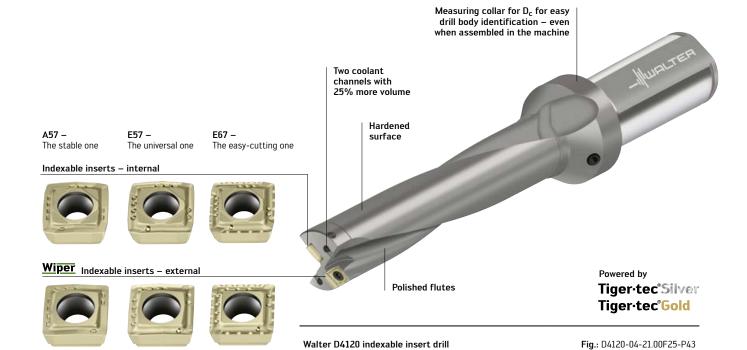
- Metric:
 - Dia. 13.5–59 mm ($2 \times D_c$ and $3 \times D_c$)
 - Dia. 17–59 mm $(4 \times D_c \text{ and } 5 \times D_c)$
- Inch:
 - Dia. 0.531-1.625" ($2 \times D_c$ and $3 \times D_c$)
 - Dia. 0.656-1.625" $(4 \times D_c \text{ and } 5 \times D_c)$

THE INDEXABLE INSERTS

- Four-edged, positive indexable insert
- Five grades: WKP25S, WKP35S, WSP45G, WSP45, WXP40
- Three geometries: A57, E57, E67
- Wiper cutting edge for P4840 design with fully ground circumference

THE APPLICATION

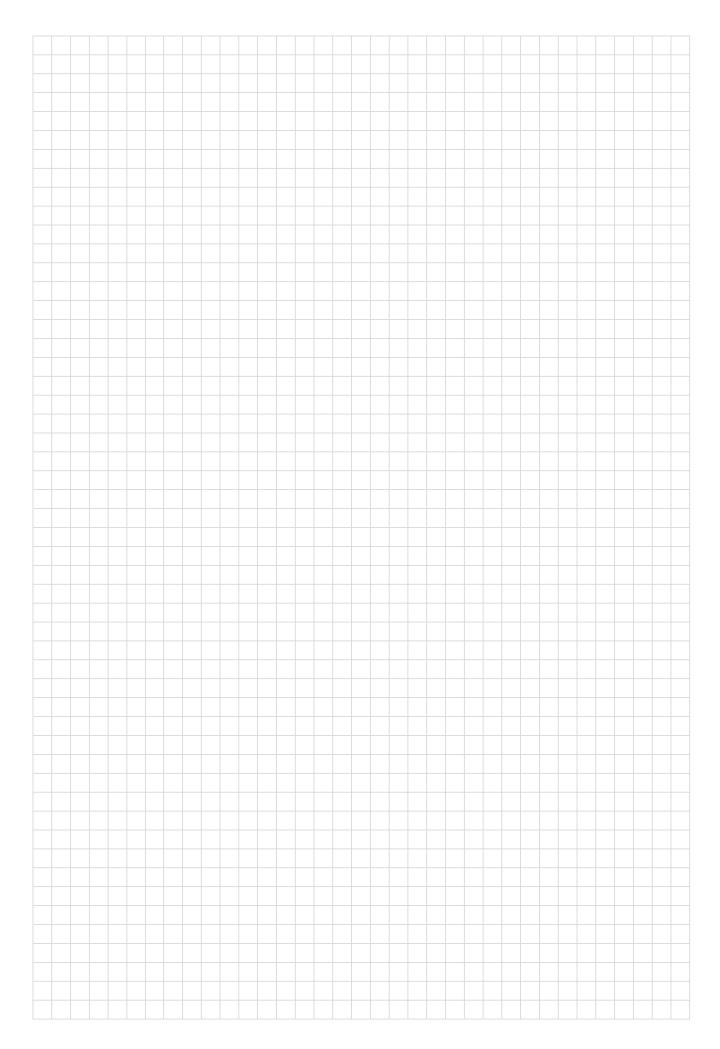
- Drilling from solid with constant bore dia.
- Difficult machining operations, such as cross holes, chain drilling, inclined inlet and exit
- ISO materials P, M, K, N, S
- Areas of use: General mechanical engineering, mould and die making, energy and automotive industries



BENEFITS FOR YOU

- High precision in bore diameter thanks to precise balancing of the cutting forces between the centre and outer insert
- Excellent surface quality due to wiper cutting edge
- Maximum process reliability thanks to easy chip removal
- Hardened and polished surfaces offer protection against friction
- Low cutting material costs due to four cutting edges

Also available from: Walter press



Redefine bore quality and process reliability.

NEW

THE INDEXABLE INSERT

- P6006 exchangeable-tip drill
- Dia. 12.00-29.50 mm
- Optimised geometry
- Wear-resistant grade WPP25

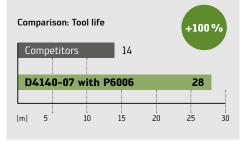
APPLICATION EXAMPLE Hydraulic flange Material: C22.8 Tool: D4140-07-14.00F16-B

Indexable insert:	P6006-D14.00R WPP25
Grade:	WPP25

ordue: WFF23

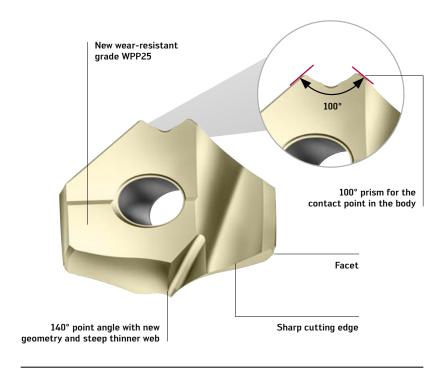
Cutting data:

Cutting data:		
-	Competitors	Walter D4140- 07-14.00F16-B
v _c (m/min)	112	100
n (rpm)	2548	2275
f _n (mm)	0.2	0.225
v _f (mm/min)	510	512
Drilling depth (mm)	28	28
Tool life	25 components 500 bores 14 m	50 components 1000 bores 28 m
Cooling	Emulsion	Emulsion
Adaptor	HSK 63	HSK 63



THE APPLICATION

- Can be used in all exchangeable-tip drills D4140, D4240 and D4340
- Machining steel (ISO P); ideal for unalloyed, low-carbon and low-alloy steels up to 1000 N/mm² (e.g. S355)
- Ideal for holemaking without pilot drilling up to $10\times D$
- For maximum tool life in stable machining conditions
- Areas of use: General mechanical engineering, energy, automotive and aerospace industries



P6006 exchangeable-tip drill

Fig.: P6006-D18,00R WPP25

- Maximum process reliability thanks to very short chip breaking in unalloyed steels
- High level of centring accuracy thanks to new geometry with optimised thinner web
- Specially designed for long overhangs: Holemaking without pilot drilling up to $10\times\text{D}$
- Maximum tool life in stable conditions thanks to new grade WPP25
- Best surface quality and wear detection thanks to the light-coloured top layer

Incomparably tough under all working conditions.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

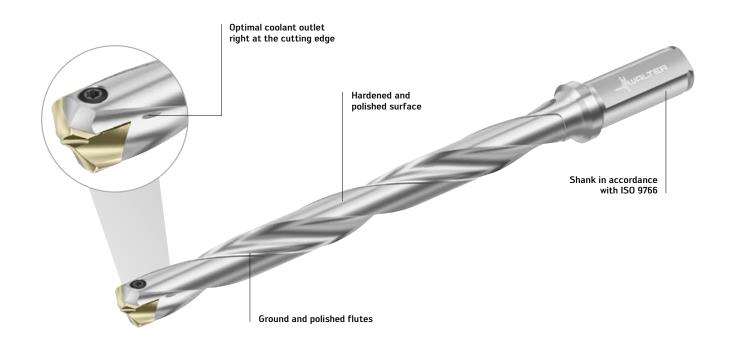
- D4140-10 (10 \times D); dia. 12-25 mm
- D4140.10 (10 × D); dia. 0.500-1.000"

THE TOOL

- Diameter range: 12–37.99 mm for $3 \times D$, $5 \times D$ and $7 \times D$ - Diameter range: 0.472–1.496" for $3 \times D$, $5 \times D$ and $7 \times D$
- Diameter range: 12-25.80 mm for $10 \times D$
- Diameter range: 0.472-1.016"

THE APPLICATION

- Drilling from solid, stack drilling, inclined entrances and exits up to ${\sim}5^{\circ}$
- ISO materials P, M, K, N, S
- Areas of use: General mechanical engineering, mould and die making, energy and automotive industries



D4140 exchangeable-tip drill

Fig.: D4140-10-18.00F20-D

- Maximum process reliability up to $10 \times D$
- Increase in the tool life due to coolant outlet directly on the cutting edge
- Reliable chip evacuation due to ground and polished flutes
- Hardened and polished surface offers a long tool life and protection against friction



Incomparably tough under all working conditions.

NEW TO THE RANGE

NEW ADDITIONS TO THE PRODUCT RANGE

- D4240-02 (chamfering drill $2.5 \times D_c$)
- D4140-01 (1.3 × D_c)

Extension (diameter and shank versions)

- D4140-03 $(3 \times D_c)$
- D4140-05 (5 × D_c)
- D4140-07 (7 × D_c)

THE TOOL

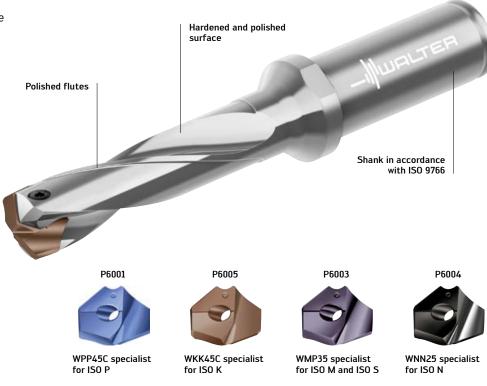
- Dia. 12–37.99 mm for $3 \times D_c$, $5 \times D_c$ and $7 \times D_c$
- Dia. 0.472-1.496" for $3 \times D_c$, $5 \times D_c$ and $7 \times D_c$
- Dia. 18–24.7 mm for $10 \times D_c$
- Optimal coolant outlet to centre

THE APPLICATION

- Drilling from solid, suitable for stack drilling, inclined inlet and outlet up to approx. 5°
- ISO materials P, M, K, N, S
- Areas of use: General mechanical engineering, mould and die making, energy and automotive industries

THE INDEXABLE INSERT

- Exact positioning thanks to 100° prism at insert seat
- Four geometries and grades



Walter D4140 indexable insert drill

Fig.: P600x – indexable insert range

BENEFITS FOR YOU

- Maximum process reliability and tool life due to coolant outlet directly on the cutting edge
- Reliable chip evacuation due to polished flutes
- Protection against friction and long tool life for the drilling body due to hardened and polished surface
- Simple indexable insert selection with Color Select

Also available from:



Strong performance with four cutting edges.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- Solid drills
- $\begin{array}{ll} & \text{Dimensions (inches):} \\ & \text{D3120.03 (3} \times \text{D}_{\text{c}}) \ 0.75 1.5" \\ & \text{D3120.04 (4} \times \text{D}_{\text{c}}) \ 0.75 1.5" \end{array}$

THE TOOL

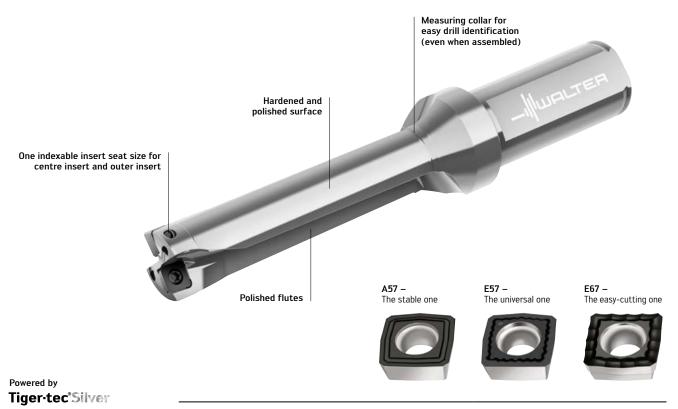
- Dia. 16-42 mm
- 2, 3 and $4 \times D_c$
- Robust design for lathes and machining centres

THE INDEXABLE INSERTS

- Four-edged, positive indexable insert
- Three geometries:
 - A57 The stable one
 - E57 The universal one
 - E67 The easy-cutting one
- Four grades: WKP25S, WKP35S, WSP45S, WXP40
- For special drills, can also be used as a left-hand cutting indexable insert

THE APPLICATION

- Drilling from solid
- Difficult machining operations, such as cross holes, chain drilling, inclined inlet and exit
- Suitable for drilling with X offset
- ISO materials P, M, K, N, S
- Areas of use:
 General mechanical engineering, mould and die making, energy and automotive industries



Walter D3120 indexable insert drill

Fig.: D3120-04

BENEFITS FOR YOU

- Maximum process reliability thanks to easy chip removal
- Best protection against friction due to hardened and polished surfaces
- High stability in all working conditions
- Low cutting tool material costs due to four cutting edges
- Easy to operate (one indexable insert seat size for outer and inner insert)

Also available from:



Efficient in all materials.

NEW

NEW

- DA110 Perform HSS drill

THE TOOL

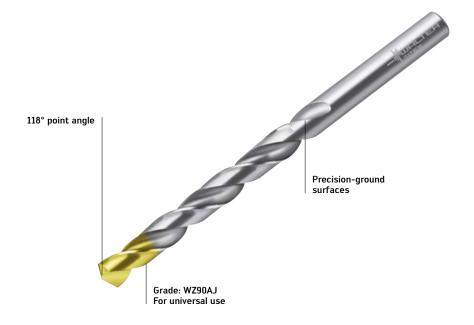
- Dia. 1–16 mm
- Grade: WZ90AJ HSS, TiN point coating
- Type N
- 118° point angle

THE DIMENSIONS

- In accordance with DIN 338

THE APPLICATION

- ISO material groups P, M, K, N, S, H, O
- Can be used with emulsion, oil and MQL
- Areas of use: General mechanical engineering, mould and die making, energy and automotive industries



DA110 Perform HSS drill

Fig.: DA110-08-08.500U0-WZ90AJ

- Can be used universally with various different materials
- Tip geometry for optimum centring accuracy
- Maximum accuracy on the component thanks to precision-ground surfaces

Wide range for your boring needs.

NEW

THE INDEXABLE INSERTS

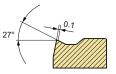
Insert types:

- P4160-2R04-E47 in WKK20S, WKP30S, WSM20S
- P4160-2R08-E47 in WKK20S, WKP30S, WSM20S
- P4160-2L08-E47 in WKK20S, WKP30S, WSM20S
- P4130-4R12-E47 in WKK10S, WKK20S, WKP30S

THE GEOMETRY

E47 - The universal one

- Flexible, can be used universally for variable depths of cut
- Suitable for all boring operations with and without interrupted cut



THE APPLICATION

- ISO materials P. K. M
- Flexible use for customer-specific special tools





Stable indexable insert with a negative basic shape and a highly positive chip breaker groove



Powered by

Tiger-tec Silver

P4160-2R04-E47/P4130-4R12-E47

Fig.: B2074-7016678

BENEFITS FOR YOU

- Flexible tool solutions for variable depths of cut
- Higher number of teeth for small tool diameters
- Increased productivity and shorter machining times due to higher feeds for each tooth
- High process reliability thanks to excellent chip breaking at all depths of cut
- Longer tool life thanks to optimum geometry design

Also available from



Specially designed for aluminium: Reliable boring in a matter of seconds.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- Indexable inserts for tangential/lateral use:
 - P4460-2R08-G88 WK10
 - P4460-2R08-G88 WNN15
 - P4460-2R04-G88 WNN15

THE TOOL

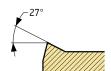
- Special tool with tangentially/laterally arranged indexable inserts
- Combined for chamfering and boring operations
- High number of teeth for small tool diameters
- Radially adjustable solutions are also possible

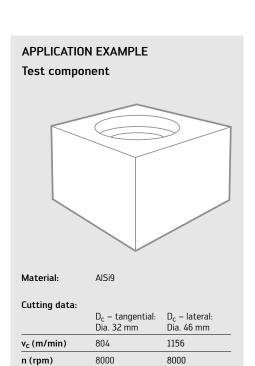
THE APPLICATION

- ISO N materials
- Boring (with and without interrupted cuts)
- Milling and chamfering
- Customer-specific components

THE GEOMETRY

 G88 – The sharp one: Especially for machining aluminium







Special tool: Indexable insert step drill

Fig.: B2074-7786154

BENEFITS FOR YOU

- Maximum productivity due to extremely high feeds per tooth
- Several machining operations are combined in a single tool
- Long tool life and flexible use thanks to customer-specific design
- High level of process reliability thanks to excellent chip breaking

f_z (mm)

a_p (mm)

v_f (mm/min)

0.35

8400

0.35

8400

7

Flexible all-rounder for all depths of cut.

SPECIAL TOOLS

THE TOOL

- Special tool with tangentially/laterally arranged indexable inserts
- Milling and boring operations in one tool
- High number of teeth for small tool diameters
- Radially adjustable solutions are also possible

THE INDEXABLE INSERTS

- P4440-7879456
- Special indexable insert for tangential/lateral use

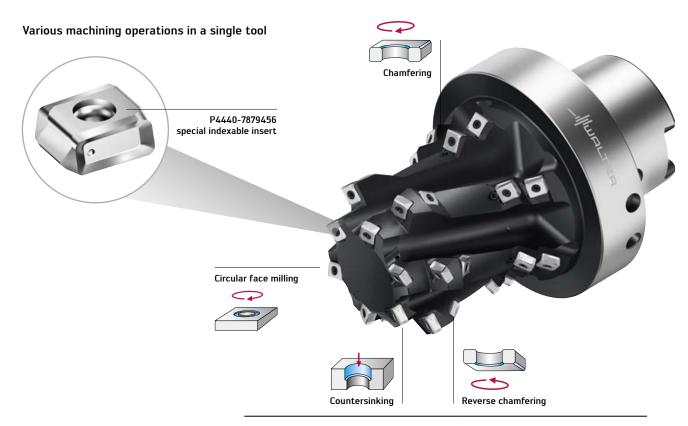
THE GEOMETRY

G88 - The sharp one

- Especially for machining aluminium

THE APPLICATION

- ISO N materials
- Boring (with and without interrupted cuts)
- Milling and chamfering
- Customer-specific components



Special tool for boring

Fig.: B2074-7733613

- Maximum productivity and shorter machining times due to higher feeds for each tooth and the combination of several machining operations in one tool
- Long tool life and flexible use thanks to customer-specific design
- High level of process reliability thanks to excellent chip breaking

Efficient and highly precise – with three cutting edges.

NEW

NEW ADDITION TO THE PRODUCT RANGE

 Boring bars and cartridges for precision boring with TC.. indexable inserts

THE TOOL

- Single-edged precision boring tool with convenient analogue indicator
- 0.002 mm adjustment accuracy
- Dia. 2–203 mm using boring bars and cartridges
- Dia. 150–640 mm with aluminium bridge design
- Coolant supply up to the cutting edge
- Adaptors and extensions matched to the system
- Walter Capto[™] and ScrewFit adaptor;
 B3230.C with cartridges can also be delivered as a set
- The B4030 system is self-balancing

THE APPLICATION

- Suitable for all material groups
- Producing precision parts
- Finish machining of precise drilled holes (IT6)
- B3230.C... can be easily used for reverse machining
- Areas of use: General mechanical engineering, automotive and aerospace industries
- Finishing operations (a_{p max} 0.5 mm)
- ISO materials P, M, K, N, S, H, O

THE INDEXABLE INSERTS

- TC..06, TC..11, CC..06 and CP..05
- Indexable insert range adapted for precision boring



 $Walter^{\text{Precision}} \ precision \ boring \ tools$

Fig.: B3230. EB512, EB518.CS, EB347.TC06

- Highly precise thanks to backlash-free, 2 μm precise setting
- No change in length when the diameter is adjusted
- High surface quality thanks to balanced tools
- High level of flexibility thanks to an extensive range of modular components:
 Adaptors, extensions, etc.
- Comprehensive indexable insert range

Now also in Tiger-tec® Silver grades.

NEW TO THE RANGE

THE GRADES

- WPP20S, WSM20S and WSM30S
- Maximum toughness thanks to minimal thermal loads with the newly developed coating process
- PVD aluminium oxide (Al₂O₃) protects the substrate against heat ingress during machining
- Reduced friction during machining due to extremely smooth rake face
- Maximum wear resistance and temperature resistance when machining stainless steels and heat-resistant super alloys

THE APPLICATION

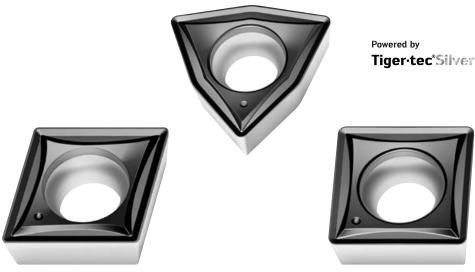
- Suitable for all counterboring operations with and without interrupted cut
- WPP20S and WSM30S are PVD multi-range grades with Tiger·tec® Silver coating; can be used with ISO material groups M and S
- WPP20S is a Tiger·tec® Silver CVD grade; main application range: Steel (ISO P)

THE GEOMETRIES

- 15° rake angle
- Flexible geometry that can be used universally for variable depths of cut
- Can be used with ISO material groups P, M and S

THE INDEXABLE INSERTS

- Indexable insert in basic shapes CC.., SC.. and WC..
- Circumference-sintered
- Straight cutting edge
- Chip groove with variable width for different depths of cut
- Protective chamfer: Designed for the ISO material groups
- PVD- and CVD-coated Tiger·tec® Silver grades



Grades: WSM10S, WSM20S and WSM30S

Fig.: CCMT, WCMT, SCMT

- Long tool life due to optimally designed geometry and less heat entering the carbide
- Best level of wear resistance thanks to optimised aluminium oxide
- Maximum process reliability thanks to excellent chip breaking at all depths of cut
- Increase in productivity thanks to higher cutting data from Tiger-tec® Silver
- Ideally suited to highly variable depths of cut

Universal counterboring with a very clean cut.

NEW TO THE RANGE

THE INDEXABLE INSERT

Indexable insert in the CC.. basic shape

- Circumference-sintered
- Straight cutting edge
- Chip groove with variable width for different depths of cut
- Protective chamfer: Designed for the ISO material groups
- PVD- and CVD-coated Tiger tec® Silver grades

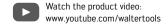
THE APPLICATION

- The CC..1605.. indexable insert enables larger overlaps to be achieved
- Suitable for all counterboring operations with and without interrupted cut
- WSM20S and WSM30S are PVD multi-range grades with Tiger·tec® Silver coating; can be used with ISO material groups M and S
- WPP20S is a Tiger·tec® Silver CVD grade; main application range: Steel (ISO P)



Grades: WSM20S Fig.: B3220.C

- The CC..1605 covers larger diameter ranges
- High process reliability due to stable insert thickness and excellent chip breaking across the entire cutting depth range
- Ideally suited to highly variable depths of cut
- Higher cutting data thanks to Tiger·tec® Silver grades
- Long tool life thanks to optimum geometry design





Best tool life and surface quality for precision boring.

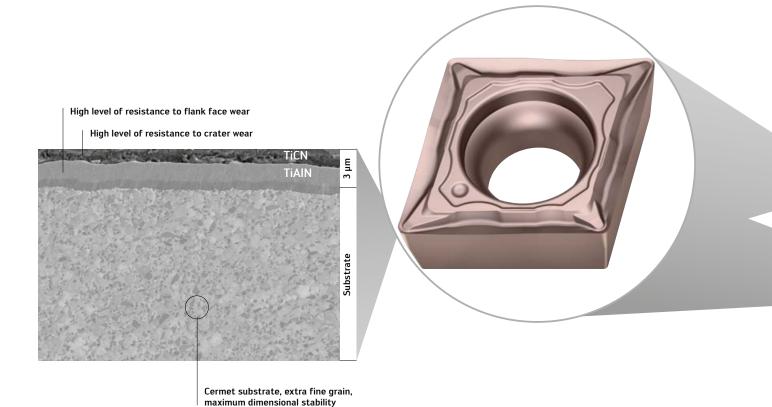
NEW

THE INDEXABLE INSERTS

- Indexable inserts made of the wear-resistant, coated WEP10 cermet grade for precision boring tools
- Wear-resistant TiCN/CN-based cermet substrate with Ni/Co binder
- Extremely hard TiCN outer layer
- Extra fine cermet substrate grain
- Finishing chip former for versatile use with FP4 soft-cutting geometry
- CCMT indexable insert shapes

THE TECHNOLOGY

The extremely fine-grain titanium carbon-based cermet substrate, combined with the highly wear-resistant multilayer coating, provides clear advantages during finishing operations compared to coated tungsten carbide indexable inserts.





Watch the product video: www.youtube.com/waltertools

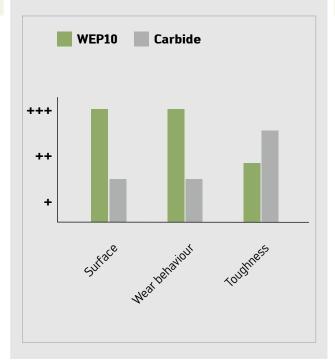
- No readjustment necessary, maximum dimensional accuracy
- Longer tool life and higher productivity in comparison to carbide
- No burr formation or build-up on the cutting edge
- Mirror finishes at high and low cutting speeds

COMPARISON

Finishing - WEP10 and carbide

THE APPLICATION

- Precision boring applications with long machining paths
- Applications with continuous or slightly interrupted cut
- For low and high cutting speeds
- Can be used in the B3230... and B4030... precision boring tools







B3230 precision boring tool

Fig.: B3230-C-20-100/ B3230-C-150-640

Precision down to the smallest detail times two.

NEW TO THE RANGE

THE CARTRIDGE

- Precision boring cartridge with adjustment mechanism accurate to 2 µm
- Approach angles of 90° and 95°
- For CC..0602 and TC..1102 indexable inserts
- FR760: TC..1102.. / 90° approach angle
- FR761: CC..0602.. / 90° approach angle
- FR763: CC..0602.. / 95° approach angle

THE APPLICATION

- Areas of use: General mechanical engineering, etc.
- Machining connecting rods, gearbox housings, bearing gaps, fittings
- Precise and cost-effective custom solutions



0.01 mm precision boring/0.002 mm precision boring

Fig.: FR710 and FR761

- Two programming variants adjustment steps: 0.01 mm and NEW: 0.002 mm
- Reliable and easy to use with error-free readings
- Backlash-free adjustment in "+" and "-" directions
- Backlash < 2 μm
- No need for locking
- Low-maintenance
- Easy to integrate into custom solutions

Proven, flexible – and highly productive.

NEW

THE TOOL

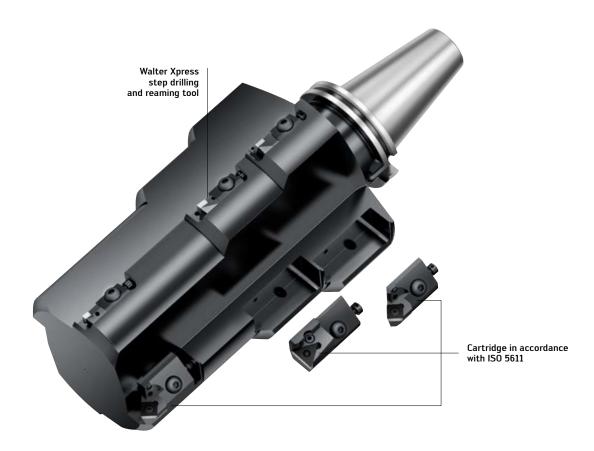
Cartridges in accordance with ISO 5611 for special solutions

Variants:

PCFNR12CA-12, PCLNR25CA-19, PSKNR25CA-19, PSKNR10CA-09, PSSNR12CA-12, PTFNR20CA-22, STFCL08CA-09, STFCR08CA-09

THE APPLICATION

- Flexible uses for customer-specific special solutions
- Highly efficient tool solutions in combination with precision boring and mini cartridges



Step tool

Fig.: Cartridge in accordance with ISO 5611

BENEFITS FOR YOU

- Extremely flexible, efficient and highly productive
- Reduction in tool costs
- Reduced machining time
- Creates spare machine capacity

Also available from:



B – Threading

Tapping	Overview of TC120/TC121/TC122 taps	96
	TC120 tap	97
	TC121 tap	98
	TC122 tap	99
	Walter Prototyp Paradur®HT	100
	Prototex® TiNi tap	101
	Paradur® Ni tap	102
	Paradur® Ni 10 tap	104
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Thread forming	Thread former overview	106
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	TC430 Supreme thread former	109
	TC440 Supreme thread former	110
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Thread milling	TC620 Supreme thread milling cutter	114
	TC620 Supreme thread milling cutter	116
	TC685 Supreme thread milling cutter	117
	T2710 thread milling cutter	119
	T2711/T2712 thread milling cutters	120
	T2711/T2712/T2713 thread milling cutters	122



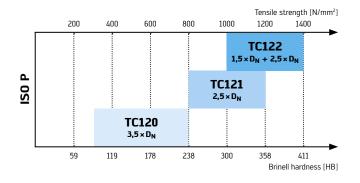
The new generation of Supreme taps for steel.

NEW



Supreme taps for blind-hole machining: Three different taps with various geometries and coatings for machining all steel materials.

Application ranges in ISO P



The application ranges of the TC120, TC121 and TC122 product ranges in steel materials are specified according to tensile strengths of between 300 and 1400 N/mm².

High reliability in soft steel and medium-strength steel.

NEW

NEW ADDITION TO THE PRODUCT RANGE

Dimension range:

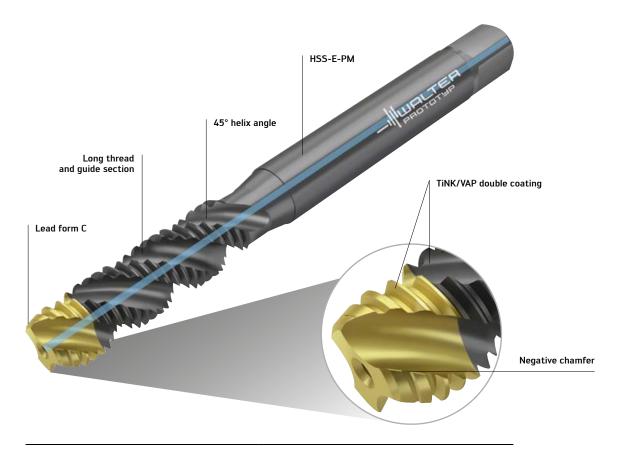
- M3–M30 (without internal coolant)
- M8–M16 (with internal coolant)

THE TOOL

- Blind hole tap
- Double coating: TiN in the lead section; vaporised in the guide section
- WW60AG grade (HSS-E-PM + TiNK/VAP)
- 45° helix angle
- Thread section $3 \times D_N$ long
- Negative chamfer in the lead section
- With and without internal coolant

THE APPLICATION

- ISO P materials
- 90-240 HB (300-800 N/mm²)
- Thread depth $3 \times D_N$



TC120 tap Fig.: TC120-M10-C1-WW60AG

- No more birds nesting due to negative chamfer in the lead section
- Prevents total breakage due to chip build-up
- Significantly less fracturing in the guide section thanks to extra long thread.

Maximum performance in steel in medium strength range.

NEW

NEW ADDITION TO THE PRODUCT RANGE

Dimension range:

- M2–M20 (without internal coolant)
- M5–M20 (with internal coolant)

THE TOOL

- Blind hole tap
- Grades: WW60RG (HSS-E-PM + TiAIN)WY80BD (HSS-E + TiCN)
- 40° helix angle
- Chamfered thread section

THE APPLICATION

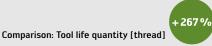
- ISO P materials
- Thread depth $2.5 \times D_N$
- 240-370 HB (800-1250 N/mm²)
- With and without internal coolant

APPLICATION EXAMPLE Nuts – Multi-spindle machines

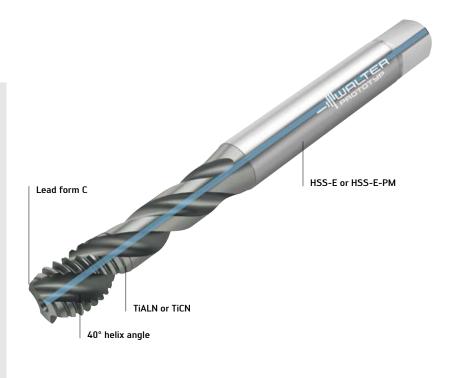
 Material:
 1.0718 (11SMPb30)

 Tensile strength:
 240 HB (800 N/mm²)

	Existing Walter – TC12			
Application:	Blind hole	Blind hole		
Dimensions:	M8	M8		
Tolerance:	6G	6G		
Coating/grade:	TiN	WW60RG		
Chamfer:	Form C	Form C		
Thread depth:	10 mm	10 mm		
v _c	14 m/min	14 m/min		
Lubrication:	Oil	Oil		
Machining:	Horizontal	Horizontal		
Tool life	6000 threads	16,000 threads		







TC121 tap

Fig.: TC121-M10-C1-WW60RG

- Reliable due to tightly rolled chips
- Prevents birds nesting (WW60RG)
- Maximum tool life (WY80BD)
- Internal coolant for improved chip evacuation

Maximum tool life in steel with medium to high tensile strength.

NEW

NEW ADDITION TO THE PRODUCT RANGE

Dimension range:

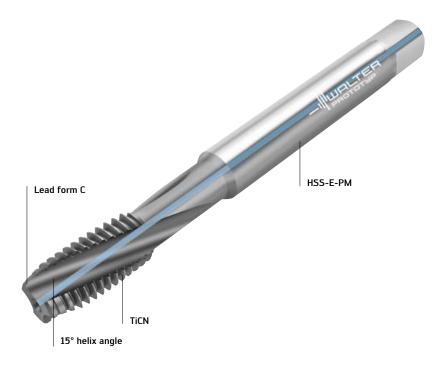
- M3–M20 (without internal coolant)
- M5–M20 (with internal coolant)

THE TOOL

- Blind hole tap
- Grade: WW60BC (HSS-E-PM + TiCN)
- 15° helix angle

THE APPLICATION

- ISO P materials
- $\begin{array}{l} \mbox{ Thread depths:} \\ 1.5 \times D_N \mbox{ without internal coolant} \\ 2.5 \times D_N \mbox{ with internal coolant} \end{array}$
- 300-420 HB (1000-1400 N/mm²)



TC122 tap

Fig.: TC122-M10-C1-WW60BC

BENEFITS FOR YOU

- $\,-\,$ Maximum tool life in strong to high tensile ISO P materials
- Short chips
- No chip residue in the hole thanks to internal coolant

APPLICATION EXAMPLE

Blind hole thread -Inlet side valve

Material: 1.2367 (X38CrMoV5-3)
Tensile strength: 360 HB (1200 N/mm²)

	Existing Walter – TC1			
Application:	Blind hole	Blind hole		
Dimensions:	M10	M10		
Coating/grade:	TiN	WW60BC		
Lead:	Form C	Form C		
Thread depth:	23 mm	23 mm		
v _c	4 m/min	10 m/min		
Cooling:	External cooling	Internal cooling		
Lubrication:	Emulsion	Emulsion		
Machining:	Horizontal	Horizontal		
Tool life	58 threads	85 threads		



Reliable chip evacuation and process in ISO P, K and N.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- UNC: UNC 1/4-UNC 1

Additional dimensions:

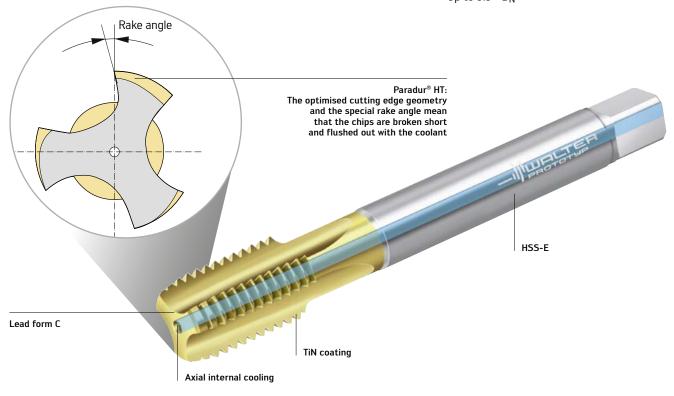
- M: M4-M36
- MF: MF10 \times 1-MF33 \times 2

THE TOOL

- Blind hole tap
- TiN coating
- Lead form C
- Axial internal cooling
- Tolerance 2B

THE APPLICATION

- Primary application
 ISO P: 700–1400 N/mm²
 ISO K: Predominantly GJS (GGG) materials
- Secondary application
 AlSi alloys > 7% Si content
 Short-chipping Cu alloys
 Mq alloys
- Up to $3.5 \times D_N$



Walter Prototyp Fig.: 2236115

- Extremely high process reliability even with deep threads
- Outstanding chip breaking even in long-chipping materials no more birds nesting
- Optimum transport of the short broken chips thanks to axial internal cooling

High performance, wide range of applications in ISO S, ISO P & ISO M materials.

NEW TO THE RANGE

THE TOOL

- HSS-E-PM taps
- Spiral point
- Tolerances: 6HX, 2B and 3B
- Coating: TiCN
- Dimension range:

Metric: $M8 \times 0.75 - M16 \times 1$ UNC: UNC 2-56-UNC 3/4-10 UNF: UNF 4-48-UNF 5/8-18

THE APPLICATION

- Through-hole threads
- Thread depth up to $2 \times D_N$
- ISO material groups P, M and S
- Areas of use: General mechanical engineering, aerospace, medical and foodstuff industries



Walter Prototyp Prototex® TiNi

Fig.: 21216106

BENEFITS FOR YOU

- Cost-efficient and reliable machining of Ti and Ni alloys
- Wide range of applications in ISO P, M and S
- Long tool life even with abrasive materials, reduced friction (large flank clearance angle), hard cutting tool material, extreme toughness, "X" tolerance position
- Reduced torque thanks to sharp cutting edges (ideal for tough, hard materials)



Watch the product video: www.youtube.com/waltertools

Reliable tapping in ISO S materials.

NEW TO THE RANGE

THE TOOL

- HSS-E-PM taps
- Tolerances: 6HX, 2B and 3B
- Coating: TiCN
- Dimension range: Metric: M2–M20

UNC: UNC 2-56-UNC 3/4-10 UNF: UNF 6-40-UNF 5/8-18 NPT: NPT1/16-27-NPT1-11.5

THE APPLICATION

- Blind hole thread
- Thread depth up to $1.5\times D_N$
- ISO material groups: ISO S and P
- Areas of use: General mechanical engineering, aerospace industry, offshore



Walter Prototyp Paradur® Ni

Fig.: 20410206

- High level of process reliability thanks to stable design and reduced friction
- Reliable machining of nickel alloys
- Reduced torque thanks to sharp cutting edges



Specially designed for blind hole threads on turbochargers.

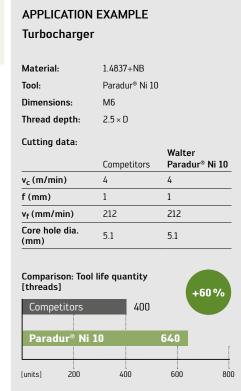
SPECIAL TOOL

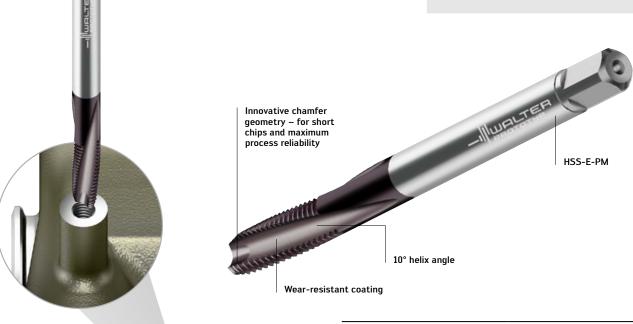
THE TOOL

- HSS-E-PM Paradur® Ni 10 tap
- Stable design with reduced helix angle
- Chamfer form E

THE APPLICATION

- M6 blind hole thread
- Optimised for Ni- and Ti-based high-temperature alloys
- Area of use: Automotive industry (turbocharger housings)





Paradur® Ni 10 tap

Fig.: 3B1167-7012900

- Exceptionally high productivity thanks to optimised geometry
- Maximum process reliability thanks to short chips
- High level of cost-efficiency thanks to low costs per thread

For the toughest challenges.

NEW

THE TOOL

- Solid carbide tap for hard machining
- New cutting geometries for reduced torque when reversing
- Can be used with emulsion
- Suitable for manual rethreading to compensate quenching distortion

Dimension range:

- M3-M16
- G1/8" and G1/4"

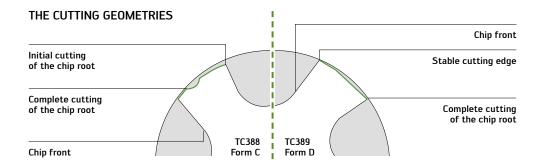
THE APPLICATION

- Blind and through-hole threads up to $2.0 \times D_N$
- TC388 Supreme:
 - ISO H materials with 50–58 HRC
- TC389 Supreme:
 - ISO H materials with 55-65 HRC
 - Can be used starting from 50 HRC for through-hole threads



TC388/389 Supreme taps

Fig.: TC388-M8-C0-WJ30BA / TC389-M8-CD-WE10BA





Watch the product video: www.youtube.com/waltertools

- High level of process reliability thanks to special cutting geometries
- Low cost per thread thanks to high tool life quantity and fast machining time
- No oil required; can be used with emulsion

Three for all applications: The new thread former generation.

NEW



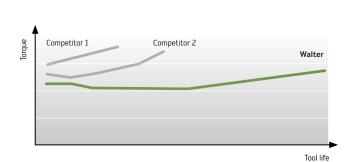


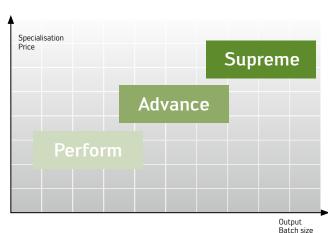
Tailored to different requirements:

Three thread formers with individual geometries and coatings for machining all formable materials and specifically for ISO P.

	Area			Material groups						
	of use	Tool characteristics	Advantages	Р	М	к	N	S	Н	0
TC430 Supreme	ISO P	- HIPIMS and TiN coating - Higher number of forming edges - HSS-E-PM - Short threaded part	Maximum tool lifeFor ISO P materials	••	•	•	•	•		
TC420 Supreme	Universal	- TiN and TiCN coating - HSS-E-PM - Short threaded part	Long tool lifeFor all formable materials	••	••	•	••	•		
TC410 Advance	Universal	TiN coatingHSS-ELong threaded part	- For small and medium batch sizes - For all formable materials	••	••	•	••	•		

Reduced torque and longer tool life thanks to new geometry as well as pre-treatment and post-treatment





Even more powerful thanks to new geometry.

NEW

THE TOOL

- Universal HSS-E thread former
- New geometry and very high surface quality
- Reduced torque and longer tool life
- For small to medium batch sizes

THE GRADES

- WY80AD (HSS-E + TiN)

Dimension range:

- Metric: M2-M24
- Metric fine: $M4 \times 0.5 M30 \times 2$
- UNC: UNC 2-56 UNC 5/8-11
- UNF: UNF 2-64 UNF 5/8-18
- G: G1/8"-G1"

THE APPLICATION

- Blind-hole and through-hole threads
- Thread depth up to $3.5 \times D_N$
- ISO material groups P, M, K, N and S
- All formable materials
- Areas of use: General mechanical engineering, automotive and energy industries, etc.



TC410 Advance thread former

Fig.: TC410-M10-C6-WY80AD and TC410-M10-C0-WY80AD

- Cost-effective even for small and medium batch sizes
- Can be used in all formable materials
- $\,-\,$ Reduced torque and longer tool life thanks to new geometry and post-treatment

Superior performance for universal use.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

Chamfer form E:

- With internal coolant (axial)
- M5-M16 with 6HX and 6GX tolerance
- Suitable for blind-hole threads

Metric - now up to M24 dimensions:

- With internal coolant (radial)
- Suitable for blind-hole and through-hole threads

THE TOOL

- HSS-E-PM thread former
- With and without lubrication grooves
- With and without internal coolant (axial/radial)
- Tolerances: 6HX and 6GX

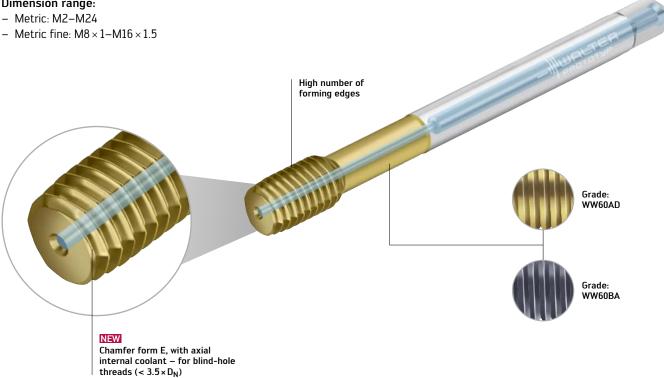
Dimension range:

THE GRADES

- WW60AD (HSS-E-PM + TiN)
- WW60BA (HSS-E-PM + TiCN)

THE APPLICATION

- Blind-hole and through-hole threads
- Thread depth up to $3.5 \times D_N$
- ISO materials P, M, K and N
- Areas of use: General mechanical engineering, automotive and energy industries, etc.



TC420 Supreme thread former

Fig.: TC420



- Can be used universally with all formable materials
- Up to 30% lower torque
- High cutting speeds possible
- Better surface finish than that achieved using thread cutting
- Up to 30% higher break-out resistance under dynamic load

Specialist in chip-free ISO P machining.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- AICrN coating (HIPIMS) WW60EL now with:
 - Axial and radial internal coolant (metric and metric fine)
 - Without lubrication grooves (metric)

THE TOOL

- HSS-E-PM thread former
- With and without lubrication grooves
- With and without internal coolant (axial/radial)
- Tolerances: 6HX and 6GX

Dimension range:

- Metric: M2-M20
- Metric fine: $M8 \times 1 M16 \times 1.5$

THE GRADES

- WW60AD (HSS-E-PM + TiN)
- WW60EL (HSS-E-PM + AlCrN)

THE APPLICATION

- Specialist for ISO P materials
- For blind-hole and through-hole threads
- Thread depth up to $3.5 \times D_N$
- Areas of use: General mechanical engineering, automotive and energy industries, etc.



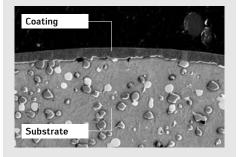
Without lubrication grooves and without internal coolant – for blind-hole and through-hole threads (< 3 × D)

TC430 Supreme thread former

Fig.: TC430

BENEFITS FOR YOU

- Maximum tool life in all formable steel materials
- High level of process reliability, as no chips are formed and the tool cross-section is stable
- High surface quality on the thread



The extremely smooth AICrN coating (HIPIMS) minimises weld formations in materials with high adhesion.

Powerful and reliable in stainless steels.

NEW

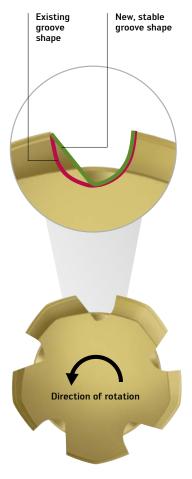
THE TOOL

- HSS-E thread former
- Without or with internal coolant (axial and radial)
- Tolerance: 6HX
- Dimension range:
 - Metric: M2-M12
 - Metric fine: $M8 \times 1-M16 \times 1.5$

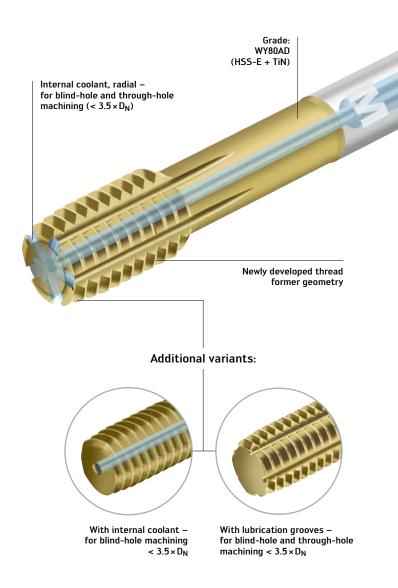
THE APPLICATION

- Blind-hole and through-hole threads
- ISO M materials
- Thread depths up to $3.5 \times D_N$
- Areas of use: General mechanical engineering, among others

THE GEOMETRY



Stable thread former geometry – for maximum process reliability in stainless steels



APPLICATION EXAMPLE Piston rod Material: 1.4104 Tool: TC440 Supreme thread former Dimensions: Thread depth: 40 mm (5 \times D) Cooling: Emulsion Cutting data: Walter TC440 Supreme Competitors 6 6 v_c (m/min) Tool life quantity 250 400 (threads) Comparison: Tool life quantity +60% Competitors Walter TC440 Supreme 300 [units] 50 100 150 200 250 350 400



TC440 Supreme thread former

Fig.: TC440-M12-L2WY80AD

- Long tool life and high process reliability thanks to newly developed, patent-pending geometry
- Suitable for any application thanks to a range of different variants
- High thread quality thanks to the technological advantages of thread forming



A cut above the rest for large batch sizes and mass production.

NEW

THE TOOL

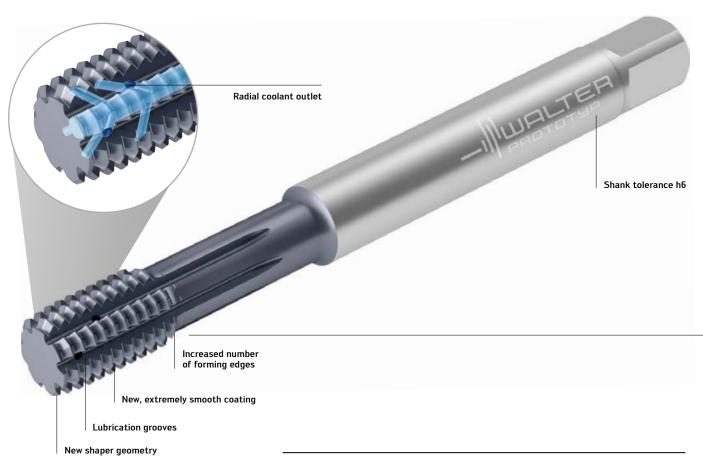
- Solid carbide thread formers
- New geometry, coating and surface treatment
- Grade: WG20EL (solid carbide + TiAIN)

Dimension range:

- Metric: M3-M10
- Metric fine: $M10 \times 1 M16 \times 1.5$

THE APPLICATION

- Blind-hole and through-hole threads
- Thread depth up to $3.5 \times D_N$
- Specialised in ISO P
- Areas of use: Ideal for large-scale and mass production

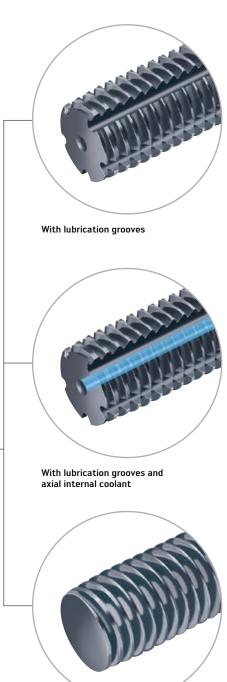


TC470 Supreme thread former

Fig.: TC470-M10-C2-WG20EL

- Low cost per thread for large batch sizes
- Maximum tool life thanks to the new substrate, innovative geometry and newly developed coating
- Reduced torque thanks to very high surface quality
- For all formable materials from the ISO P material group

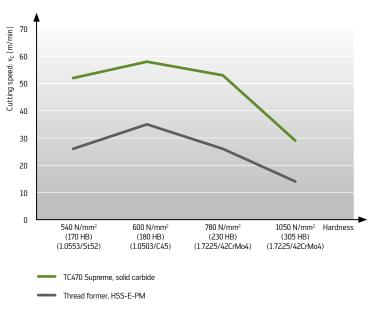
Additional variants:



Without lubrication grooves, without internal coolant

APPLICATION EXAMPLE Connecting rod Material: C7056 Competitors TC470 Supreme (HSS-E) Solid carbide v_c (m/min) 13 Tool life quantity (units) 550 2200 Comparison: Tool life quantity +300% 550 Competitors Walter TC470 Supreme 500 1000 1500 2000 2200 [Units]

Comparison of cutting data $\text{M10} \cdot 2 \times D_N \cdot \text{blind-hole}$ machining



Reduced cutting pressure – increased productivity.

NEW

THE TOOL

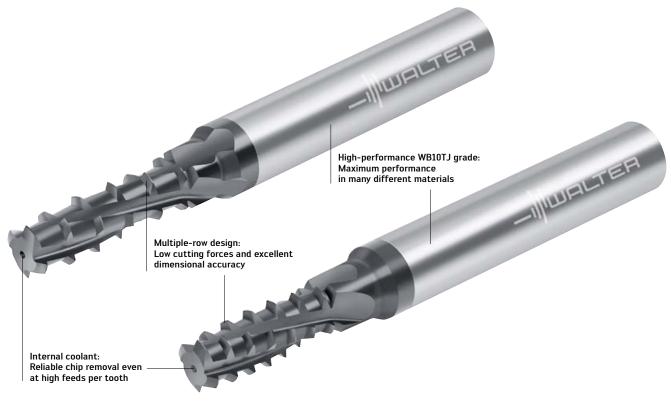
- Multiple-row thread milling cutter for universal application
- Designed for high cutting speeds and high feeds per tooth
- Shank according to DIN 6535 HA

Dimension range:

- M4-M20
- UNC 8-UNC 3/4

THE APPLICATION

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



TC620 thread milling cutter

Fig.: TC620-M8-A1E-WB10TJ / TC620-M8-A1D-WB10TJ



Watch the product video: www.youtube.com/waltertools

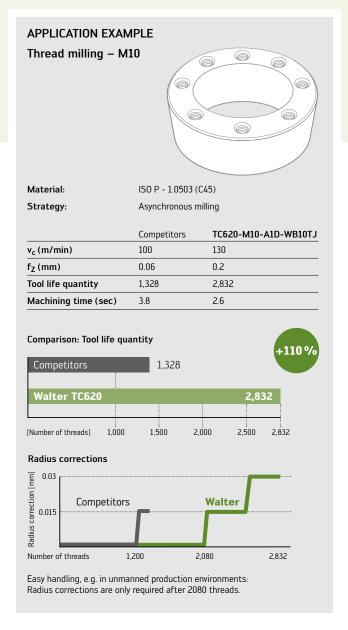
- Low costs per thread thanks to fast machining time and high tool life quantity
- High level of process reliability and easy handling due to extremely infrequent radius correction
- Very good results even under unfavourable conditions and difficult materials

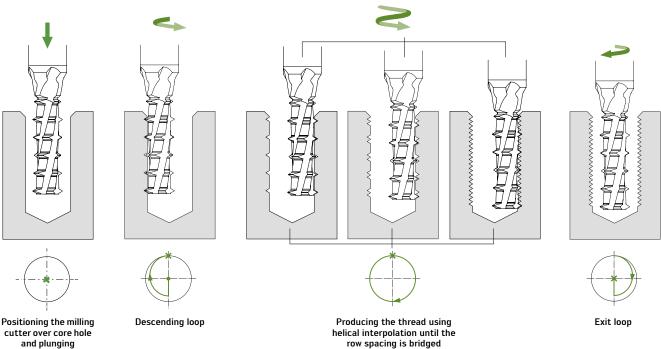
THE DESIGN

Thanks to the multiple-row tool design, the TC620 thread milling cutters impress with low cutting forces. This enables higher feeds per tooth than on conventional thread milling cutters. The result: Lower wear and therefore higher tool life quantities. The low cutting pressure means that radius corrections are only rarely required.

THE STRATEGY

Once the row spacing is bridged, the thread is complete. Asynchronous milling is advantageous when machining steel. Synchronous milling is recommended for tough materials, for example stainless steel. Some materials require a non-cutting pass.





Specialist for the aerospace industry: Reduced cutting pressure, increased productivity.

SPECIAL TOOLS

THE TOOL

- Multiple-row solid carbide thread milling cutter
- Designed for high feeds
- Optimised for Ni- and Ti-based high-temperature alloys

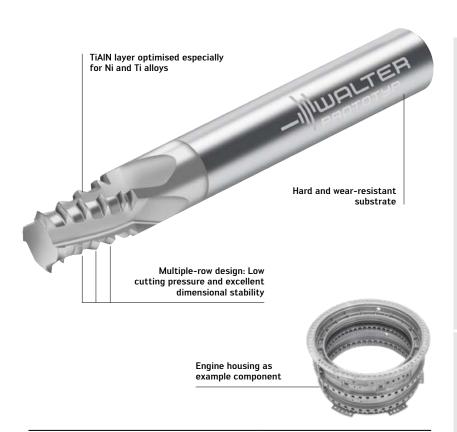
THE APPLICATION

- STI UNF 1/4-28
- Waspaloy, Ti6Al4V
- Engine components (e.g. combustion chamber or compressor housing)

THE DESIGN

Thanks to reduced cutting forces, the multiple-row tool design enables higher feeds per tooth than on conventional thread milling cutters.

The result: Lower wear and therefore higher tool life quantities without radius corrections.



TC620 Supreme thread milling cutter

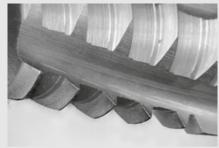
Fig.: Special tool

BENEFITS FOR YOU

- Greater process reliability compared to conventional thread milling cutters
- High tool life quantity without radius corrections
- Low cost per thread thanks to fast machining time and high tool life quantity

MACHINING EXAMPLES

Material:Waspaloy 39–47 HRCThread:STI UNF ¼–28; 8 mm deepMachining time:21 seconds per thread



After 150 threads

No radius correction, no end of tool life.

Material: Ti6AI4V

Thread: STI UNF ¼–28; 10.5 mm deep

Machining time: 7 seconds per thread



After 900 threads

No radius correction, no end of tool life.

Hard machining times two: Core hole and thread in one operation.

NEW

THE TOOL

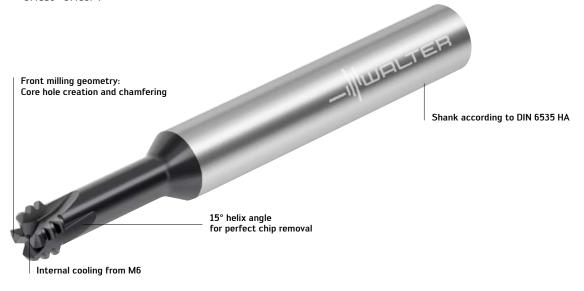
- Orbital drill thread milling cutter for hard machining
- Creation of core hole and thread in one operation
- Can also be used for chamfering
- IMPORTANT: Left-hand cutting tool

Dimension range:

- M3-M16
- UNC10-UNC3/4

THE APPLICATION

- Blind-hole and through-hole threads
- ISO P and ISO H materials with 44-65 HRC
- Thread depths of 2.0 \times D_N and $2.5 \times D_N$



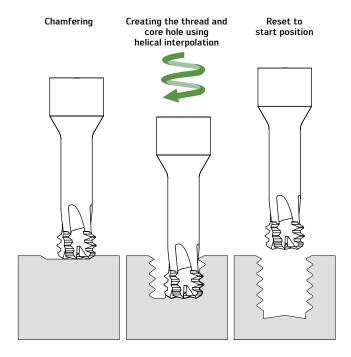
TC685 Supreme thread milling cutter

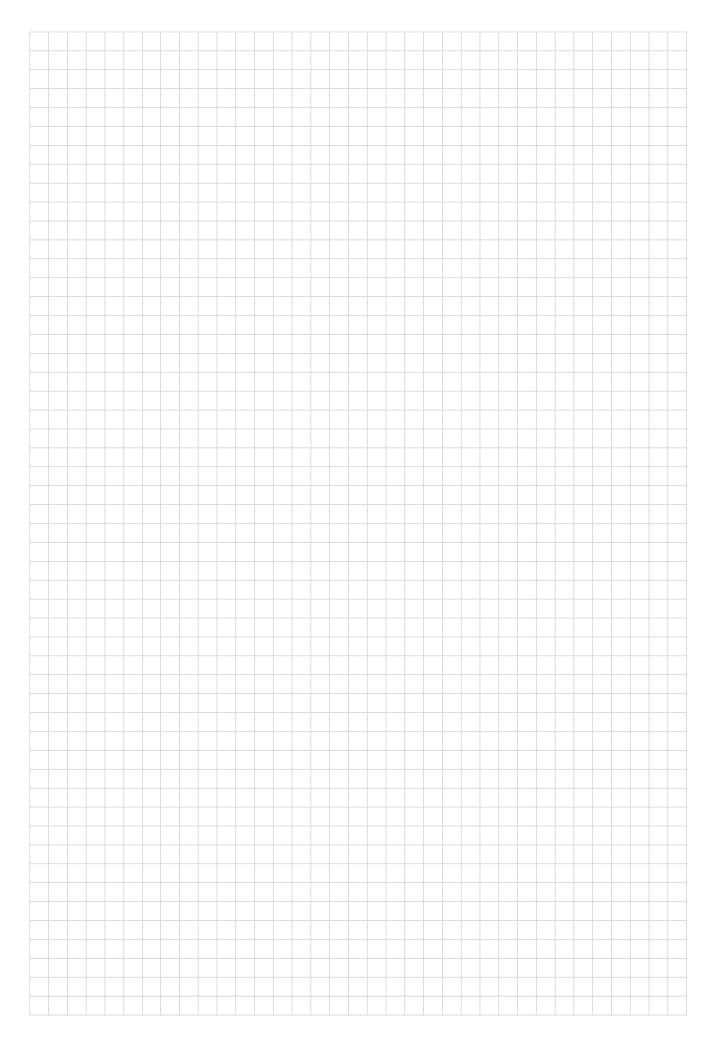
Fig.: TC685-M8-A1D-WB10RC

THE STRATEGY

The TC685 is designed as a left-hand cutting version. Right-hand threads are therefore machined synchronously. Chamfering should take place before thread milling. Cooling with compressed air enables maximum tool life quantities in materials > 50 HRC.

- Maximum process reliability and tool life quantity
- Very low cost per thread
- Reduces the number of tool positions





The best for short threads.

THE TOOL

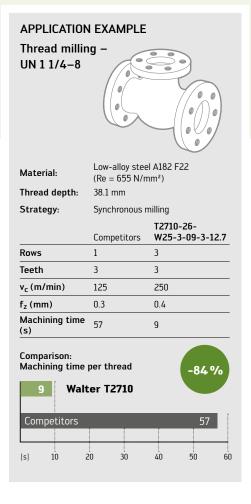
- Multiple-row indexable insert thread milling cutter
- Specialist for short threads
- Designed for high cutting speeds and high feeds per tooth

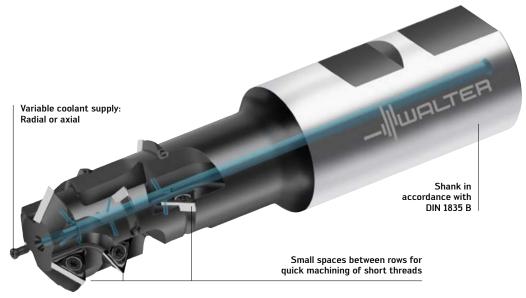
THE THREAD MILLING CUTTER INSERTS

- Easy-cutting indexable insert with three cutting edges
- Defined corner radii for standard threads
- Wear-resistant, universal grade: WSM37S
- Version with anti-vibration land for unfavourable conditions

THE APPLICATION

- Threads with a nominal diameter from 20 mm
- Pitch range: 1.5-6 mm/18-6 TPI
- Up to $1.5 \times D_N$ thread depth (ideal for oil and gas valves, for example)
- Can be used universally in steels, stainless steels, cast iron, non-ferrous metals, high-temperature alloys and hardened steels up to 55 HRC





Powered by Tiger-tec*Silver

Also available from: Walter press

Thread milling cutter T2710

Fig.: T2710-29-W32-3-09-3-16



- 100% productivity: Low costs per thread thanks to quick machining and high tool life quantity
- 100% process reliability: Easy handling and few radius corrections
- 100% quality: Outstanding thread quality thanks to superb operational smoothness threads are free of chip residue

Maximum productivity absolute process reliability.

NEW

THE TOOL

- Universal indexable insert thread milling cutter
- Designed for high cutting speeds and high feeds per tooth
- Adjustable coolant supply: Radial or axial coolant outlets
- T2712 family: Designed for $2 \times D_N$ thread lengths and with an additional neck in order to bridge interference contours

THE APPLICATION

- For threads with a nominal diameter from 24 mm
- Pitch range: 1.5-6 mm/18-4 TPI
- Thread depth up to $2.5 \times D_N$
- Can be used universally with ISO P, M, K, S and H up to 55 HRC

THE THREAD MILLING CUTTER INSERT

- Positive basic shape with three cutting edges
- Easy-cutting geometry
- Wear-resistant, universal grade: WSM37S
- Defined corner radii for producing threads in accordance with various standards



Tiger-tec Silver

Powered by

Defined spacing between the rows

T2711/T2712 thread milling cutter

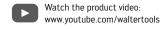
Significant reduction in machining time as multiple thread sections are machined simultaneously. This enables machining times to be achieved which, in many cases, are comparable with tapping and thread forming The row spacing must be an integer which is a multiple of the thread pitch to be produced. This means that numerous different pitches can be produced with just a few bodies

BENEFITS FOR YOU

- 100% productivity: Low costs per thread thanks to quick machining and high tool life quantity
- 100% process reliability: Easy handling and few radius corrections
- 100% quality: Outstanding thread quality thanks to superb operational smoothness threads are free of chip residue



Fig.: T2711

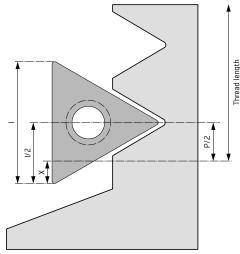


UNUSABLE LENGTH

The thread length includes the last thread ridge plus half a pitch. Since I/2 is greater than P/2, this results in an "unusable length" (X), which must be taken into consideration during programming. This is calculated as half of the insert length (I/2) minus half of the thread pitch (P/2).

Example: M36 with P26300-0902.. thread milling cutter insert

Unusable length X =
$$I/2 - P/2 = \frac{9.34 \text{ mm}}{2} - \frac{4 \text{ mm}}{2} = 2.67 \text{ mm}$$

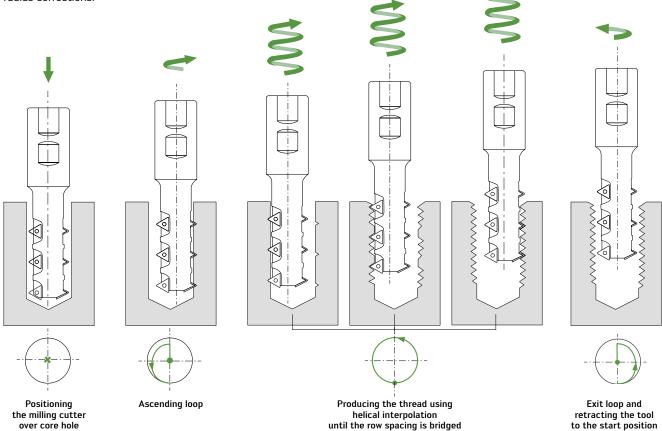


The unusable length of the T271.. families is less than the lead length of a tap.

THE STRATEGY

and plunging

It is recommended that the thread be produced with a radial cut using synchronous milling. The programming radius can be determined using Walter GPS. Non-cutting passes can be carried out without radius corrections.



Three families – singularly productive and versatile.

NEW

THE TOOL

- Universal indexable insert thread milling cutter
- Designed for high cutting speeds and high feeds per tooth

Single-row tools:

- With flute for completely cylindrical threads
- With Weldon shank and Walter Capto™ interface

THE APPLICATION

- For threads with a nominal diameter from 24 mm
- Pitch range:1.5–10 mm/18–4 TPI
- Can be used universally with ISO material groups
 P, M, K, S and H up to 55 HRC

THE THREAD MILLING CUTTER INSERT

- Positive basic shape with three cutting edges
- Wear-resistant, universal grade: WSM37S
- Defined corner radii for producing threads in accordance with various standards

Two geometry variants:

- D67: Universal geometry for maximum tool life quantity
- D61: With anti-vibration land for a high level of operational smoothness with large projection lengths and difficult conditions



Powered by

Tiger-tec*Silver

T2713 thread milling cutter

Fig.: T2713-73-C6-5-14

BENEFITS FOR YOU

- 100% productivity: Fast machining and high tool life quantity
- 100% process reliability: Easy handling and few radius corrections
- 100% quality: High operational smoothness and completely cylindrical threads
- 100% flexibility: Various different thread pitches and lengths



Watch the product video: www.youtube.com/waltertools

NEW ADDITION TO THE PRODUCT RANGE

T2713-94-C8-5-22

- For threads from M125/UN 5"
- With Walter Capto[™] C8 interface

P26300-2204-D61 WSM37S

- For the pitch range 6-10 mm and 4 TPI

P26310-..G11-D61 WSM37S

- With 55° flank angle, for G threads (BSP)
- Designed for single-row tools

THE STANDARD RANGE

- Different dimensions:
 M24-M125 / UNC 1"-UN 5" / G1"-G3 1/2"
- Different projection lengths: $2.0\times D_N,\ 2.5\times D_N\ and\ 3.0\times D_N$
- Tools for UN threads also available with one-inch shank

D61 geometry for maximum process reliability



P26310 indexable insert

Fig.: P26310-09G11-D61 WSM37S

Also available from:

Walter press



T2711-29-W32-3-09-3-24



T2712-29-W32-3-09-2-36



T2713-29-W32-3-09

C – Milling

Solid carbide milling tools	MC230 Advance Xill·tec™ solid carbide milling cutter	126		
	MD266 Supreme, MC267 Advance	128		
	MD838 and MD839 Supreme solid carbide circle segment milling cutters	130		
	MC128 Advance solid carbide milling cutter	132		
	MD128 Supreme solid carbide milling cutter	133		
	MC377 Advance solid carbide milling cutter MD377 Supreme solid carbide milling cutter MC025 Advance solid carbide milling cutter MD025 Supreme solid carbide milling cutter MC232 Perform solid carbide milling cutter MC319/MC320 Advance & MC320 ConeFit solid carbide milling cutters MD133 Supreme solid carbide milling cutter	134 135		
			136	
		137		
		138 140 142		
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C – Milling

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Xill-tec™ – universal and eXcellent.

NEW

THE TOOL

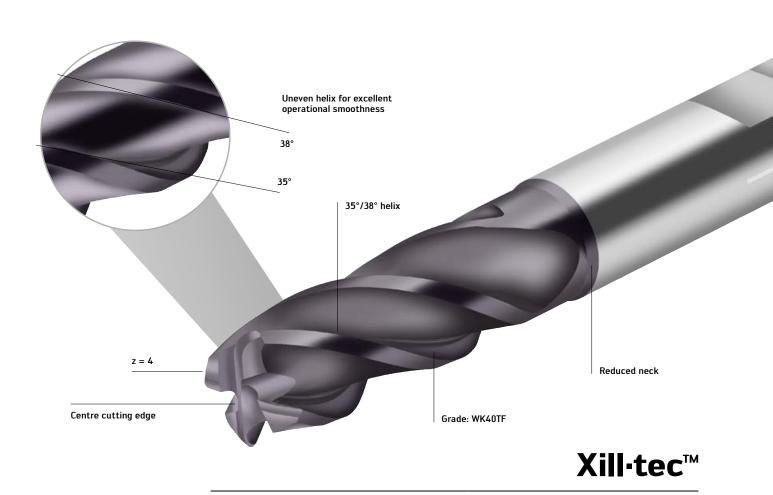
- MC230 Advance Xill·tec™ solid carbide milling cutter range
- -z = 4
- Varying 35°/38° helix
- Corner radius: 0.2–4 mm, with protective chamfer
- Dia. 2-20 mm [DIN 6535 HA]
- Dia. 2-25 mm [DIN 6535 HB]

THE GRADE

- Universal, tough milling grade WK40TF with TiAIN coating

THE APPLICATION

- First choice for universal application when roughing and finishing
- Shoulder milling, full slotting, ramping and dynamic milling
- For ISO materials P, M, K, N and S
- Areas of use: General mechanical engineering, mould and die making, sub-supplier for the aerospace industry, medical technology, energy and automotive industries





MC230 Advance Xill·tec™ solid carbide milling cutter

Fig.: MC230 Advance WK40TF

APPLICATION EXAMPLE Gearbox housing Material: G22NiMoCro5-6/1.6760 Tensile strength: 900-1200 N/mm² MC230-16.0W4B050C-WK40TF Tool: HSK 100; Weldon Adaptor: Cutting data: Walter MC230-16.0W4B050C-Competitors WK40TF v_c (m/min) 130 130 0.08 0.08 f_z (mm) a_e (mm) 15.5 15.5 5-29 5-29 a_p (mm) Number of components 2 3 Comparison: Number of components +50% Competitors Walter MC230 Advance [components/unit]



- Can be used universally with all ISO materials
- Low inventory costs
- Comprehensive range: With corner radii, protective chamfer, plain shank and Weldon shank
- Long tool life thanks to high-performance grade WK40EA
- Regrindable in all Walter Reconditioning Centres with performance guarantee

Specially designed for aluminium: The new Supreme and Advance solid carbide milling cutters.

NEW

THE TOOLS

- Universal high-performance milling cutter and universal milling cutter for ISO N machining
- MD266 Supreme: z2 and z3, dia. 2–25 mm with neck; internal coolant from dia. 6 mm; uncoated; centre cut
- MC267 Advance: z2 and z3, dia. 1–20 mm with and without neck; with and without radius; coated and uncoated; centre cut

THE APPLICATION

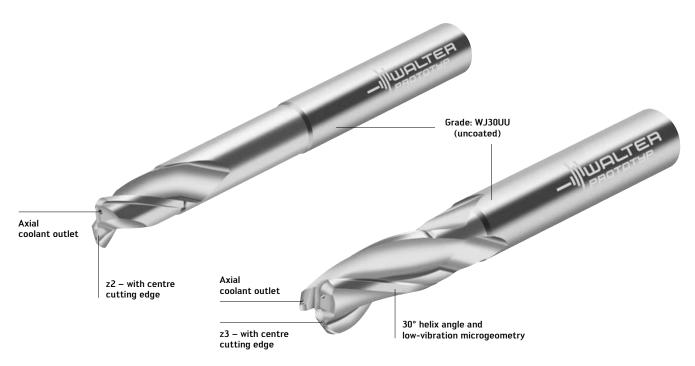
- Developed for the aerospace industry
- Can be used universally for roughing, semi-finishing and finishing
- Suitable for full slotting and ramping
- Ideal for wrought and cast aluminium alloys up to 9% silicon
- Ideal for ISO N materials such as copper, magnesium, brass

MD266 Supreme

 Best performance when machining structural components in the aerospace industry and in general mechanical engineering

MC267 Advance

- Residual material machining of tight radii in the aerospace industry
- Universal application in all areas of industry



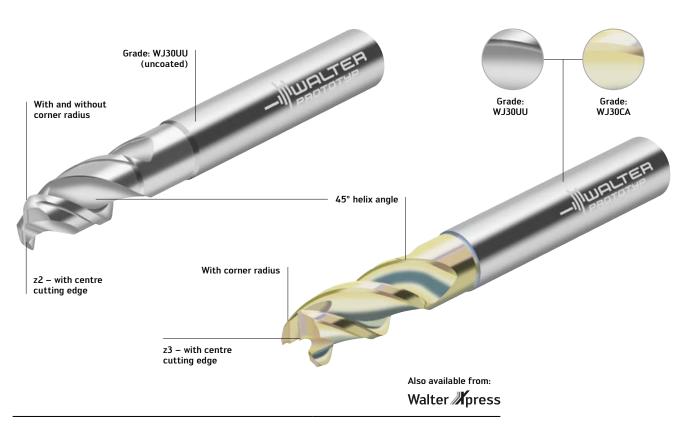
Also available from:

Walter // press



MD266 Supreme solid carbide milling cutter

Fig.: WJ30UU



MC267 Advance solid carbide milling cutter

Fig.: MC267 Advance WJ30UU & WJ30CA

BENEFITS FOR YOU

MD266 Supreme

- Can be used universally for roughing, semi-finishing and finishing
- Highest machining rates and process reliability
- Low-vibration thanks to special geometry

MC267 Advance

- Can be used universally for roughing, semi-finishing and finishing
- Maximum process reliability

Finishing – up to 90% faster.

NEW

THE TOOLS

- Circle segment milling cutters in two versions
- Solid carbide milling tools with large radii in the cutting area

MD838 Supreme - conical version

- Effective radius R_W 250–1000 mm
- Corner radius 0.5-4 mm
- Dia. 6-16 mm
- -z = 4-8

MD839 Supreme - tangential version

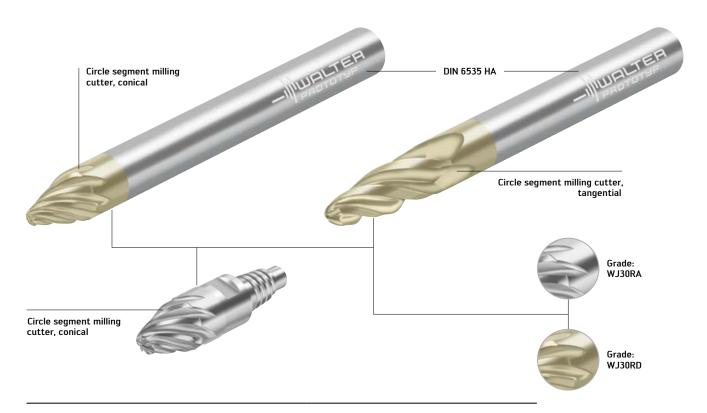
- Effective radius R_W 100 mm
- Corner radius 1-4 mm
- Dia. 6-16 mm
- -z = 4

THE GRADES

- WJ30RD (for ISO materials P and K)
- WJ30RA (for ISO materials M, N and S)

THE APPLICATION

- Semi-finishing and finishing with large spaces between rows
- Finishing of freeform surfaces and additively manufactured components (for steep walls, deep cavities, prismatic surfaces and transition radii)
- Areas of use: Mould and die making, medical technology, general mechanical engineering, aerospace and energy industries

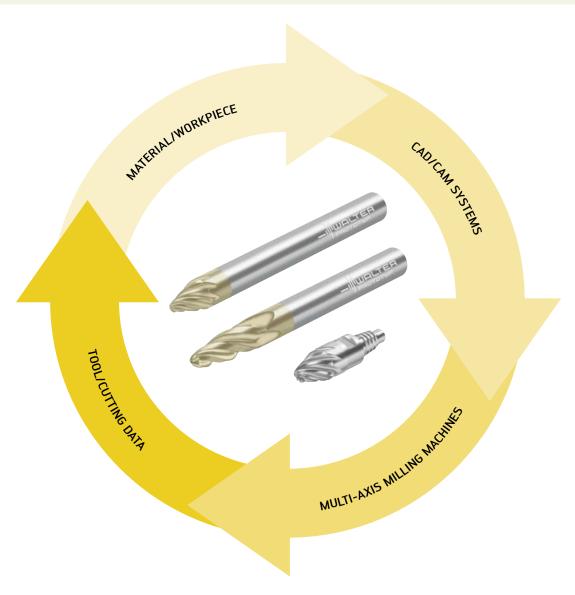


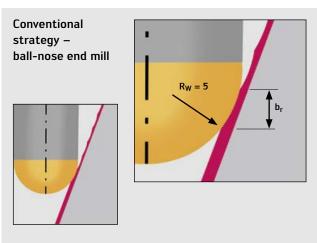
MD838 and MD839 Supreme solid carbide circle segment milling cutters $% \left(1\right) =\left(1\right) \left(1\right$

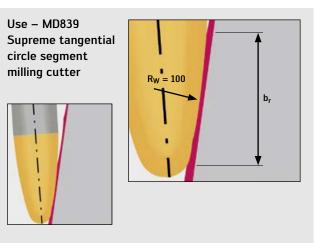
Fig.: MD838 Supreme, MD839 Supreme, MD838 ConeFit



- Cost-effective finishing (up to 90% faster than with ball-nose end mills)
- Higher productivity thanks to increased number of teeth
- Tough and reliable (even with long overhangs)
- High component precision







Multi flute cutter for universal finishing.

NEW

THE TOOL

- MC128 Advance multi-tooth solid carbide finishing face milling cutter
- One version for universal use
- Parallel shank or ConeFit exchangeable head
- Large metric and inch range (from a cutting diameter of 2 mm)
- With protective chamfer and corner radii
- Dia. 2-25 mm / ¼-¾"
- -z = 4-8

THE GRADE

- Universal milling grade with TiAIN coating
- WJ30TF for ISO materials P, M, K and S

THE APPLICATION

- Can be used universally for semi-finishing and finishing
- Secondary application: Dynamic milling
- Finishing of shoulders, pockets, walls and cavities
- Finishing of additively manufactured components
- Areas of use: General mechanical engineering, mould and die making, etc.

Also available from: Walter press



MC128 Advance solid carbide milling cutter

Fig.: WJ30TF



- Excellent surfaces
- Minimal burr formation on the component thanks to 50° helix
- Low inventory costs thanks to universal usability
- Wide selection thanks to large variety of products

Multi flute cutter with maximum productivity.

NEW

THE TOOL

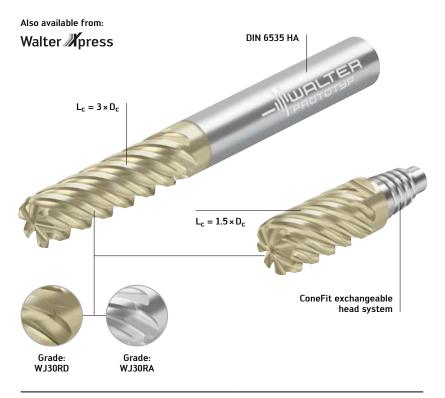
- MD128 Supreme multi-tooth solid carbide finishing face milling cutter
- Two designs for different primary applications
- Parallel shank or ConeFit exchangeable head system
- With protective chamfer and corner radii
- Dia. 6-25 mm
- -z = 6-8
- Long cutting edge:
 - Solid carbide milling cutter $L_c = 3 \times D_c$
 - ConeFit $L_c = 1.5 \times D_c$

THE GRADES

- Two high-performance grades (with AlTiN+ZrN or TiAlN+TiAl coating), adapted to the specific material group
- WJ30RD (for ISO materials P)
- WJ30RA (for ISO materials M and S)

THE APPLICATION

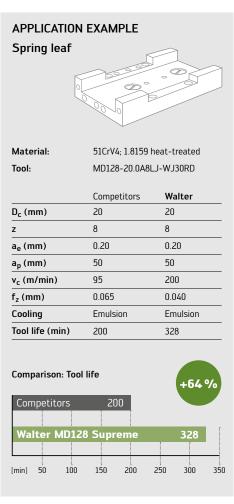
- Semi-finishing and finishing with optimal cutting data
- Secondary application: Dynamic milling
- Finishing of shoulders, pockets, walls and cavities
- Finishing of additively manufactured components
- Areas of use: Medical technology, aerospace and energy industries, and mould and die making



MD128 Supreme solid carbide milling cutter

Fig.: WJ30RD

- Excellent surfaces
- Minimal burr formation on the component thanks to 50° helix
- Finishing of dynamically roughed components up to $L_c = 3 \times D_c$
- Variable use in deep cavities thanks to ConeFit tools
- High productivity thanks to more teeth, a longer cutting edge length and material-specific grades



Titanium milling cutter also suitable for ISO M and P.

NEW

THE TOOL

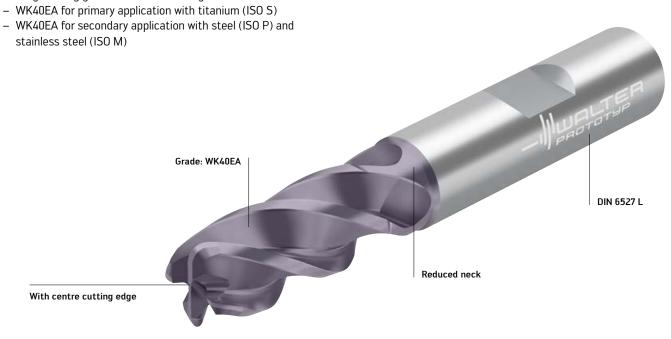
- MC377 Advance solid carbide milling cutter
- With protective chamfer, corner radii and centre cutting edge
- Dia. 2-25 mm [DIN 6535 HA]
- Dia. 16-25 mm [DIN 6535 HB]
- From dia. 16 mm with HB shank (for adaptor with pull-out protection)
- -z = 4
- $-L_c = 2 \times D_c$

THE GRADE

- Tough milling grade with AICrN coating

THE APPLICATION

- First choice for universal use on titanium
- Roughing and finishing; full slotting up to $1 \times D$
- Long reach with cutting edges $L_c = 2 \times D_c$
- Ramping and plunging are possible
- Areas of use: Aerospace industry, medical technology, general mechanical engineering



Also available from:

Walter // press

MC377 Advance solid carbide milling cutter

Fig.: WK40EA

- Can be used universally in ISO materials S, M and P
- Low inventory costs
- Extensive range with corner radii
- Suitable for flexible use
- Long tool life thanks to high-performance grade WK40EA
- Regrindable with performance guarantee in all Walter Reconditioning Centres worldwide

Superior specialist for titanium machining.

NEW

THE TOOL

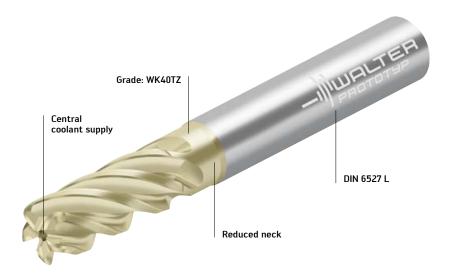
- Solid carbide milling cutter with corner radius and central internal coolant
- Proven titanium geometry; type HPC Ti40
- Dia. 6-25 mm [DIN 6535 HA]
- Dia. 16-25 mm [DIN 6535 HB]
- -z = 5

THE GRADE

- WK40TZ for ISO S (and ISO M)
- AlTiN+ZrN-coated high-performance grade with the latest HIPIMS technology

THE APPLICATION

- Roughing, shoulder milling, semi-finishing and finishing
- Full slotting up to $1 \times D_c$
- Ramping is possible
- Ideal for dynamic milling
- Ideal for ISO S materials (e.g. for machining small parts, engine components or structural components, as well as additively manufactured components)
- Areas of use: Aerospace and energy industries, and medical technology

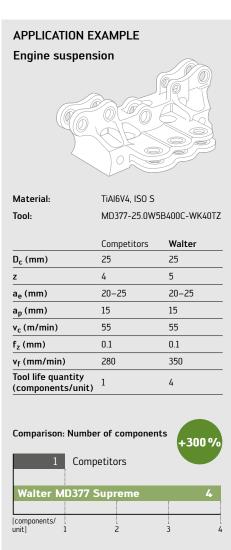


Also available from:
Walter press

MD377 Supreme solid carbide milling cutter

Fig.: WK40TZ

- Latest HIPIMS coating for maximum tool life
- Maximum metal removal rate thanks to five cutting edges
- Optimal geometry for demanding titanium machining
- Lower vibration thanks to differential pitch
- High level of process reliability as the shank is designed to protect against being pulled out



High-feed milling at lightning speed.

NEW

THE TOOL

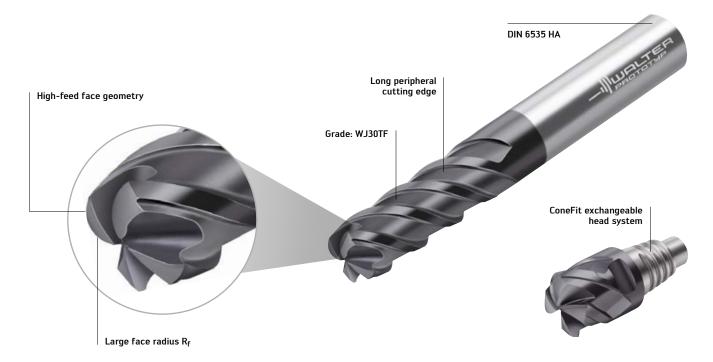
- Solid carbide milling cutter with high-feed face geometry
- Designs with both parallel shank and ConeFit exchangeable head system
- Long peripheral cutting edge for good chip removal and for providing support when machining walls
- Dia. 1-25 mm / 1/8-1"
- -z = 2-4

THE GRADE

- WJ30TF (for ISO groups P, M, K and S)

THE APPLICATION

- Can be used universally
- Near-net roughing with high feeds per tooth at low depth of cut
- Machining operations for pocket, groove and freeform surfaces
- Areas of use: General mechanical engineering, mould and die making





MC025 Advance solid carbide milling cutter

Fig.: WJ30TF

- High-feed tools available from dia. 1 mm
- $\,$ $\,$ High process reliability thanks to low radial load on the tool
- Low inventory costs thanks to universal usability
- Can be reconditioned multiple times

High-feed milling at the highest level.

NEW

THE TOOL

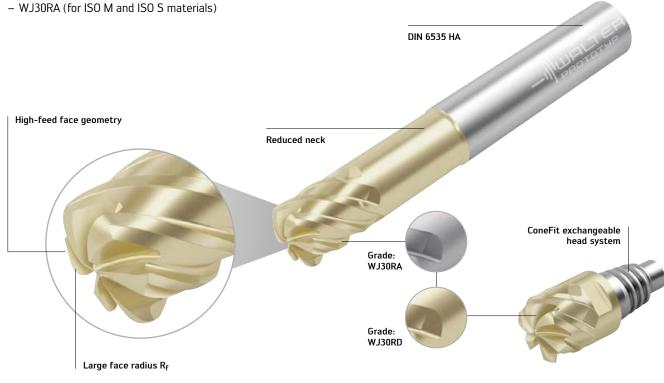
- Solid carbide milling cutter with high-feed face geometry
- With parallel shank and ConeFit exchangeable head system
- Short, stable peripheral cutting edge
- High number of teeth and reduced neck
- Two designs for different primary applications:
 - Dia. 6-25 mm / 1/4-1"
 - z = 5-6

THE GRADES

– WJ30RD (for ISO P materials)

THE APPLICATION

- ISO material groups P or M and S
- Near-net roughing with high feeds per tooth at low depth of cut
- Machining operations for pocket, groove and freeform surfaces
- Areas of use: Mould and die making, medical technology, aerospace and energy industries





MD025 Supreme solid carbide milling cutter

Fig.: WJ30RD and WJ30RA

- High-feed tools with even more teeth for maximum productivity
- Ideal for variable use on complex components thanks to compact design and reduced neck for deep cavities
- High process reliability thanks to low radial load on the tool

Uniquely efficient – for universal use in ISO P, M and K.

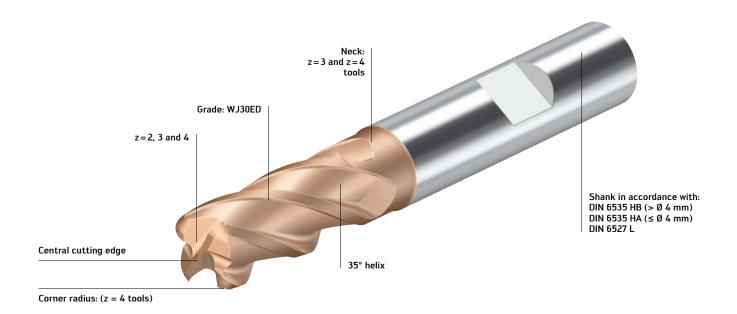
NEW TO THE RANGE

THE APPLICATION

- ISO material groups P, M and K
- Lateral milling, full slotting, pocket milling, helical plunging, ramping
- Areas of use: General mechanical engineering, mould and die making, automotive and energy industries

THE TOOLS

- Solid carbide milling cutters from the Perform line
- Metric and inch
- With and without neck (z = 3 and z = 4 tools)
- With and without corner radius (z = 4 tools)
- 1 family; 126 dimensions
- With 2, 3 or 4 cutting edges
- Dia. 2-20 mm; 1/8-3/4"



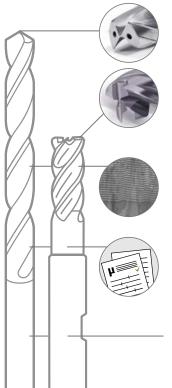
Walter Prototyp MC232 Perform

Fig.: MC232-12.0W4B200C-WJ30ED

- Can be used universally for diverse milling strategies with various different materials
- Wide range of applications thanks to tools with reduced neck and corner radii
- High level of cost efficiency for small and medium batch sizes

Reconditioning to the original manufacturer quality really pays off.

The Reconditioning Service from Walter Multiply makes a significant contribution towards lowering your production costs. This service can provide you with Walter Titex and Walter Prototyp tools that are as good as new, in the original manufacturer quality and all at an attractive price-performance ratio.



ORIGINAL GEOMETRIES

Cutting edge geometries are extremely complex. During reconditioning, Walter calls upon its extensive manufacturing experience to return them to their original condition.

ORIGINAL COATING

When it comes to tool performance, the coating is key. Only Walter uses the original coating process during reconditioning.

ORIGINAL TOLERANCES

These marks of quality are just as important when reconditioning as when Walter manufactures a completely new tool. To achieve this, we only use the most up-to-date measuring methods.

RECONDITIONING RANGE

Walter's solid carbide milling cutters and drills can be reconditioned as standard and special tools.



Reconditioning Service Original Walter Quality

OUR MARK OF 100% QUALITY

Look out for the "Original Walter Quality" label. This label indicates that a tool has been reconditioned to original manufacturer quality. It even appears in the ordering documents, enabling you to see the tools for which we recommend our Reconditioning Service.

50% LOWER COSTS!

Tools are often disposed of far too early, even though the Walter Reconditioning Service can restore the tool a number of times to original manufacturer quality. Benefit from reduced costs, reliable production processes and consistent tool life by having your tools reconditioned at our Reconditioning Centre, which is available worldwide. That's how you save up to 50% on your tool costs!

Find out more at: www.reconditioning.walter



Number of reconditioning operations

More efficient roughing with the new knurled profile.

NEW

THE TOOLS

- Two families with new knurled profile for roughing operations

MC319 Advance: Solid carbide end milling cutter [metric] with internal coolant supply

- Variant:

With neck (DIN 6527 L)

MC320 Advance: Solid carbide end milling cutter [inch & metric]

Variants:

Without neck (DIN 6527 K) With neck (DIN 6527 L)

THE APPLICATION

- Roughing operation
- Can be used universally

Primary application:

- Steel (ISO P)

Secondary application:

- Stainless steels (ISO M)
- Cast iron (ISO K)
- Materials with difficult cutting properties (ISO S)

THE GRADES

WK40TF (MC319 Advance; MC320 Advance)



Walter Prototyp solid carbide milling cutters

Fig.: MC319 / MC320 Advance; MC320 ConeFit

- Requires 30% less power in the milling process thanks to the new roughing profile
- Robust tool
- Can be used universally, especially for roughing
- Short chips
- Extremely quiet milling process
- Ideal for unstable conditions of use

APPLICATION EXAMPLE Roughing - Camshaft 100Cr6 Material: Walter MC320-16.0W4BC-WK40TF Existing 14 mm 14 mm a_e 8.0 mm 8.0 mm 80 m/min 80 m/min ٧c n 1600 rpm 1600 rpm fz 0.30 mm 0,30 mm 1920 mm/min 1920 mm/min v_f Cooling Emulsion Emulsion Q 215 cm³/min 215 cm³/min Tool life 780 m 1300 m Comparison: Tool life [m] 780 Existing 1300 400 600 1000 [m] 200 800 1200

THE GEOMETRIES

- Knurled profile specially developed for roughing operations
- With centre cutting edge: MC320 Advance; MC320 ConeFit
- Without centre cutting edge: MC319 Advance
- DIN 6535 HB shank variant
- 40° helix
- Pre-treatment adapted to tool diameter

CHIP FORMATION ON THE KNURLED PROFILE Smooth cutting edge: Profiled cutting edge:



Watch the product video: www.youtube.com/waltertools

Dynamic milling - now an entire range.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- Length of cutting edge $L_c = 4 \times D_c$

THE APPLICATION

- Specially designed for dynamic milling (low ae, high ap)
- Suitable for various materials
- Cutting width a_e depends on the material

THE GRADE

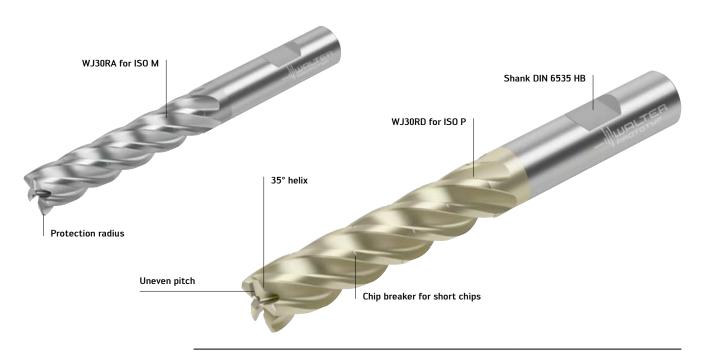
- WJ30RD for steel (ISO P)
 Secondary application: Cast iron (ISO K), NF metals (ISO N)
- WJ30RA for stainless steels (ISO M)
 Secondary application: Materials with difficult cutting properties (ISO S)

THE TOOL

- Solid carbide milling cutter with Weldon shank
- Version with chip separator
- Dia. 6-12 mm / z = 5
- Dia. 1/4-1/2" / z = 5
- Dia. 16–20 mm / z = 6
- Dia. 5/8-3/4" / z = 6

THE GEOMETRY

- No centre cutting edge
- Defined protection radius
- Cutting length L_c : $3 \times D_c$ / $3 \times D_c$ (with neck) / $4 \times D_c$ / $5 \times D_c$



MD133 Supreme solid carbide milling cutter

Fig.: WJ30RD and WJ30RA



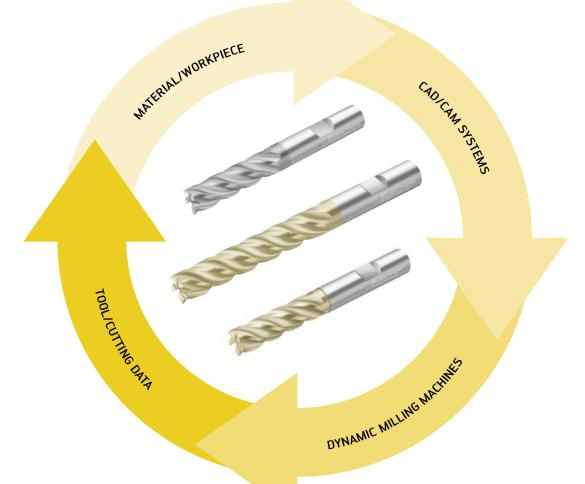
Watch the product video: www.youtube.com/waltertools

- High process reliability in unmanned machining
- Maximum productivity due to optimal metal removal rate with reduced machining times
- Max. tool life: Use of the entire length of the cutting edge and uniform wear
- High level of flexibility for a variety of different cavities on the component (machining with a tool diameter)
- No problems working with materials that have difficult cutting properties or under unstable conditions

What are the requirements for dynamic milling?

The **material** dictates the cutting values for the milling tools, i.e. the radial cutting width (a_e) and the engagement angle (ϕ_s) . The dimensions of the pockets and cavities to be produced determine which strategy and tool diameter should be used.

Most **CAD/CAM systems** provide the elements necessary for dynamic milling. The software avoids full-depth cuts and collisions, calculating all of the key parameters such as the milling direction, optimal milling paths, speed (n), feed (v_f), adherence to the engagement angle (ϕ_s) and average chip thickness (h_m).



Optimum recommendations for the **tool data and cutting data** for the task, machine and component in question can be determined using Walter GPS*. Most chucks can be used for dynamic milling. However, Walter recommends the MD133 Supreme solid carbide milling cutter with Weldon shank. The milling cutter's cutting length (L_c) and diameter (D_c) are defined by the geometry of the workpiece.

 $\boldsymbol{*}$ Walter GPS – the machining navigation system at: walter-tools.com

The term "dynamic milling machine" refers to the acceleration of the machine: It must exhibit sufficiently high acceleration behaviour and high rapid traverse rates and feeds, as well as a wide speed range and short calculating and switching times.

The full range for solid carbide machining.

NEW

THE TOOLS

Seven tool families for ISO H machining up to 63 HRC

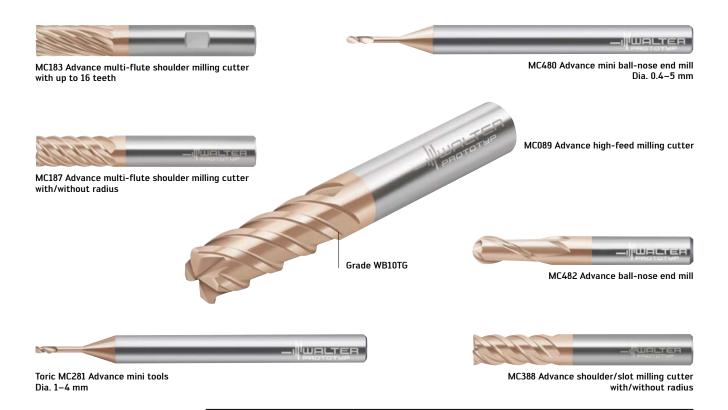
- New, performance-improving geometry and WB10TG grade
- Optimised for maximum surface quality and tool life

THE APPLICATION

- Specially designed for ISO H materials up to 63 HRC
- For machining of 3D contours
- For a range of milling strategies: HPC roughing, high-feed milling, finishing with ball-nose end mills
- Areas of use: Mould and die making, general mechanical engineering

THE GEOMETRIES

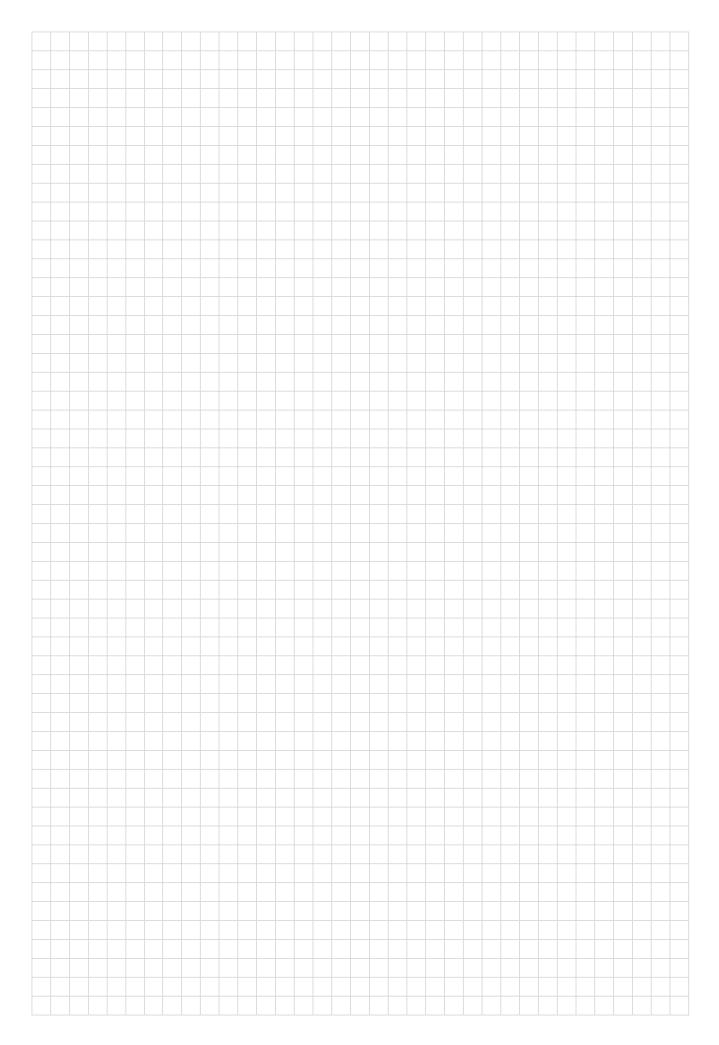
- Specially developed for solid carbide machining
- Large selection of neck and shank variants for universal use in ISO H materials



ISO H Advance solid carbide milling cutters

Fig.: MC089 Advance, MC183 Advance, MC187 Advance, MC281 Advance, MC388 Advance, MC480 Advance, MC482 Advance

- Cost-effective and technically optimised for hardened materials up to 63 HRC (ISO H)
- Large selection from wide range of seven tool families
- High metal removal rates thanks to special geometries for solid carbide machining
- Long tool life due to Walter's new WB10TG grade
- Time and cost-savings for high-speed or high-performance milling



Cost-efficient machining of nickel-based alloys.

NEW

THE TOOL

Walter Prototyp brazed ceramic milling cutters MC275/MC075

Toric milling cutters:

- Dia. 8-25 mm
- Corner radius 1-1.5 mm
- Number of teeth 4-8
- Cutting length 7-9 mm

High-feed milling cutters:

- Dia. 8-25 mm
- Number of teeth 4

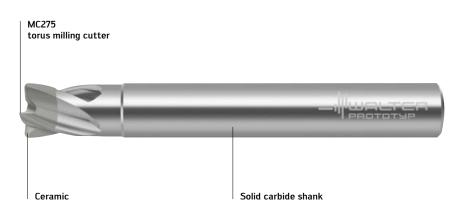
Properties:

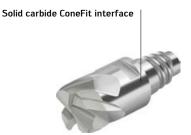
- Tough tool thanks to combination of carbide and ceramic
- Good vibration damping

THE INTERFACE

- Parallel shank
- ConeFit







Walter Prototyp ceramic milling cutters

Fig.: MC275 and MC075

- Significantly increased cutting speeds (in comparison to solid carbide tools)
- High metal removal rate
- Short machining times
- High productivity with nickel-based alloys with difficult cutting properties, in particular, Inconels

THE APPLICATION

- Roughing operations on nickel-based alloys (e.g. Inconel 718)
- Synchronous milling
- Dry machining
- Milling strategies: Full slotting, lateral milling, ramping, helical milling, plunging
- Recommended machining allowance for subsequent finishing operation (milling, grinding): Min. 0.5 mm
- Recommended chucks: Power chuck, hydro-expansion chuck

APPLICATION EXAMPLE Inconel 718 / Strategy: Roughing



Ceramic milling cutters in use: Blisk machining (plunging), Inconel

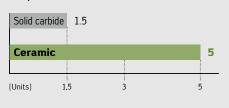
	Solid carbide Dia. 12	Ceramic Dia. 12
a _e	1.75 mm	1.1 mm
a _p	18 mm	18 mm
v _c	40 m/min	680 m/min
n	1060 rpm	18,000 rpm
f _z	0.1 mm	0.02 mm
v _f	424 mm/min	1440 mm/min
Cooling	Emulsion	Dry
Q	13.3 cm ³ /min	28.6 cm ³ /min

Comparison: Machining time [s]





Comparison: Tool life [units]





Reduced cutting forces – less vibration.

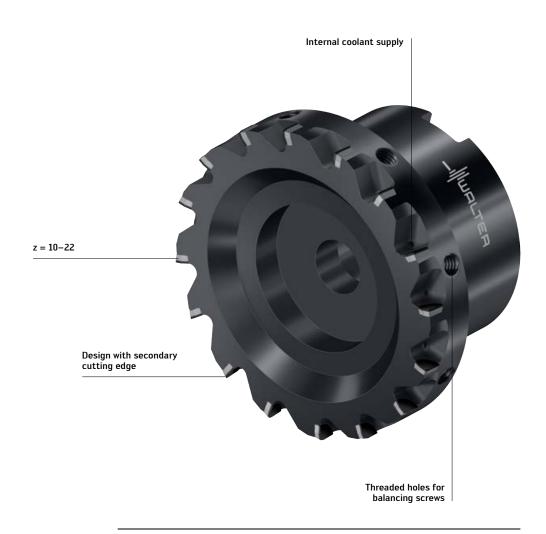
NEW

THE TOOLS

- Face milling cutters, shoulder milling cutters and routing cutters with brazed PCD cutting edges dia. 4–125 mm
- MP060 face milling cutter with maximum number of teeth; dia. 40–125 mm
- MP160 shoulder milling cutter with parallel shank and ScrewFit adaptor; dia. 16–40 mm
- MP260 routing cutter with parallel shank and ScrewFit adaptor; dia. 4–20 mm

THE APPLICATION

- Milling operations with the highest surface quality
- Face, shoulder and slot milling
- Non-ferrous metals (e.g. aluminium, Al-Si alloys, magnesium and magnesium-based alloys), as well as plastics and fibre-reinforced plastics
- For applications with emulsion or with MQL
- Areas of use: Automotive and aerospace industries, general mechanical engineering





MP060 PCD milling cutter

Fig.: MP060 WDN20

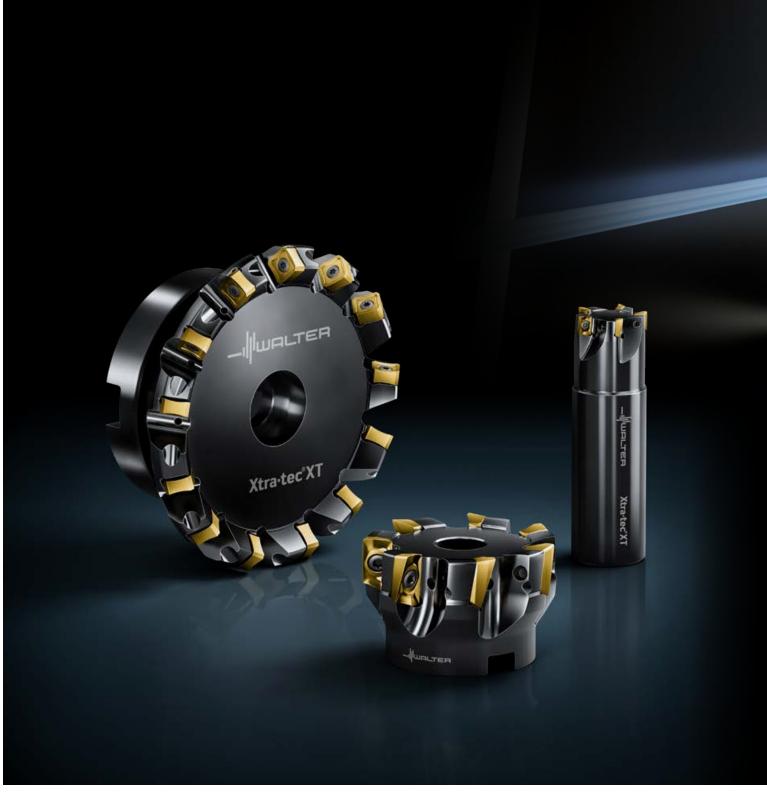


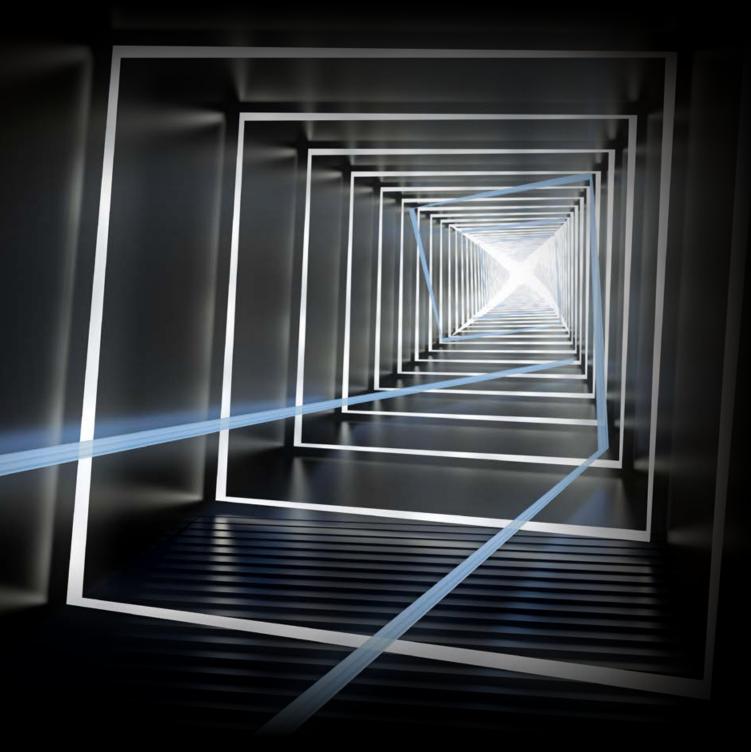
MP160 and MP260 PCD milling cutters

Fig.: MP160; MP260 WDN20

- Cost-effective, precise machining
- Tool life increased by 20 to 200 times (compared to conventional solid carbide tools on the market)
- Reduced cutting forces and minimal vibration tendency thanks to optimised geometries
- Excellent surfaces
- $\,$ $\,$ Shortest machining times thanks to high cutting speeds and a high number of teeth
- Low cutting tool material costs thanks to extremely long tool life
- Possibility of reconditioning and/or reconfiguration

PERFORMANCE AND RELIABILITY IN EQUAL MEASURE – A UNIQUE EXPERIENCE.





Xtra-tec[®]XT

Better performance, greater process reliability: The latest generation in the successful range of Walter milling tools not only meets both these requirements but takes them to a whole new level.

These two defining characteristics, evident in equal measure, are the product of an innovative and pioneering development process that is opening up a completely new perspective on productivity. The name alone means business: XT stands for Xtended Technology.

At Walter, we have never been afraid of setting ourselves ambitious goals. This two-fold challenge – performance and process reliability – is the key to a new perspective with Xtra·tec® XT.

For identifying two objectives and eventually reaching them together is no mean achievement.

A new perspective on productivity: Xtra·tec® XT.

Roughing and finishing – cost-effective and stable.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- Face milling tools for indexable insert size SN.X1205..
- Indexable inserts with fully sintered circumference and facet for 88° approach angle
- Aluminium geometry for 88° approach angle

THE TOOLS

- Xtra·tec® XT M5009 and M5012 face milling cutters for indexable insert size SN.X1205..
- Xtra·tec® XT M5009 face milling cutter with 45° approach angle: Dia. 25–160 mm (or 1–6"); depth of cut 5 or 6.5 mm
- Xtra·tec® XT M5012 face milling cutter with 88° approach angle: Dia. 32–160 mm; depth of cut 8 or 10 mm
- Tools with wide and medium pitch for insert size SN.X1205..
 are designed with carbide shim
- Three pitches for different applications
- Interfaces: ScrewFit and bore adaptor

THE INDEXABLE INSERTS

- System inserts, can be used in:
 - Xtra·tec® XT M5009 and M5012 face milling cutters
- Roughing insert:
 - Double-sided indexable inserts with eight cutting edges
 - Easy-cutting geometries
 - Variants:

Fully ground circumference (SNGX..., SNHX...) for maximum precision Fully sintered circumference (SNMX...) for maximum cost-efficiency

- Wiper insert:
 - Double-sided indexable insert with two cutting edges (XNGX0904... and XNGX1205...)

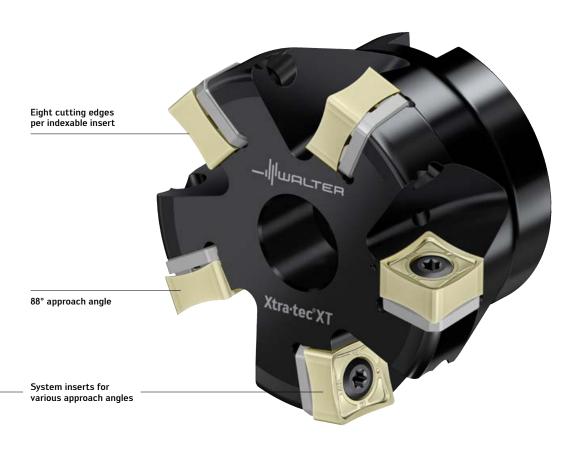


Xtra·tec® XT M5009 face milling cutter

Fig.: M5009-080-B27-05-06-AP

THE APPLICATION

- For steel and cast iron workpieces, stainless steels, materials with difficult cutting properties and non-ferrous metals
- Face milling: Roughing and rough-finishing with wiper inserts
- Face milling with larger depth of cut (M5012)
- Can also be used on less powerful machines due to the positive, soft cutting action



Xtra·tec® XT M5012 face milling cutter

Fig.: M5012-063-B27-05-10-AP

- High level of stability for minimal material removal and variable conditions
- Maximum feeds, tool life and productivity thanks to small indexable inserts and high number of teeth
- Very good handling thanks to easily accessible clamping screw (prevents typical installation mistakes)
- Highly cost-effective thanks to low cutting tool material costs

Milling with eight times the flexibility.

NEW

THE TOOL

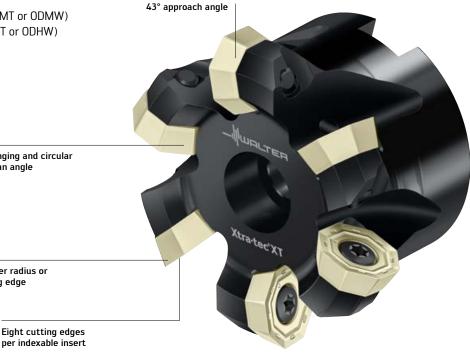
- Xtra·tec® XT M5004 octagon milling cutter
- 43° approach angle
- Depth of cut 3 or 4 mm
- Three pitches for different applications
- Dia. 32-170 mm (or 1.25-3.315")
- Interfaces: ScrewFit, cylindrical-modular, parallel shank and bore adaptor

THE INDEXABLE INSERT

- Eight-cornered, positive indexable inserts with eight cutting edges
- Two indexable insert sizes with corner radius or facet
- Variants:
 - Fully sintered circumference (ODMT or ODMW)
 - Fully ground circumference (ODHT or ODHW)

THE APPLICATION

- Face milling (roughing and finishing), ramping, pocket milling and circular interpolation milling, as well as chamfering and back chamfering
- For steel, stainless steels, cast iron, non-ferrous metals and materials with difficult cutting properties
- Areas of use: Energy industry, mould and die making, general mechanical engineering, among others



Free face side - for plunging and circular interpolation milling at an angle

> Version with corner radius or secondary cutting edge

Tiger-tec Silver

Powered by

Tiger-tec[®]Gold

Xtra·tec® XT M5004 octagon milling cutter

Fig.: M5004-073-B22-06-04

- Optimum cutting data and tool life for maximum productivity
- Maximum process reliability thanks to high stability
- Perfectly adapted to the machining operation due to different indexable insert sizes, corner designs and geometries
- Lower tool costs and minimised effort thanks to universal usability
- Maximum cost-efficiency thanks to Tiger·tec® cutting tool materials, high number of teeth and low cutting tool material costs





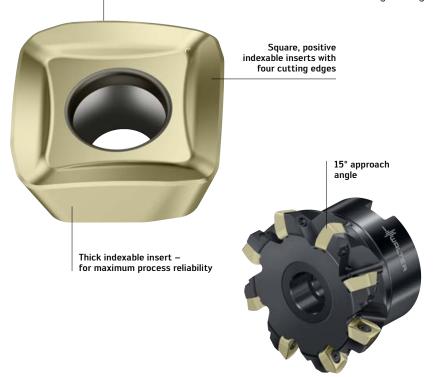
The indexable insert with Xtra performance.

NEW

THE INDEXABLE INSERT

- SDMX indexable inserts with curved cutting edge
- Two indexable insert sizes with facet (SDMX0904ZDR-E27 and SDMX1205ZDR-E27)

Curved cutting edge for maximum stability



M4002 high-feed milling cutter

Fig.: SDMX1205ZDR-E27 WSP45G

BENEFITS FOR YOU

- Maximum productivity thanks optimum cutting data and tool life
- Reliable thanks to maximum stability due to the curved cutting edge
- Reduced tool costs thanks to universal usability
- Maximum cost-efficiency thanks to Tiger·tec® cutting tool materials, high number of teeth and low cutting tool material costs

THE TOOL

- M4002 high-feed milling cutter with three pitches
- Depth of cut 1.5 or 2 mm
- Dia. 25-125 mm (or 1-4")
- Interfaces: ScrewFit, cylindrical-modular, bore adaptor

THE APPLICATION

- High-feed milling in steel and cast iron, stainless steels and materials with difficult cutting properties
- Tools with long overhangs
- Demanding tasks in mould and die making, general mechanical engineering

APPLICATION EXAMPLE Brake flange



Material: S690Q (1.8928) - ISO P M4002-080-B27-08-02 Indexable insert: SDMX1205ZDR-E27

Cutting tool WSP45G material:

Cutting data:

	Competitors	Walter M4002 with SDMX
v _c (m/min)	280	280
f _z (mm)	0.88	1.12
a _p (mm)	1.3-1.6	1.3-1.6
a _e (mm)	30-40	30-40
v _f (mm/min)	7843	10000

Comparison: Tool life quantity



Maximum security against inadvertent twisting.

NEW

THE TOOL

- Xtra·tec® XT M5468 round insert milling cutter
- Protection against twisting and cutting edge rotation due to eight facets on the indexable insert
- Oversize milling cutter for machining operations on deep shoulders
- Dia. 20-100 mm (or 1-4")
- Two pitches for different applications
- Interfaces: ScrewFit, cylindrical-modular, Weldon shank and bore adaptor

THE APPLICATION

- Universal system for copy milling, face milling, ramping, pocket milling and circular interpolation milling
- Ideal for copy milling with minimal material removal
- For steel, stainless steels, cast iron, non-ferrous metals, materials with difficult cutting properties and for hard machining
- Areas of use: Mould and die making, general mechanical engineering, energy industry, among others

THE INDEXABLE INSERT

- Eight cutting edges with positive basic shape

- Two indexable insert sizes:
 - RO.X10T3M08
 - R0.X1204M08
- Variants:
 - Fully sintered circumference (ROM..)
 - Fully ground circumference (ROG.., ROH..)



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Tiger-tec Silver

Tiger-tec[®]Gold

Xtra·tec® XT M5468 round insert milling cutter

Fig.: M5468-032-TC16-04-05

- Maximum productivity thanks optimum cutting data and tool life
- Maximum process reliability due to indexing of the indexable inserts using facets
- Perfectly adapted to the machining operation due to different indexable insert sizes and geometries
- High level of flexibility for use in existing adaptor systems thanks to cylindrical-modular interface
- Lower tool costs and minimised effort thanks to universal usability
- High level of cost-efficiency thanks to Tiger $\cdot tec^{\circledast}$ cutting tool materials, higher number of teeth

Performance and reliability extend your perspective.

NEW

THE TOOL

- Xtra·tec® XT M5130 shoulder milling cutter
- Stable cross-section due to modified installation position of the indexable inserts
- Two pitches for different applications
- Approach angle: Exactly 90°
- Oversize milling cutter for machining operations on deep shoulders
- Dia. 10-160 mm (or 0.5-6")
- Interfaces: ScrewFit, cylindrical-modular interface,
 Weldon or parallel shank and bore adaption

THE INDEXABLE INSERTS

- Rhombic, positive indexable inserts
- Two cutting edges with positive basic shape
- Stabilised cross-section due to reduced clearance angle
- Four indexable insert sizes with different corner radii:
 - AC..0602... r = 0.2-1.6 mm, $a_{p \text{ max}} = 5 \text{ mm}$
 - BC..0903... r = 0.2-2.0 mm, $a_{p \text{ max}} = 9 \text{ mm}$
 - BC..1204... r = 0.4-4.0 mm, $a_{p \text{ max}} = 12 \text{ mm}$
 - BC..1605... r = 0.8-6.0 mm, $a_{p max} = 15$ mm
- Variants:
 - Fully sintered circumference (ACMT.., BCMT..)
 - Fully ground circumference (ACGT.., BCGT.. or ACHT.., BCHT..)

THE APPLICATION

- Face milling, shoulder milling, ramping, pocket milling and circular interpolation milling
- Small indexable inserts combined with a high number of teeth: Ideal for low material removal rates
- For steel, stainless steels, cast iron, non-ferrous metals and materials with difficult cutting properties
- Areas of use: Energy industry, mould and die making, general mechanical engineering, etc.

position of the indexable inserts Four insert sizes for different depths of cut

Stable cross-section due to modified installation

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Tiger-tec*Silver
Tiger-tec*Gold





- Optimum cutting data and tool life for maximum productivity
- Process reliability thanks to high level of stability
- Indexable insert sizes, corner radii and geometries perfectly adapted to the machining operation
- Lower tool costs and minimised effort thanks to universal usability
- No additional finishing operations thanks to exact 90° angle
- Excellent handling thanks to improved access to screws
- Maximum cost-efficiency thanks to Tiger·tec® cutting tool materials, high number of teeth and adapted indexable insert sizes

Six effective approach angles of exactly 90°.

NEW

THE TOOL

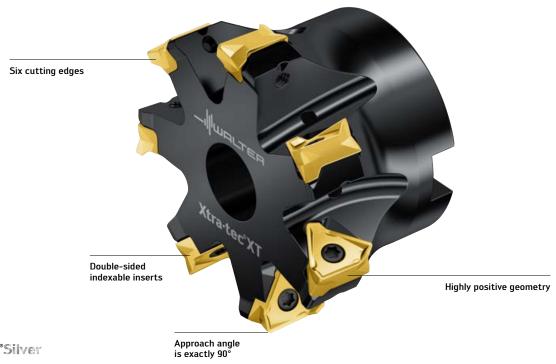
- Xtra·tec® XT M5137 shoulder milling cutter
- Shoulder milling cutter with triangular, double-sided indexable inserts
- Two pitches for different applications
- Interface: Bore adaption
- Dia. 50-100 mm
- Maximum depth of cut $a_{p max} = 8 mm$

THE INDEXABLE INSERTS

- Design with facet
- Easy-cutting geometry
- Circumference-sintered indexable inserts for maximum cost efficiency (TNMU160508R-G57)

THE APPLICATION

- Can be used universally for steel, stainless steels, cast iron and materials with difficult cutting properties
- Face milling, shoulder milling, ramping, pocket milling and circular interpolation milling
- Areas of use: Energy industry, mould and die making, general mechanical engineering, among others



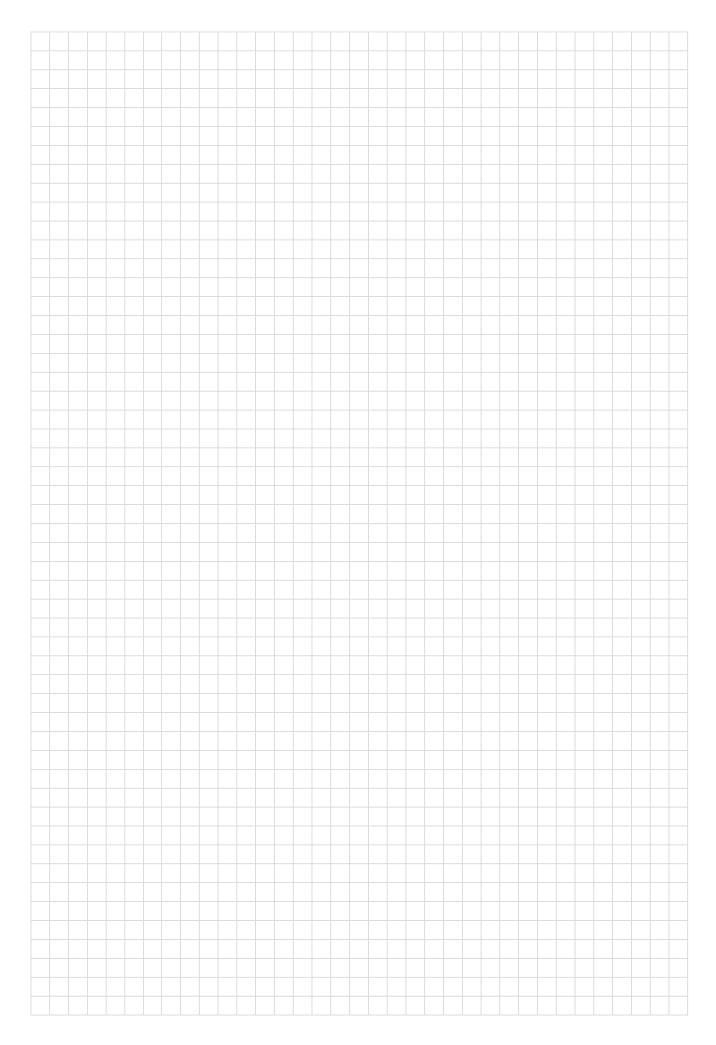
Powered by Tiger-tec*Silver

Tiger-tec[®]Gold

Xtra·tec® XT M5137 shoulder milling cutter

Fig.: M5137-063-B22-07-08

- High process reliability thanks to stable, double-sided indexable inserts
- No additional finishing operations thanks to exact 90° angle
- Reduced process costs thanks to Tiger·tec® cutting tool materials and six cutting edges per indexable insert
- Simple tool selection and low cutting tool material costs



High machining volume thanks to maximum number of teeth.

NEW

THE TOOL

- Xtra·tec® XT M5008 high-feed milling cutter
- 0-15° approach angle
- Depth of cut 1 mm
- Extremely close pitch
- Oversize milling cutter for maching operations requiring deep wall clearance
- Two pitches for different applications
- Dia. $16-66 \text{ mm} (\text{or } 5/8-2\frac{1}{2}")$
- Interfaces: ScrewFit, cylindrical-modular, parallel shank and bore adaption

THE INDEXABLE INSERTS

- Double-sided indexable inserts with four cutting edges
- Rhombic basic shape for small tool diameters and high number of teeth
- Curved cutting edges for maximum stability
- Combines stability with easy-cutting geometries
- Tiger·tec® cutting tool materials for optimum cutting data and tool life



Powered by

Tiger-tec°Silver

Tiger-tec[®]Gold

THE APPLICATION

- For steel, stainless steels, cast iron and materials with difficult cutting properties
- Face milling at high feed rates, for plunging, inclined plunging and circular interpolation milling
- Areas of use: Energy industry, mould and die making, among others



Base plate: Roughing the pockets

APPLICATION EXAMPLE

Material: 40CrMnMoS8-6 (1.2312), ISO P

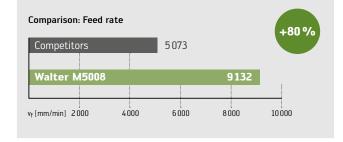
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Tool: M5008/dia. 32 mm
Indexable insert: ENMX08T316R-D27
Cutting tool material: WKP35G

a_e (mm)

	Competitors	Walter	
Number of teeth	3	6	
v _c (m/min)	170	170	
f _z (mm)	1.0	0.9	
v _f (mm/min)	5 073	9132	
a _p (mm)	0.5	0.7	

20



BENEFITS FOR YOU

- Can be used universally
- Optimum productivity thanks to extremely close pitched tools
- High machining volume thanks to the combination of low depths of cut and high feed per tooth rates
- High process reliability due to stable indexable insert
- Low vibration tendency in long tools
- Reduced process costs thanks to Tiger tec $^{\tiny{\textcircled{\tiny{0}}}}$ cutting tool materials and four cutting edges



Watch the product video: www.youtube.com/waltertools

Plug & Play – the cylindrical-modular standard interface.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- F2239 and F2239B copy milling cutters
- F2339 copy milling cutter

THE APPLICATION

- Ideal as an interface for smaller tools

THE INTERFACE

- Cylindrical-modular interface
- For milling tools with dia. 10-42 mm
- Tools can be centred on the cylindrical section of the adaptor



Milling tools with cylindrical-modular interface

- Easy to change existing milling tools (no need to invest in new adaptors)
- Maximum flexibility through exchanging modular milling tools
- Easy to assemble and dismantle
- High level of process reliability and long tool life thanks to stability and good concentricity of tool interface



Your navigation system for the best machining solution.

Find the right tool with a click of the mouse.

In just four clicks, Walter GPS takes you from the definition of your target to the most cost-efficient tool and machining solution. Walter GPS is surprisingly comprehensive. Be it holemaking, threading, turning or milling: Full information on all tools from Walter, Walter Titex and Walter Prototyp can be displayed in an instant. Access essential usage data, such as accurate cutting data or precise cost-efficiency calculations, on your screen.

Walter GPS is now also available for smartphones and tablet PCs. This means that you are able to access all the required tool information at any time, wherever you are, even without a PC: In the workshop, at the machine or on the move.





Tiger-tec® Gold is pushing the boundaries.

NEW

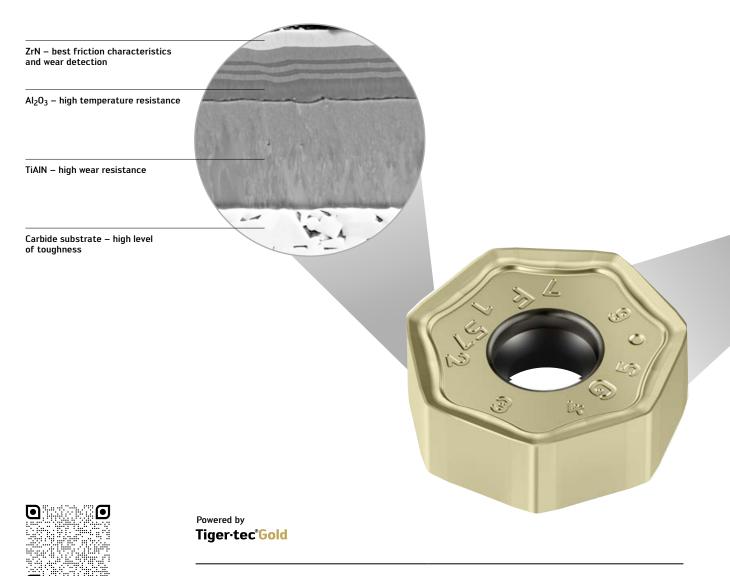
THE GRADE

- PVD-coated Tiger·tec® Gold milling grade WSP45G
- The only PVD Al₂O₃ coating technology of its kind in the world
- ZrN top layer for the best wear detection
- Perfect balance between wear resistance and toughness
- Extremely smooth rake face for low friction

THE TOOLS

Compatible for all standard milling cutters from the Walter range, such as:

- Xtra·tec® XT: M5130 and M5137 shoulder milling cutters, M5009 and M5012 face milling cutters, M5008 high-feed milling cutter
- M4000
- Walter BLAXX



THE APPLICATION

- Can be used universally on materials from ISO groups P, M and S (e.g. austenitic stainless steel or titanium alloys)
- Ideal for unfavourable conditions such as long overhangs or for wet machining
- Areas of use: Aerospace and energy industries, general mechanical engineering, etc.



Turbocharger housings

Material: GX35CrNiSi 25 12 (1.4837), ISO M

 Tool:
 M3024 / dia. 100 / Z8

 Indexable insert:
 XNMU0705ANN-F57

Cutting tool material: WSP45G

APPLICATION EXAMPLE

Cutting data:

Existing	Walter WSP45G
120	120
0.29	0.29
50-78	50-78
3	3
Dry	Dry
	120 0.29 50–78 3

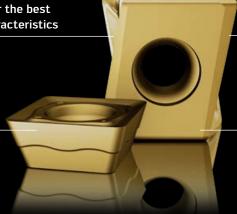


- Maximum process reliability thanks to the combination of high wear resistance and optimal toughness
- Long tool life thanks to unique PVD Al_2O_3 coating
- Can be used universally, even in difficult conditions and for materials with difficult cutting properties
- Best wear detection thanks to the gold-coloured top layer

YOU HAVE HIGH EXPECTATIONS – WE CAN OFFER LONG TOOL LIFE.

Smooth rake face for the best possible friction characteristics

Optimum wear detection on rake face and flank face



Tough cutting edge for maximum process reliability

Latest coating technology for long tool life and excellent cutting data

Tiger-tec[®]Gold

Your challenges spur us on to exceed our own expectations

As an innovative company, we are frequently asked how we manage to produce fascinating and often groundbreaking technological products time and time again. The answer begins with a question we put to ourselves: How can we at Walter help you design your machining process to make it even more efficient?

Our answer is: By making your objectives our own, as your product is the best starting point for our development work.

And the result of this development strategy is remarkable: With Tiger tec® Gold, we are providing you with a new technology that meets the most exacting requirements placed on machining.



Schematic diagram

Tiger·tec® Gold was developed to make your production process even more reliable and efficient

At the core of Walter's new indexable insert grade lies a particularly tough carbide substrate. Although much less material is used on the outer area, this makes it all the more advantageous: In addition to the geometry of the indexable insert, it is the coating that really makes the crucial difference.

With the new WKP35G milling grade, manufactured using the innovative ultra low pressure method (ULP-CVD), you can benefit from tomorrow's technology right now.

The superior properties of Tiger·tec® Gold are based on several related factors

TiN

Good layer bonding

Carbide substrate High level of toughness

The standout feature is the extremely tough and resistant TiAlN layer, with an extremely high aluminium content. This is located directly underneath the TiN top layer and protects the substrate against abrasion, hairline cracks, plastic deformation and oxidation. The eye-catching, gold-coloured top layer enables outstanding wear detection and boasts impressive friction characteristics. Another, delicate TiN layer is located between the carbide substrate and the TiAlN layer, ensuring excellent binding of the layers.

Tiger-tec® Gold – the new technology platform from Walter.

NEW

THE GRADE

- New WKP35G Tiger·tec® Gold milling grade:
 CVD-coated all-round grade
- TiAlN as the main component:
 High aluminium content for outstanding wear characteristics
- Produced using the innovative ultra low pressure method (ULP-CVD)
- Gold-coloured textured top layer made of TiN
- Excellent combination of wear resistance and toughness for milling

THE APPLICATION

- For roughing steel and cast iron materials
- For moderate to high cutting speeds
- For dry milling or use with coolant

THE INDEXABLE INSERT

WKP35G – available for almost the entire Walter milling range, such as:

- All tools in the M4000 family
- Walter BLAXX milling cutters
- Xtra·tec®

Indexable inserts – selected examples from the range:



LNMU..L55T



SDGT...-D57



ROHX...-F67



XNMU...-F27



SNMX...-F57



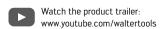
ADMT...-G56

Tiger-tec® Gold

Fig.: Indexable inserts

BENEFITS FOR YOU

- Up to 200% longer tool life due to the optimised wear behaviour
- Maximum process reliability due to the tough cutting edge
- Optimum wear detection due to the gold-coloured top layer



Tiger-tec[®]Gold

Tiger-tec® Gold – Top performance when roughing turbine blades.

NEW

THE GRADE

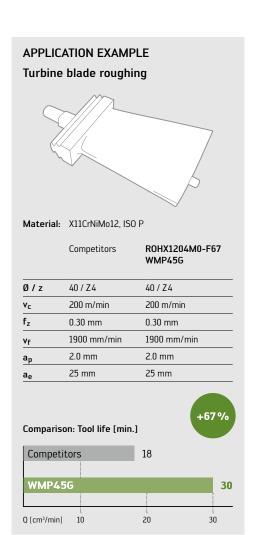
- New WMP45G Tiger·tec® Gold milling grade
- Produced using the ultra low pressure method (ULP-CVD)
- As the main constituent of the coating, TiAIN ensures outstanding wear properties
- Gold-coloured top layer made of TiN
- Special high-performance substrate with a balanced ratio between temperature resistance and toughness enables extra performance during milling

THE APPLICATION

- Helirough and z-level machining of turbine blades
- Face milling under difficult conditions
- For martensitic and austenitic stainless steels

THE INDEXABLE INSERTS

- Round indexable inserts, specially for face and copy milling of turbine blades
- Positive ROHX10T3M0.. and ROHX1204M0.. round indexable inserts in the D57, D67 and F67 geometries
- Four cutting edges per indexable insert
- Suitable for the F2334R copy milling cutter





Tiger-tec® Gold Fig.: F2334R

- Maximum productivity due to the wear-resistant Tiger·tec® Gold grade
- Easy wear detection thanks to the gold-coloured top layer
- High level of process reliability thanks to heat-resistant and tough substrate

Extra-long tool life when finishing and hard machining.

NEW

THE GRADE

- PVD-coated milling grade WHH15X
- HIPIMS technology for excellent coating adhesion and high degree of hardness
- AlTiN coating, optimised for hard machining
- Extremely smooth surface for the best chip removal and high surface quality
- Extremely wear-resistant carbide substrate

THE TOOLS

- Available for milling tools for copy milling and finish-milling, such as:
 - F2234 and F2231 round insert milling cutters
 - F2139 profile milling cutter
 - M5008 high-feed milling cutter
 - SDHX.., BCGX.. and LNHX.. wiper inserts

THE APPLICATION

- Can be used universally for finishing on ISO materials P, K and H
- Semi-finishing and finishing of hardened components up to 63 HRC
- Finish-milling of steel and cast iron workpieces when using wiper inserts
- Ideal for copy milling in mould and die making



Walter milling grade WHH15X

Fig.: P3204

BENEFITS FOR YOU

- Extra-long tool life (especially with hardness > 58 HRC)
- Highest surface quality thanks to wear resistance and edge stability
- Cost savings thanks to less manual rework when copy forming
- Finish machining of a component is possible with just one cutting edge

APPLICATION EXAMPLE Copy forming

Material: X155CrVMo12-1 (1.2379), ISO H (60 HRC)

Tool: F2139 / z2 / dia. 16 mm Indexable insert: P3204-D16 WHH15X

Cutting data:

	Competitors	Walter WHH15X
v _c (m/min)	120	120
f _z (mm)	0.1	0.1
a _p (mm)	0.5	0.5
a _e (mm)	0.5	0.5
Cooling	Dry	Dry



Maximum cost efficiency – truly universal.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- New indexable insert size RNMX1005M0
- Now also with Tiger tec® Silver PVD WSM35S grade
- Milling cutter dia. 25 mm with parallel shank or modular ScrewFit interface

THE TOOL

- Eight cutting edges thanks to double-sided basic shape
- Secure indexing using the flank face

THE APPLICATION

- Face milling and copy milling
- For steel, stainless steels and materials with difficult cutting properties
- Areas of use: Aerospace and energy industries (ideal for milling turbine blades)

THE GEOMETRIES

G57 - The universal one

- For medium machining conditions
- Can be used for most materials



K67 - The easy-cutting one

- For good machining conditions
- Low cutting forces
- Medium feeds





M2471 copy milling cutter

Fig.: M2471-025-T22-03-05

- High metal removal rate even when used on less powerful machines thanks to soft-cutting geometries and positive cutting characteristics
- Tiger·tec® Silver WSM35S and WSP45S grades:
 Can be used universally in ISO P, ISO M and ISO S materials
- Low cutting tool material costs due to sintered design and eight cutting edges
- High process reliability thanks to stable indexable inserts with secure indexing

Walter M4000 – high performance made universal.

SYSTEM EXPANSION

System insert SD ...

- Square, positive basic shape
- Different grades and geometries





Powered by **Tiger-tec***Silver

Now also in:

Tiger-tec[®]Gold

Can now also be equipped with the new WKP35G Tiger·tec® Gold grade for even longer tool life on steel and cast iron.



Shoulder milling cutters M4132



High-feed milling cutter M4002



Face milling cutter M4003

THE SYSTEM INSERTS

- 15° clearance angle
- Ground support face: Improves the seating of the indexable inserts in the insert seat and reduces vibration

Square indexable inserts:

- Can be used in face milling cutters, shoulder milling cutters, high-feed milling cutters, routing cutters, porcupine milling cutters, chamfer milling cutters and T-slot milling cutters
- Four cutting edges
- Circumference-sintered design for maximum cost efficiency
- Circumference fully ground with secondary cutting edges (45° + 90°) for best component surfaces

Rhombic indexable inserts:

- Can be used in shoulder milling cutters, routing cutters and porcupine milling cutters
- Two cutting edges
- Circumference-sintered design for maximum cost efficiency

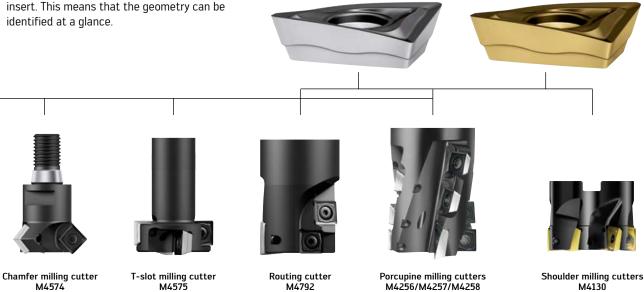
- High degree of cost efficiency and reduced procurement and inventory costs thanks to system insert which can be used universally
- $\,$ $\,$ Resource-saving thanks to CO2-compensated production through climate protection projects
- Low power requirement thanks to highly positive geometries
- CVD-coated grades (WKP25S, WKP35S and WKP35G) for steel and cast iron machining as well as for machining stainless steels and difficult-to-cut materials (WSM45X)
- PVD-coated grades (WKK25S, WSM35S and WSP45S) for machining steel and cast iron, stainless steels and difficult-to-cut materials

NEW FLANK FACE DESIGN FOR FASTER IDENTIFICATION

The number of waves on the flank face indicates the geometry: The more waves there are, the more positive the geometry of the indexable insert. This means that the geometry can be identified at a glance.

Leading insert LD...

- Rhombic, positive basic shape
- Different grades and geometries



Geometry		Main cutting		Material groups						
example	Areas of application	edge section	Р	М	K	N	s	Н	0	
	A57 – The special one - For unfavourable machining conditions - Maximum cutting edge stability - High feeds - No wave on the flank face	0°	•		••					
	D57 – The stable one - For medium machining conditions - Can be used universally - One wave on the flank face	10°\	••	••	••		••			
	F57 – The universal one - For good machining conditions - Low cutting forces - Medium feeds - Two waves on the flank face	16°	••	••	••		••			
	G88 – The sharp one - For machining aluminium - Low cutting forces - Sharp cutting edges - Three waves on the flank face	20"				••			•	

Four cutting edges for one-of-a-kind surfaces.

NEW

THE TOOL

- Face milling cutter with 45° approach angle and four-edged system insert
- Diameter range 20–160 mm (or 1–6")
- Available with parallel shank and bore adaptor
- Two insert sizes: SD..09T3.. and SD..1204..
- Depth of cut 4.5/6.5 mm

THE APPLICATION

- Face milling of steel, cast iron, stainless steels, non-ferrous metals and materials with difficult cutting properties
- Roughing, semi-finishing and finishing

THE INDEXABLE INSERTS

- Square system inserts with secondary cutting edges
- 15° clearance angle
- Circumference-sintered design for maximum cost efficiency
- Design with circumference fully ground for maximum precision
- Different geometries available
- Three CVD-coated grades: WKP25S, WKP35G and WSM45X
- Three PVD-coated grades: WKK25S, WSM35S and WSP45S

Powered by **Tiger-tec*Silver**

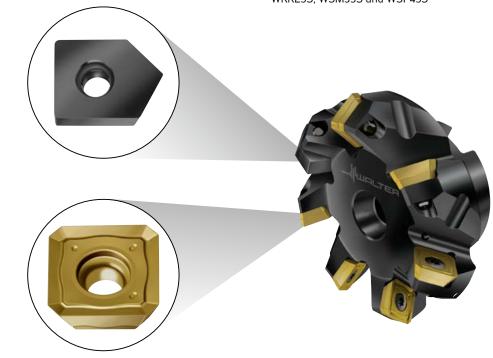


SDGT...-F57 WKP25S

Now also in:
Tiger-tec*Gold



SDGT...-F57 WKP35G

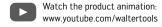


Walter M4000 face milling cutter

Fig.: M4003

- High degree of cost efficiency thanks to system insert which can be used universally
- Reduced procurement and inventory costs
- Four cutting edges per indexable insert
- Reduction of machining steps by combining roughing and finishing
- Resource-saving thanks to ${\rm CO_2}\mbox{-}{\rm compensated}$ production
- Low power requirement thanks to highly positive geometries





Four cutting edges for one-of-a-kind surfaces.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- SDET.. cermet indexable inserts

THE TOOL

- Dia. 20-160 mm (or 1-6")
- Available with parallel shank and bore adaption
- Two insert sizes: SD..09T3.. and SD..1204..
- Depths of cut: 4.5 and 6.5 mm

THE INDEXABLE INSERTS

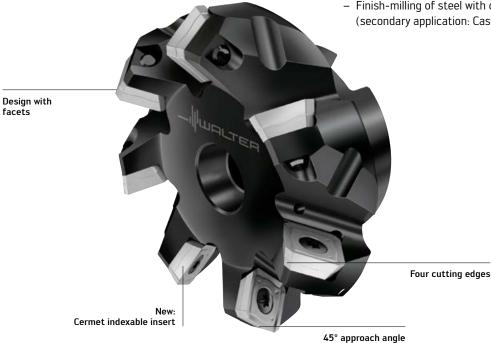
- Square system inserts with facets
- 15° clearance angle
- Circumference-sintered design for maximum cost efficiency
- Design with circumference fully ground for maximum precision

THE GRADES

- Three CVD-coated grades: WKP25S, WKP35G and WSM45X
- Three PVD-coated grades: WKK25S, WSM35S and WSP45S
- New: Uncoated cermet WEP20

THE APPLICATION

- Roughing, semi-finishing and finishing
- New: High gloss surfaces thanks to the use of cermet indexable inserts
- Finish-milling of steel with cermet cutting tool material (secondary application: Cast iron and stainless steels)



M4003 face milling cutter

Fig.: SDET1204AZN-F57 WEP20

- High degree of cost efficiency thanks to system insert which can be used universally
- Reduced procurement and inventory costs
- Reduction of machining steps by combining roughing and finishing
- Long tool life, with consistently high surface quality
- Low power requirement thanks to highly positive geometries
- $\,$ $\,$ Save resources thanks to CO2-offset manufacturing



Cost-efficient shoulder milling with M4000 system.

NEW

THE TOOL

- M4130 shoulder milling cutter with 90° approach angle
- Double-edged indexable insert
- Dia. 16-100 mm
- Depth of cut: 8/13/16 mm
- Available with Weldon shank and bore adaption

THE APPLICATION

- Roughing operation
- Shoulder milling, ramping, pocket milling and circular interpolation milling
- For steel, cast iron, stainless steel and materials with difficult cutting properties

THE INDEXABLE INSERTS

- Three indexable insert sizes with two cutting edges each (LDM.08T2.., LDM.14T3.., LDM.1704..)
- Rhombic basic shape with 15° clearance angle
- Circumference-sintered for maximum cost efficiency
- Three CVD-coated grades (WKP25S, WKP35G and WAK15)
- Three PVD-coated grades (WKK25S, WSM35S and WSP45S)
- Can also be used in routing cutters and porcupine milling cutters from the M4000 family

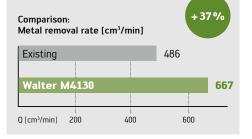
LDMT170408R-F57 WKP35G

APPLICATION EXAMPLE

Gripper clamp
Operation: Trimming

Material: 42CrMo4 (1.7225) ISO P

	Existing	Walter M4130 LDMT170408-D51 WKP35G
Dia. / z	63 / Z5	63 / Z6
v _c	182 m/min	250 m/min
f _z	0.24 mm	0.2 mm
v _f	1104 mm/min	1516 mm/min
ap	8 mm	8 mm
a _e	55 mm	55 mm





Walter M4000 shoulder milling cutter

Fig.: M4130, diameter 63

- High level of cost efficiency
- Reduced procurement and inventory costs
- Concept requiring minimum resources
- Low power requirement thanks to positive geometries
- CO₂-compensated production



Modular slot milling with maximum cost efficiency.

NEW

THE INDEXABLE INSERTS

- Circumference-sintered design for maximum cost efficiency
- 15° clearance angle

Square system inserts from the M4000 milling system:

- Four cutting edges
- For universal use in face, shoulder, chamfer and T-slot milling cutters and also as the leading insert in slot drill and porcupine milling cutters

Rhombic indexable inserts:

- Two cutting edges
- Can be used as a face insert in shoulder milling cutters, routing cutters and porcupine milling cutters

THE GRADES

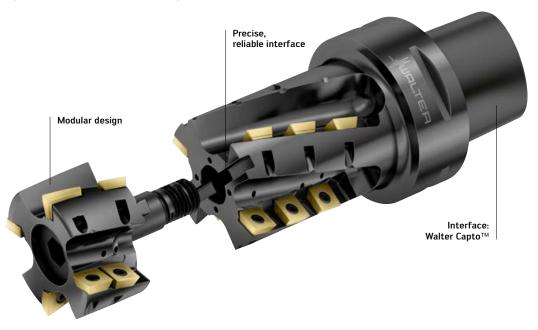
- Three CVD-coated grades (WKP25S, WKP35G, WKP35S) for machining steel and cast iron
- Three PVD-coated grades (WKK25S, WSM35S and WSP45S)

THE TOOL

- M4258 half effective porcupine milling cutter
- Modular design: Replaceable front piece
- Dia. 50-80 mm
- Interface: Walter Capto™ C6 and C8

THE APPLICATION

- For shoulder and slot milling
- For steel, cast iron, stainless steels and materials with difficult cutting properties



Porcupine milling cutter

Fig.: M4258

- Modular design: The front piece can be replaced when the face of the cutter body is worn
- High level of process reliability thanks to an internal coolant supply even in the front piece
- Reduced procurement and inventory costs
- High cost efficiency thanks to four or two cutting edges per indexable insert
- Low power requirement thanks to positive geometries
- Concept requiring minimum resources
- $\,-\,$ Walter Green: CO $_2$ -compensated production



THE GEOMETRIES

A57 – the special one:

- Unfavourable machining conditions
- Maximum cutting edge stability
- High feeds
- Straight border (no wave on the flank face)

D51 – the quiet one:

- Anti-vibration geometry
- For tools with long overhang
- One wave on the flank face

D57 – the stable one:

- Average machining conditions
- Can be used universally
- One wave on the flank face

F57 - the universal one:

- Good machining conditions
- Low cutting forces
- Medium feeds
- Two waves on the flank face





D51



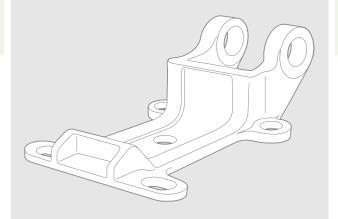


F57



APPLICATION EXAMPLE

Hinge - Slotting



Material: Tool:

ST-52, ISO P (1.0570) M4258 / Ø 50 mm / Z2

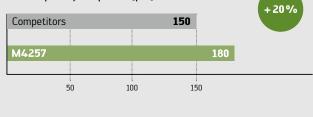
Indexable inserts: Cutting tool material: LDMT1170408-D57 / SDMT120408R-D57

WKP35G

Cutting data:

	Competitors	Walter
v _c	250 m/min	250 m/min
n	1590 rpm	1590 rpm
f _z	0.11 mm	0.225 mm
v_f	835 mm/min	715 mm/min
a _e	1.5 mm	3 mm
ap	37.5 mm	37.5 mm
Power requirement	3.0-4.5 kW	2.0-3.5 kW
Q	47 cm³/min	81 cm³/min

Tool life quantity comparison [pcs]





Watch the product video: www.youtube.com/waltertools

Machine large components efficiently.

NEW

THE CARTRIDGES

Cartridges for the F2010 face and shoulder milling cutter and indexable inserts from the M4000 system:

- F2010...R756M for SD..09; Approach angle [κ] 89.5°
- F2010...R757M for SD..12; Approach angle [κ] 89.5°
- F2010...R755M for SD..12; Approach angle [κ] 15°
- F2010...R758M for SD..1204AZN..; Approach angle [κ] 45°

THE TOOL

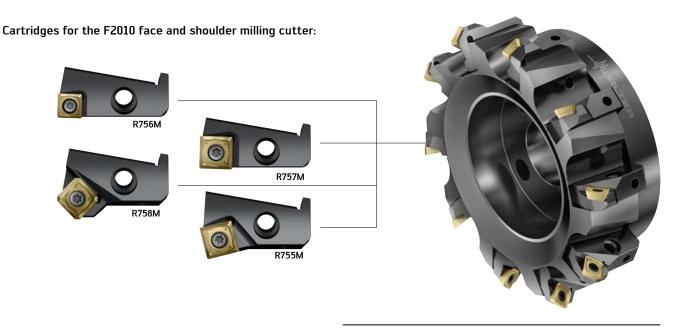
- Dia. 80-315 mm
- Replaceable cartridges
- Bore adaption
- Runout adjustable

THE APPLICATION

- Shoulder, face or high-feed milling
- Steel and cast iron workpieces, stainless steels, materials with difficult cutting properties, aluminium and non-ferrous metals
- Areas of use: Automotive and aerospace industries, general mechanical engineering, etc.

THE INDEXABLE INSERTS

- Square system inserts
- Can be used in face, shoulder, chamfer, porcupine and T-slot milling cutters and routing cutters
- Circumference-sintered design for maximum cost efficiency
- Design with circumference fully ground for maximum precision
- Four cutting edges
- 15° clearance angle



Face milling cutter

Fig.: F2010

- High metal removal rate, even on low-performance machines, due to soft cutting action thanks to positive geometry
- Excellent surface quality when finishing thanks to adjustable runout
- High level of flexibility thanks to replaceable cartridges and large diameter range

Face milling with high process reliability.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

Cartridges for the F2010 face milling cutter and indexable inserts from the M3024 family:

- F2010...R759M for XN.U0705
- Dia. 80-315 mm
- Replaceable cartridges
- Bore adaption
- Runout adjustable

THE INDEXABLE INSERTS

For roughing:

XN.U0705.. and XNMU0906..

- Double-sided indexable insert with 14 cutting edges
- Positive cutting edge geometry
- Version with secondary cutting edge: XN.U0705ANN... and XNMU0906ANN...
- Version with corner radius: XNMU070508... and XNMU090612...

New: FR759M cartridge for the F2010 face milling cutter (and XN.U0705 indexable inserts)

THE TOOL

- M3024 Walter BLAXX 45° face milling cutter
- Maximum depth of cut 4 or 6 mm
- Dia. 40-160 mm (or 3/4-12")
- Protected against corrosion and wear by special Walter BLAXX surface treatment

THE APPLICATION

- Face milling in all steel and cast iron workpieces as well as in stainless steels
- Perfect for machining components in mass production, such as exhaust turbochargers
- Areas of use: General mechanical engineering and other sectors

Versions available with secondary cutting edge or corner radius





14 cutting edges

Powered by Tiger-tec*Silver

Walter BLAXX

Now also in: **Tiger-tec*Gold**

Cartridge for F2010 and Walter BLAXX heptagon face milling cutter

Fig.: M3024

BENEFITS FOR YOU

- High level of efficiency, even on low-performance machines
- Soft cutting action and high metal removal rate thanks to positive cutting edge geometry
- High level of process reliability thanks to stable indexable inserts
- Carbide shim provides an optimum support face and a high feed per tooth
- High surface quality when finishing and high level of flexibility thanks to replaceable cartridges and large diameter range



Watch the product video: www.youtube.com/waltertools

Productive face milling with 16 cutting edges.

NEW

THE TOOL

- M2029 finishing face milling cutter with 45° lead angle
- Available as semi-standard
- Dia. 50–160 mm (or 2–6")
- Face cutting length 4 mm
- Double-sided, tough indexable insert

THE INDEXABLE INSERT

- Double-sided standard insert with 16 cutting edges
- 0.8 mm corner radius
- Circumference fully ground: ONHU050408-F57 and ONHU050408-F67
- Sintered: ONMU050408-D57 (also suitable for roughing)

THE APPLICATION

- Roughing and finishing (including unstable cast steel workpieces)
- Cast iron and steel materials,
 e.g. GG25, 42CrMo4, 1.4837
- Areas of use: Automotive industry, general mechanical engineering, etc.



Octagon finishing face milling cutter

Fig.: M2029

BENEFITS FOR YOU

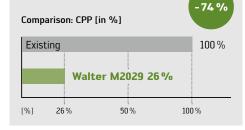
- High process reliability due to stable indexable insert
- Low cutting material costs due to 16 cutting edges
- Soft cutting action due to positive cutting edge geometry
- Can be used universally due to Tiger·tec® Gold and Tiger·tec® Silver cutting tool materials
- Maximum productivity and tool life

APPLICATION EXAMPLE Finishing – Turbocharger flange surface

GX40CrNiSi22-10 (1.4826+Nb) ISO M

Material:

Walter M2029 Existing (octagon) Dia. 100 100 z 8 + 2 137 m/min 165 m/min 0.26 mm 0.31 mm 916 mm/min 1325 mm/min 0.35 mm 0.35 mm ap 90 mm 90 mm Tool life 36 parts 80 parts



Cost-effective roughing with soft cutting action.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

 Sintered indexable inserts for roughing LNMU090404R-L55T and LNMU130608R-L55T

THE INDEXABLE INSERTS LNMU090404R-L55T

 Available in Tiger·tec® Gold grade WKP35G and Tiger·tec® Silver grades WKP25S, WSP45S and WKK25

LNMU130608R-L55T

- Available in Tiger·tec® Gold grade WKP35G and Tiger·tec® Silver grades WKP25S, WKP35S, WSP45S, WKK25
- Four cutting edges per indexable insertSoft-cutting indexable insert geometries thanks to helical cutting edges

THE TOOL

- Can be used in Walter BLAXX F5041 and F5141 shoulder milling cutters and in F2010 cartridge cutters
- Can be used in Walter BLAXX F5038 and F5138 porcupine milling cutters
- Dia. 25-315 mm

THE APPLICATION

- Roughing of shoulders and end faces
- Steel, cast iron, stainless steels and materials with difficult cutting properties
- Areas of use:
 Automotive industry,
 aerospace industry,
 general mechanical
 engineering



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Now also in:
Tiger-tec[®]Gold

Walter BLAXX shoulder milling cutters

Fig.: F5141

- Extremely reliable due to stable tangential indexable insert
- High degree of cost efficiency thanks to more cutting edges per diameter
- Soft cutting action and up to 30% higher feed per tooth

Machine specialist for wrought aluminium alloys.

NEW

THE TOOL

- M2331 90° ramping milling cutter for HSC milling
- Maximum depth of cut 15 mm or 20 mm
- Dia. 32-50 mm or 1.5-2"
- High concentricity
- Finely balanced basic body
- With different interfaces such as HSK for Makino machines, ScrewFit or bore adaption
- Extremely high speeds are possible

THE APPLICATION

- Non-ferrous metals (ISO N) such as wrought aluminium alloys or aluminium-lithium alloys
- Machining of structural components in aircraft construction
- Rough milling and semi-finishing of pockets with high chip volume
- Can be used at extremely high speeds (e.g. for $D_c = 50$ mm; n = 33,000 rpm

THE INDEXABLE INSERTS

- Two indexable insert sizes with various corner radii ZDGT15A4...R-K85 ($r=0.4-4.0\ mm$) ZDGT20A5...R-K85 ($r=0.8-6.4\ mm$)
- Positive basic shape with special geometry for pocket milling
- Centrifugal force protection at the contact surface for HSC machining
- Indexable inserts in grade WMG40



Walter ramping milling cutter

Fig.: M2331

- High level of process reliability even at maximum speeds thanks to centrifugal force protection
- Short machining times thanks to maximum metal removal rate
- Long tool life due to minimised build-up on the cutting edge
- Machine-specific variants of milling cutters are available (Makino)

90° shoulders with eight-edged indexable insert.

NEW

THE TOOL

- Face/shoulder milling cutter with 90° lead angle
- Depth of cut 6.5 mm
- Dia. 50-160 mm (or 2-6")

THE APPLICATION

- For all cast iron workpieces
 (e.g. GG25, GG26Cr, CGI, etc.)
- For face and shoulder milling
- For roughing and finishing
- Areas of use: Automotive industry, general mechanical engineering, etc.

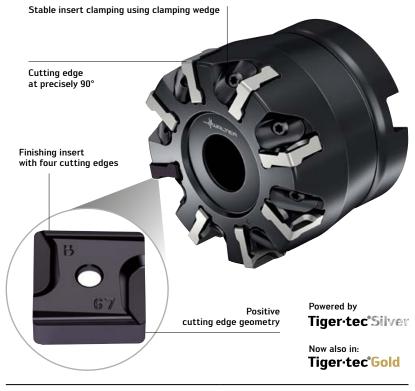
THE INDEXABLE INSERTS

Roughing inserts:

- Double-sided indexable insert with eight cutting edges
- With corner radius and secondary cutting edge
- Tiger·tec® Gold and Tiger·tec® Silver cutting tool materials for maximum tool life
- Insert type SNEF120408R...

Finishing inserts:

- SNEX1204PNR-B67 for surface structures with cross-section cut
- SNEX1204PNN-A27 for homogeneous surface structures



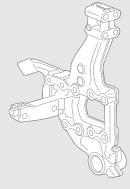
Close pitch cutter

Fig.: M2136

BENEFITS FOR YOU

- High process reliability due to stable, wedge-clamped indexable inserts
- Low cutting material costs thanks to indexable inserts with eight cutting edges
- Soft cutting action due to positive cutting edge geometry
- Maximum productivity thanks to cutting tool materials that can be used universally

APPLICATION EXAMPLE Toolholder, face milling top side



Material: EN-GJS-500-7 (GGG50 - 0.7050), ISO K

Existing	Walter M2136
7	12
226 m/min	226 m/min
0.286 mm	0.218 mm
1800 mm/min	2350 mm/min
3-5 mm	3–5 mm
75 mm	75 mm
	7 226 m/min 0.286 mm 1800 mm/min 3–5 mm

Comparison: Machining time [min]

Existing

2,54

Walter M2136

1,36

[min]

1,0

1,5

2,0

2,5

Reliable parting and slitting.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- Attachment variant now also with one-inch locating bore
- F5055.UBN...

THE INDEXABLE INSERTS

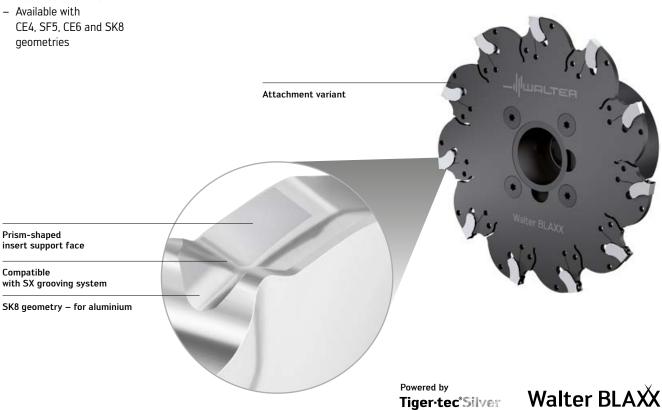
- Single-edged indexable insert
- Cutting widths:1.5/2.0/3.0/4.0/5.0 mm

THE APPLICATION

- Cutting off and slitting of: Steel and cast iron, stainless steels, non-ferrous metals and materials with difficult cutting properties
- Areas of use: General mechanical engineering, automotive industry, aerospace industry, etc.

THE TOOL

- Walter BLAXX F5055 slitting cutter
- Dia. 63-250 mm (2.48-6.3")
- Non-positive and positive-locking insert clamping
- Optimised top clamp with extremely high retaining forces



Walter BLAXX slitting cutter

Fig.: F5055.UBN..

- Optimal process reliability as the machining force is introduced into the most rigid part of the insert seat
- High level of radial and axial runout accuracy
- User-friendly indexable insert self-clamping system
- Low inventory costs thanks to universal system inserts (can be used in slitting cutters and groove turning holders)

Controlled cutting – even with large dimensions.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

- F5055 slitting cutter with single-edged insert
- Dia. 500 mm
- Cutting width: 5.0 mm
- Number of teeth: z = 40
- FS2290 ergonomic mounting wrench

THE INDEXABLE INSERTS

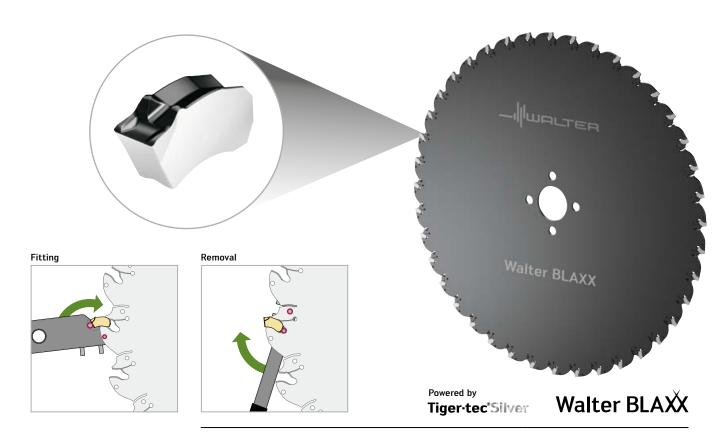
- Single-edged
- Cutting width: 5.0 mm
- Available geometries: CE4, SF5, CE6 and SK8

THE APPLICATION

- Cutting and slitting: Steel and cast iron, stainless steels, non-ferrous metals and materials with difficult cutting properties
- Areas of use: General mechanical engineering
 (e.g. cutting of large-volume workpieces on sawing machines)

THE TOOL

- Walter BLAXX F5055 slitting cutter
- Dia. 63-250 mm (2.48"-6.3"); NEW: 500 mm
- Non-positive and positive-locking insert clamping
- Optimised top clamp for extremely high retaining forces



Walter BLAXX slitting cutter

Fig.: F5055

- Brazed saw blades replaced by a cost-efficient indexable insert solution
- $\,$ High flexibility thanks to wide selection of geometries to choose from
- Inserts are easy to change thanks to FS2290 ergonomic mounting wrench (resulting in an approximately 40% saving on set-up times)

Reduce unit costs with the defined cycle time.

SPECIAL TOOL

THE TOOL

- Slotting cutter set with double-sided indexable inserts
- Cutting diameter $D_c = 220$ mm, $z = 2 \times 24$
- Customer end mill adaptor HSK 125-C

THE INDEXABLE INSERT

- Precision-ground indexable insert
- Double-sided with eight cutting edges
- Soft-cutting geometry with positive rake angle

THE APPLICATION

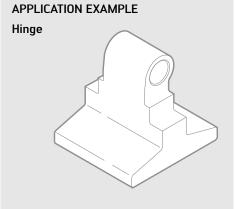
- Roughing hinges made of structural steel
- Milling the workpiece height from two sides
- For use on multi-spindle machines with a very short cycle time



Powered by Tiger-tec*Gold

Custom slotting cutter for trimming

Fig.: SNMX090408-F57

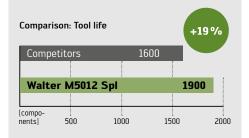


Material: S355J0 (1.0570) – ISO P

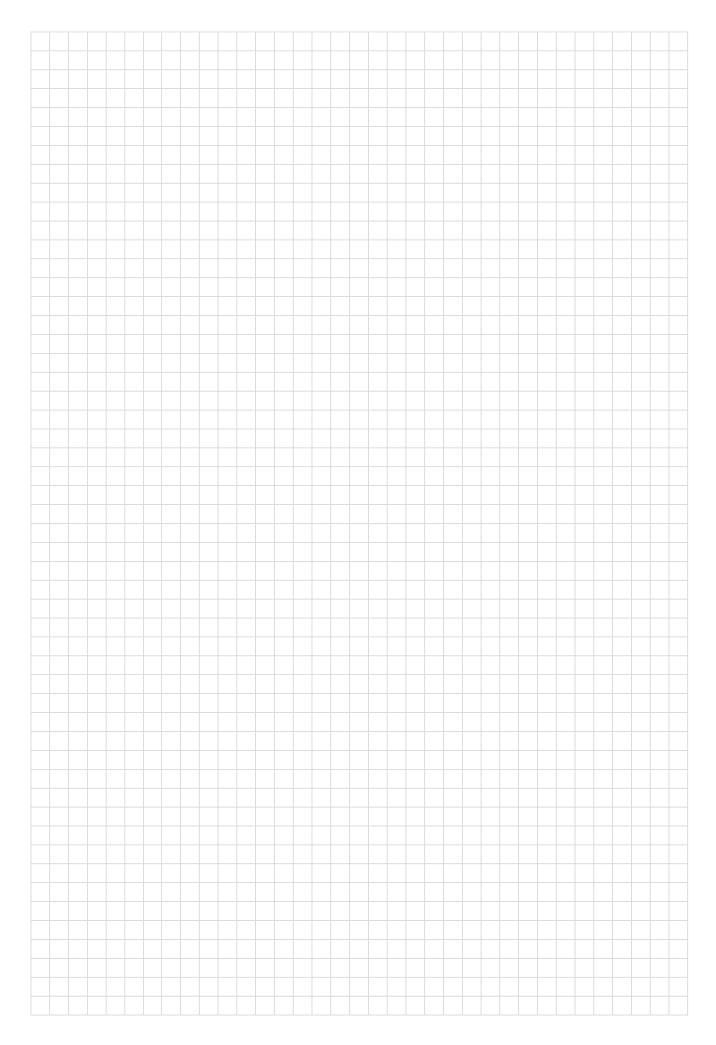
Machine: Multi-spindle machine

Cutting data:

-	Competitors	Walter M5012 Spl
v _c (m/min)	200-250	200-250
f _z (mm)	0.1-0.2	0.1-0.2
Tool life	1600	1900



- Low cutting material costs due to eight cutting edges
- High availability thanks to standard indexable insert
- Simple installation thanks to good accessibility of the indexable insert
- Reduced inventory costs thanks to a long tool life
- Low unit costs due to the specified cycle time



Our solutions for components.

High-performance complete package from a single source

With Multiply Production Solutions, you benefit from efficient and smooth production processes that increase your competitiveness: From analysis and planning right up to implementation of a cost-effective machining strategy – all from a single source!

TOOLS

All process steps are determined by us, including the optimum tool selection for your application plus suitable cutting data for the materials that users want to machine.



SOFTWARE SOLUTIONS

Various software solutions are used to evaluate existing processes for optimisation, such as Comara with iCut and sysCut modules.



INSTALLATION AT THE CUSTOMER'S PREMISES

Our process engineers also assist with installation and the start of series production in your production environment. Our role only ends once successful installation on your machine is complete. After successful installation, we hand over detailed documentation of the process steps.

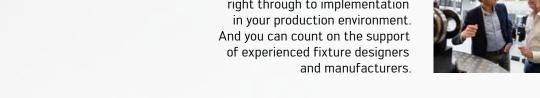


FIXTURE CONSTRUCTION

We help you with the planning, design and production of fixtures right through to implementation And you can count on the support of experienced fixture designers







Our portfolio for you

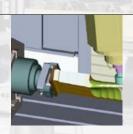
- Project planning
- Planning new processes
- Complete optimisation of existing machining processes
- CAD/CAM programming and simulation
- Design and procurement of fixtures
- Running in and optimising machining processes
- Support up to the start of mass production

CNC PROGRAMS AND POST-PROCESSOR



Whether it is parameter, multi-channel or structure programming, our programs are created in a wide range of different systems – such as Catia, Siemens NX, hyperMILL, RCS, MF and CrashGuard Studio. Post-processor adjustment takes place in Siemens NX. It can, however, also be implemented for other systems, machines and kinematics.

SIMULATION



We use VERICUT for collision and interference contour analysis to check the NC codes after the post-processor step. This enables us to model a wide range of different kinematics.

PLANNING



With Walter Multiply, customers benefit from sophisticated product solutions resulting from many years of experience and expertise. For efficient and smooth production processes: From analysis, to implementation, right through to the machining strategy.

PROTOTYPE PRODUCTION



Optimisation of the production process in ongoing operation is not feasible for many companies. In the Walter Technology Centre, we can analyse processes step by step and test improvements under realistic conditions.





Watch the video now! www.youtube.com/waltertools

YOUR PRODUCTION PROCESS AT A GLANCE – TRANSPARENT AND IN REAL TIME

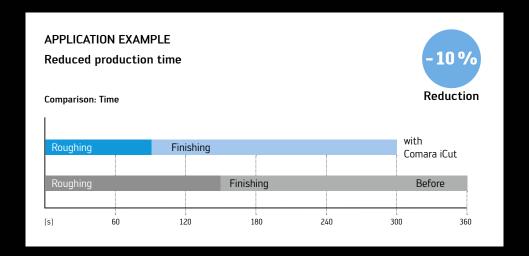


THE SOFTWARE

The intelligent Comara iCut intervenes in the machining process in real time. The entire machining process is carried out at the optimum feed rate.

Comara iCut measures the spindle output up to 500 times per second and automatically adjusts the feed to the current cutting conditions.

As fast as possible, as slowly as necessary. In every situation. With a unique reaction time.



- Average ROI: Less than six months
- Increased process reliability
- Useful tool on the path to unmanned production environments
- Easy operation of several machines
- Better/longer use of the tools
- Can prevent tool breakage or overstraining
- "Learns" a maximum output value for each tool and does not exceed it
- More even tool deflection for roughing applications
- Better contour parallelism for finishing





Comara appCom – the intuitive production assistance system for your machinery

Comara appCom collects, analyses, visualises and interprets comprehensive machine and production data.

Comara appCom can be used for a wide range of control systems regardless of the machine manufacturer, such as Siemens, Fanuc, Heidenhain, OPC-UA, etc.



BENEFITS FOR YOU

- Transformation of downtime into value-adding time
- Continuous recording of each component's operating time
- Allows multiple machine operation and unmanned shifts
- You are immediately notified of any abnormalities in real time
- No longer any need for manual notifications and time-consuming, complex analysis
- Live analysis, not just retrospectively at the end of the month
- Automatic monitoring of a wide range of values with immediate notification

For more information, visit: http://www.comara.de/en/

D - Adaptors

Stationary adaptors

Walter Capto™ adaptors	A2120-C/A2121-C axial/radial adaptor	198	
Adaptors	A2140 boring bar adaptor		
Rotating boring bars/adaptors	AC001 and AC060 vibration-damped boring bars/adaptors	200	
	AB735 synchronous ER threaded insert	202	
	ScrewFit adaptor	203	
Thread cutting chuck	AB035 synchronous thread cutting chuck		
Adaptor sleeves	SL00 adaptor sleeves	206	
Rotating adaptors	GL00 ER cooling nozzle	207	



Walter Capto[™] adaptors with direct coolant transfer.

NEW

THE APPLICATION

- Walter Capto[™] shank adaptor in accordance with ISO 26623
- For shank tools with precision cooling

THE ADAPTOR

- A2120-C/A2121-C shank adaptors
- For 20 mm and 25 mm square shanks
- Axial and radial versions
- Direct coolant transfer for shank tools with internal coolant

THE INTERFACES

Walter Capto[™] C5 and C6



Axial/radial adaptors for square shanks

Fig.: A2120-C / A2121-C

- Easy handling thanks to plug-and-play solution
- Increase in the service life of the tool and the cutting edge, as well as improved chip formation, thanks to precision cooling
- Reduction of downtime

Short and sweet – extreme stability.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

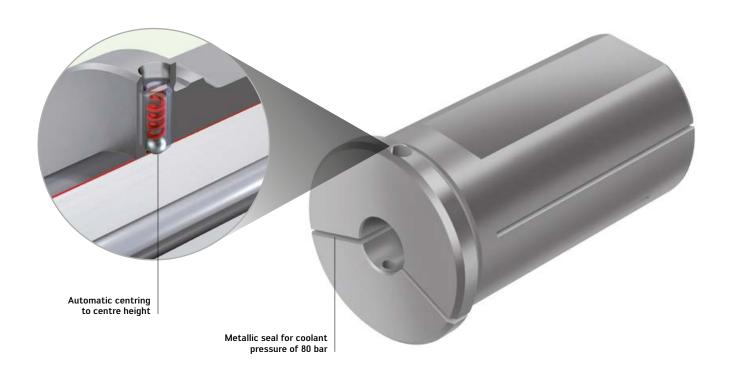
 AK600... is being replaced by A2140-...

THE TOOL

- A2140... adaptor for round shank boring bars using a spring-loaded ball to automatically set the centre height
- Completely enclosed cylindrical shank boring bars (-R) for maximum stability
- Lengths adjusted for VDI boring bar adaptors
- Outside dia.: 25, 32, 40 mm
- Inside dia.: 6, 8, 10, 12, 16, 20 mm

THE APPLICATION

- Internal turning
- Simple, stable boring bar clamping for cylindrical shank without flats
- Machining operations with vibration tendency
- Can be used up to a coolant pressure of 80 bar thanks to metallic seal



Boring bar adaptor Fig.: A2140

- Excellent workpiece surfaces due to exact alignment of the centre height for vibration-free machining
- Automatic alignment of the centre height saves time during tool changes
- One adaptor for solid carbide and steel boring bars

Accure-tec – vibration-free machining with long milling tools.

NEW ADDITION TO THE PRODUCT RANGE

- Accure-tec AC060 vibration-damped ScrewFit adaptors for milling
- For tools with ScrewFit interface T18, T22, T28
- Conical design

THE TOOL

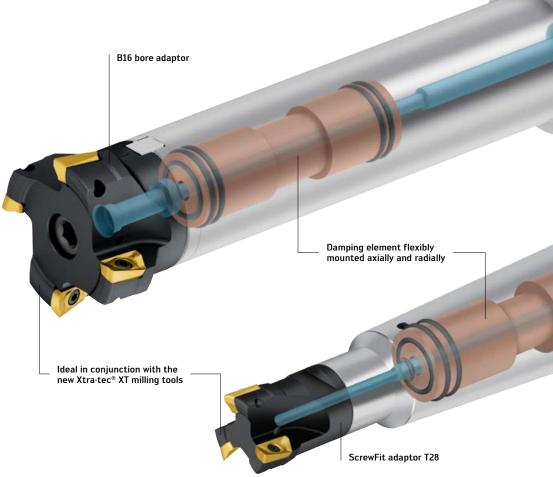
- Accure tec AC001 vibration-damped inch adaptors for milling with CAT-V-interface and patented vibration damping
- For shell end milling cutters with tenon in accordance with DIN 138
- Cylindrical and conical versions
- High rigidity
- Internal coolant supply
- Concentricity < 5 μm

THE INTERFACES

- Walter Capto™
- HSK-A
- SK
- MAS-BT
- CAT-V
- ScrewFit

THE APPLICATION

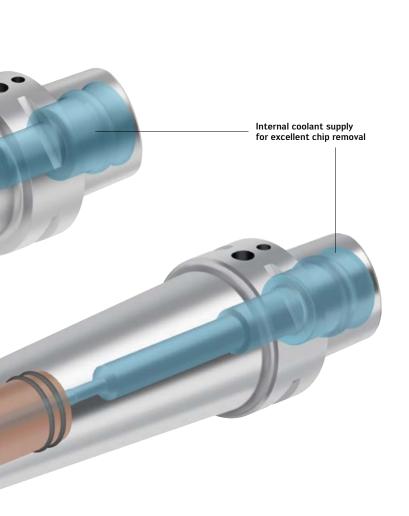
- Machining deep pockets
- Machining complex one-piece workpieces
- Long overhangs of up to $5 \times D$ are possible
- Areas of use: Mould and die making, aerospace industry, general mechanical engineering, automotive and energy industries

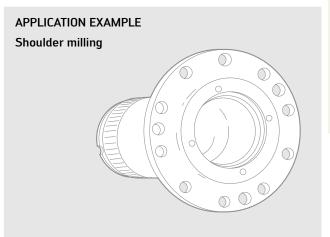




Vibration-damped end mill adaptors

Fig.: AC001-C6-B16-160, AC060-C6-T28-235





Material: 42CrMo4

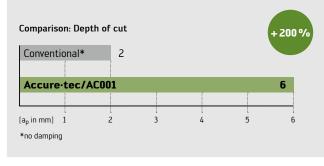
Adaptor: AC001-H100-B27-320

Tool: M5130 | Ø63 | Z4

Machine: GROB G550

Cutting data:

	Conventional undamped	Accure·tec/AC001 damped
v _c (m/min)	120	120
n (rpm)	606	606
f _z (mm)	0.2	0.2
v _f (mm/min)	485	485
a _e (mm)	25	25
a _p (mm)	2	6
Q (cm³/min)	25	73
R _a (μm)	1.07	0.75



- High level of productivity, process reliability and surface quality
- Long tool life of tool and spindle
- Vibration damping "preset" at the factory (no time lost tuning)
- Stable process producing little noise
- Depth of cut up to three times higher (compared to conventional methods)
- Optimum chip removal thanks to internal coolant supply

Minimise axial forces - make the most of your tool's performance.

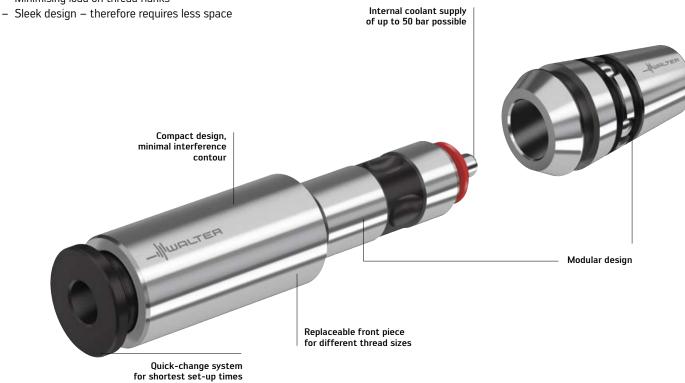
NEW

THE ADAPTOR

- AB735 synchronous threaded insert for axial movement and pressure compensation
- Can be used in all common ER collet chucks
- In sizes ER16 to ER32
- For all tool types with and without internal coolant

THE APPLICATION

- Compensating synchronisation errors
- Avoiding high axial forces
- Minimising load on thread flanks



Synchronous threaded insert

Fig.: AB735-ER20 AB735-ER20-R060-035



Watch the product video: www.youtube.com/waltertools

- Low investment costs thanks to modular design
- Increased tool life and process reliability
- Higher productivity thanks to faster tool changing
- Low-maintenance; lower risk of tool breakage
- Saves costs as fewer tools required

ScrewFit – the adaptor for the new Xtra-tec® XT M5130 shoulder milling cutters.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

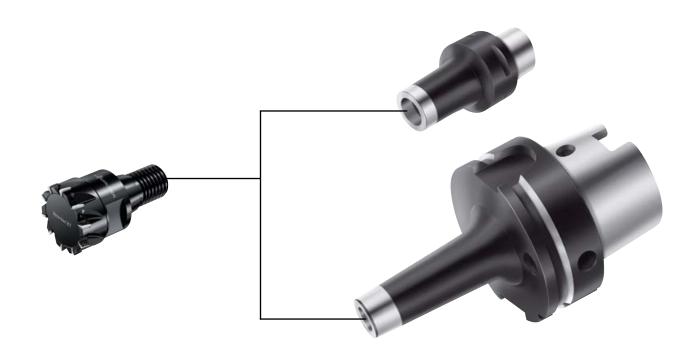
- ScrewFit adaptor AK530.H100A...
- ScrewFit adaptor AK580.C8...

THE ADAPTOR

- Walter Capto™ C8... for T09, T14, T18, T22, T28, T36, T45
- HSK 100A.. for T09, T14, T18

THE APPLICATION

- On machining centres, lathes and multi-task machines
- Holemaking and milling operations



 $\textbf{Xtra} \cdot \textbf{tec}^{\texttt{@}} \ \textbf{XT} \ \textbf{M5130} \ \textbf{shoulder} \ \textbf{milling} \ \textbf{cutter} + \textbf{ScrewFit} \ \textbf{adaptors}$

Fig.: M5130, AK530.H.., AK580.C...

- Short and tough
- High concentricity for longer tool life and better surfaces
- High rigidity for reduced vibration
- High repeat accuracy
- Easy tool changes in the machine

Control the pressure forces – make the most of your tool's performance.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

Interfaces:

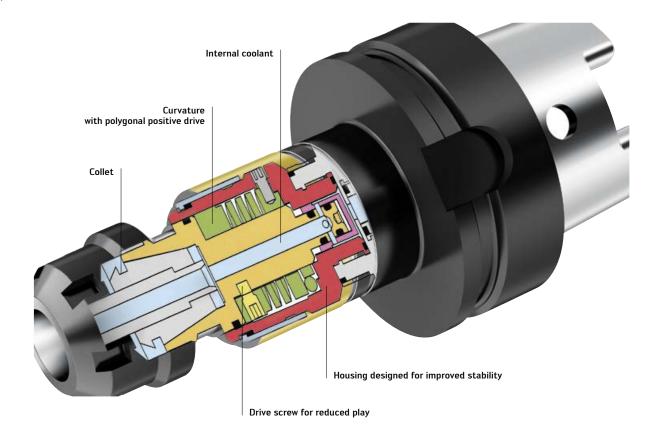
- Walter Capto™
- C4, C5, C6

Other available interfaces:

- HSK63
- HSK100
- BT30/40/50
- SK40/50
- DIN 1835 B/E combi-shank
- NCT

THE TOOL

- Synchronous thread cutting chuck for optimal use of modern high-performance tools with tapping collets according to DIN 6499
- Patented micro-compensator made of a specially developed alloy
- Integrated minimum compensation in axial and radial directions
- MQL variant available on request



AB035-H

- Compensates for axial changes in position within a range of ± 0.5 mm
- High process reliability thanks to the reduced risk of fracture (particularly where dimensions are small)
- Longer threading tool life due to less friction

APPLICATION EXAMPLE Tool life comparison in tool steel Tool steel 1.2344 Material Tensile strength 1100 N/mm² Cooling 5% emulsion 12 m/min M6 – 12 mm deep Thread Comparison: Tool life quantity [units] Weldon, rigid Competitors – Synchronous chuck 245 315 [Units] 100 200 300

THE APPLICATION

- Synchronous machining
- Suitable for taps and thread formers
- Also for high cutting speeds
- Can be used on all conventional machining centres



Adaptors with Walter Capto $^{\text{\tiny{TM}}}$ HSK, MAS-BT and SK interface

 $\textbf{Fig.:} \ \mathsf{AB035...} \ \mathsf{synchronous} \ \mathsf{chuck}$

Clamp inch tools with a precise fit.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

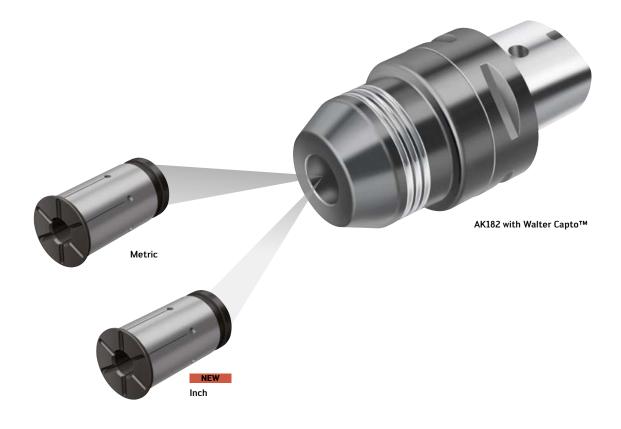
 SL00.. adaptor sleeves in inch dimensions, for the AK182 hydraulic expansion chuck for clamping diameters of 12 mm, 20 mm, 32 mm

THE ADAPTOR

- Adaptor sleeves for inch tools
- Reduction of hydraulic expansion clamping diameters 12 mm, 20 mm, 32 mm
- Dia. 1/8"-1"

THE APPLICATION

- Clamping of inch tools with a precise fit
- For tools with shank in accordance with DIN 1835 form A



SL000.. adaptor sleeve Fig.: SL000..

BENEFITS FOR YOU

- High concentricity for a longer tool life
- High repeat accuracy when using inch tools
- Optimum machining results thanks to high accuracy of fit

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Optimise tool life and lubrication.

NEW

THE COOLING NOZZLE

- GL00.. ER cooling nozzle
- For collets ER16, ER20, ER25, ER32
- For ER collets with:

Tool dia. 3-10 mm - ER16

Tool dia. 6–12 mm – ER20

Tool dia. 6–16 mm – ER25

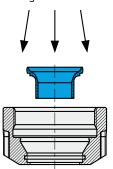
Tool dia. 6-16 mm - ER32

THE APPLICATION

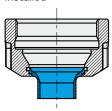
- Can be used for all ER collets in accordance with DIN 6499
- Holemaking, threading, milling
- For tools without internal coolant
- Targeted cooling along the cutting edge

THE HANDLING





Installed

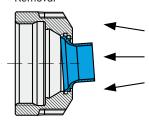


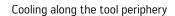


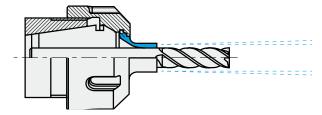
ER cooling nozzle

Fig.: GL00..

Removal







Watch the product video: www.youtube.com/waltertools

- Better cooling and lubrication
- Longer tool edge life
- Improved chip removal

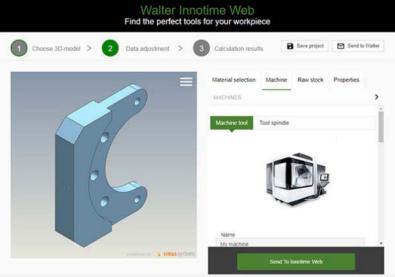
High-speed component design – digital and transparent.

THE APPLICATION

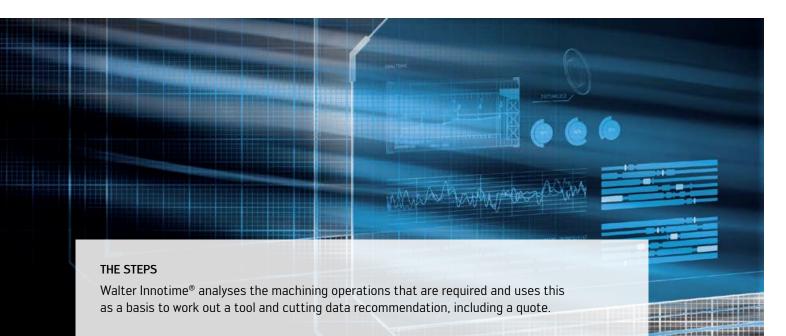
With Walter Innotime®, you can find the right machining solution for your component in no time at all – simply by uploading a 3D model of your component! From this model, Walter Innotime® generates a recommendation of all the tools required for production, as well as the associated machining parameters. This recommendation is then validated by our expert Walter technicians and engineers.

Walter Innotime® significantly speeds up the design process, as the time taken to receive a quote is reduced from days to mere hours.





The Walter Innotime® digital design wizard makes it possible to determine, based on the specific material and machine, all the tools required to produce a component – including number, costs and cutting parameters.



1 Upload 3D model

- Simply using drag and drop all common file formats can be imported
- Define the material and the machine
- Add additional details if required (such as tolerances, thread forms, etc.)

2. Define the areas to be machined

- Walter Innotime® analyses the component and determines the areas to be machined and the machining steps
- Walter Innotime® uses the component analysis, machining steps, material and machine to calculate the most cost-effective tool solution

The result: Individual machining solution*

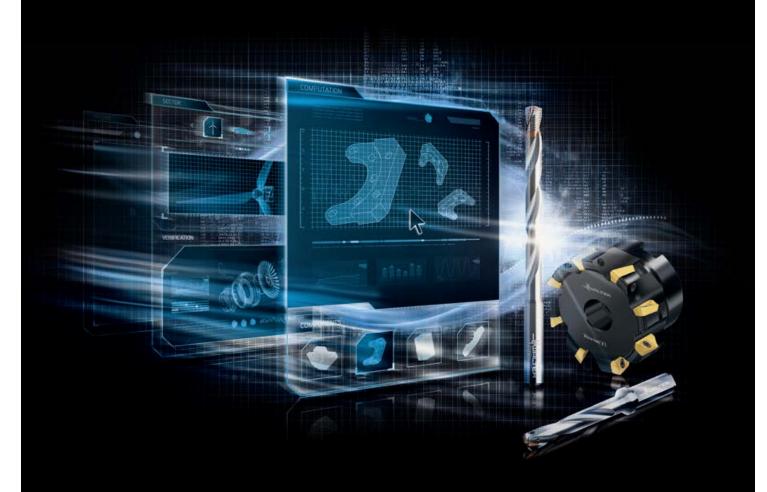
- The most cost-effective machining solution is suggested:
 Which tools are required and how many?
- Every tool including the most important machining parameters (e.g. feed, depth of cut and cutting speed)
- You receive a valid quote in no time at all (with a hole and surface plan, if requested)
- *Final verification by our sales engineers in the current version

BENEFITS FOR YOU

- All required tools (including number, price and machining parameters) in no time at all
- User-friendly drag-and-drop interface:
 Simply upload the 3D data for your component and obtain your tool solution in just a few steps
- Support for all common 3D formats
- Obtain a valid quote in a fraction of the time it usually takes
- Benefit from Walter Engineering Kompetenz 24/7

www.innotime.walter

Walter Innotime[®] High-speed component design.

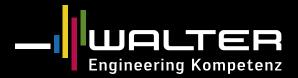


Get the best tool solution for your component in next to no time.

With Walter Innotime®, you can take your component design to the next level. This digital interface to Walter Engineering Kompetenz provides an overview of all required tools and machining parameters based on the 3D model of your component.

Cost-efficiency becomes simple and intuitive - with Walter Innotime®.

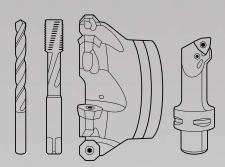




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