WALTER
Engineering Kompetenz

Turning, holemaking, threading, milling

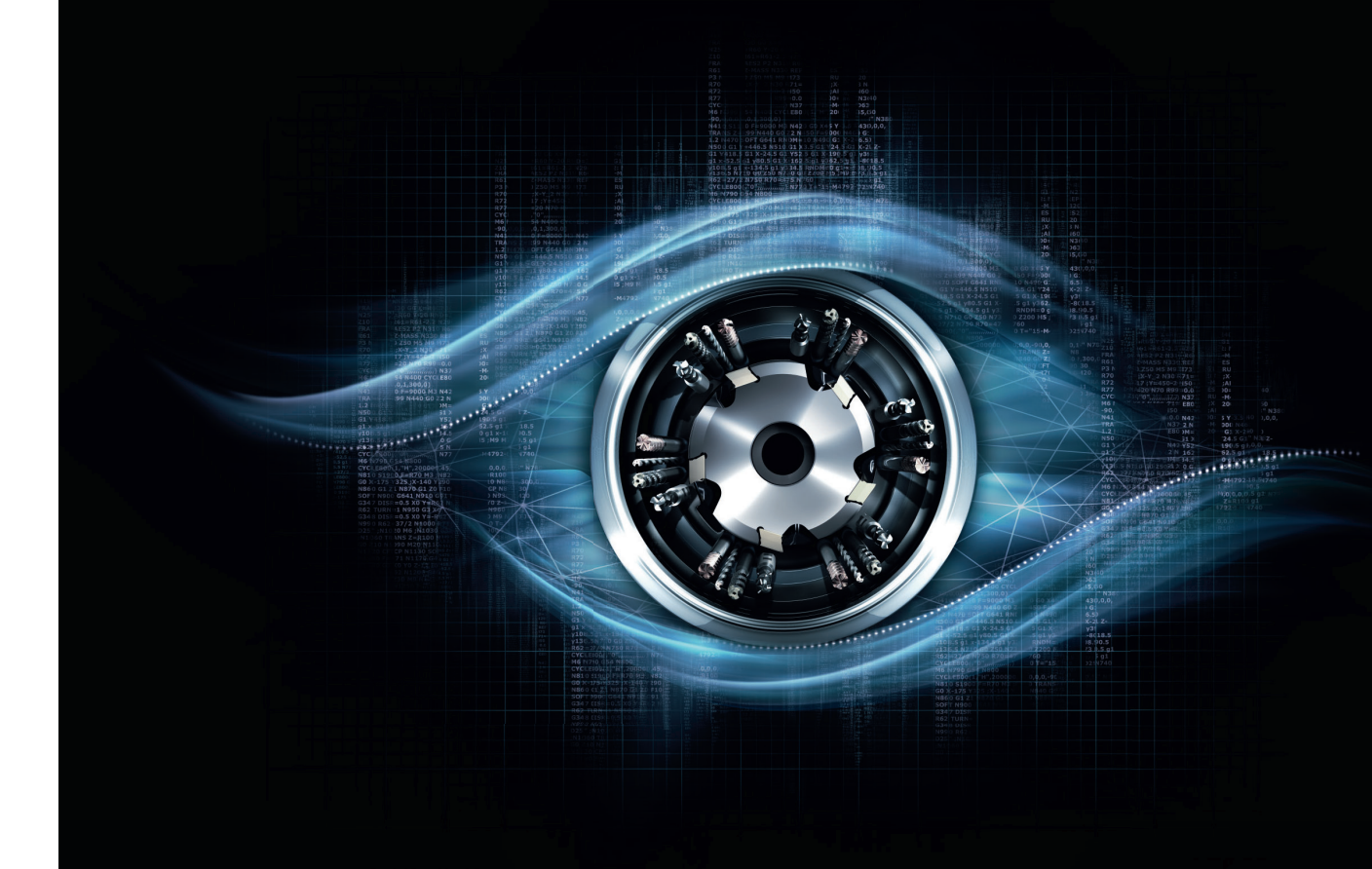
Product highlights
Edition 2019

_XTRA·TEC® XT

Performance and reliability extend your perspective.

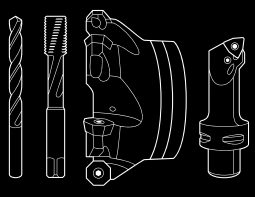
Walter Nexxt

Your production environment at a glance – transparent and in real time



New perspectives for Industry 4.0

You go through your production environment with open eyes. Take us with you. Digitally networked machining can offer you new insights. And real transparency. From the use of tools and machines to logistics. So you always have detailed information in real time. And to keep you up to date: Walter Nexxt.



walter-tools.com

WALTER
Engineering Kompetenz

Walter highlight flyer

Table of contents

A – Turning

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

NEW

THE INDEXABLE INSERT

- Single-sided indexable insert for maximum stability
- Basic shapes:
  - CNMM4, CNMM5, CNMM 6 (CNMM12, CNMM16, CNMM19)
  - DNMM4 (DNMM15)
  - SNMM4, SNMM5, SNMM6, SNMM8 (SNMM12, SNMM15, SNMM19, SNMM25)
- Corner radii: 0.031", 0.047", 0.062", 0.093" (0.8, 1.2, 1.6 and 2.4 mm)

THE GRADES

- WPP10S, WPP20S
- WSM20S, WSM30S, WMP20S

THE APPLICATION

- Roughing operations for high volume production
- Where a soft-cutting geometry with low cutting pressure is needed

Primary application:

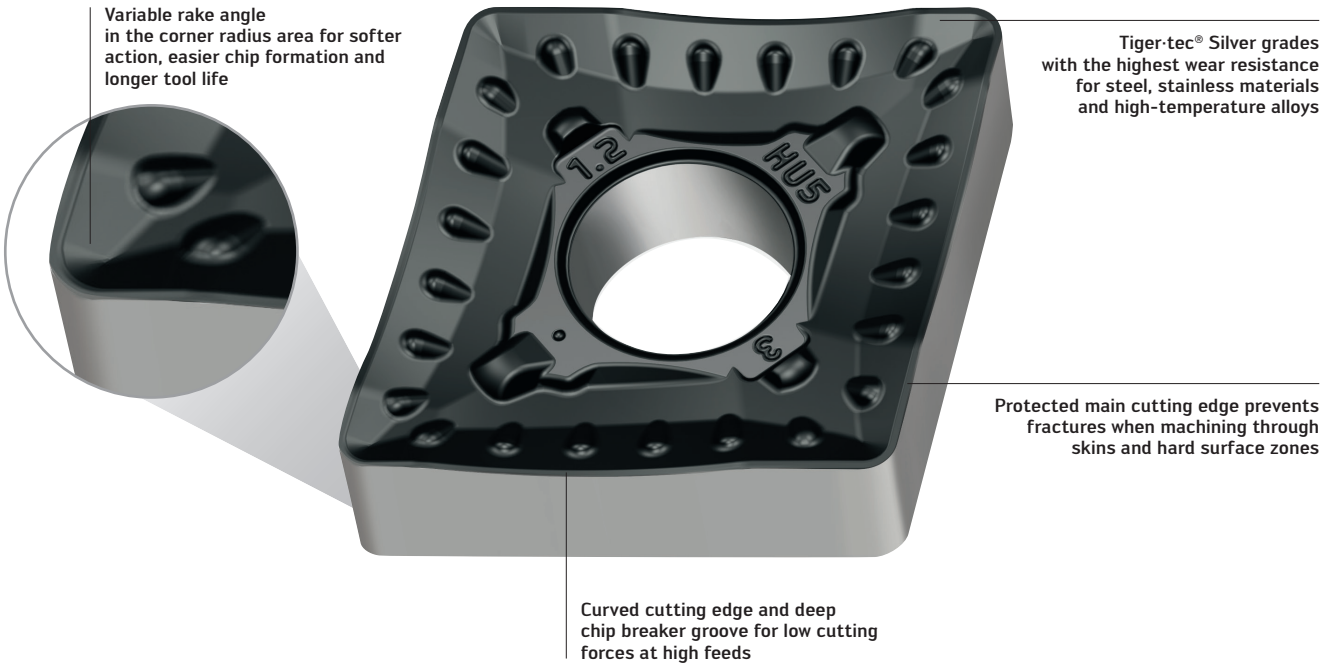
- ISO M: Stainless steels, e.g. austenitic steel 1.4301 (304L), duplex steel 1.4462 (ASTM A240)
- ISO S: High-temperature alloys, e.g. Inconel 625

Other applications:

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

Machining parameters:

- f: 0.012"-0.039" (0.30–1.00 mm)
- a_p: 0.098"-0.393" (2.5–10.0 mm)

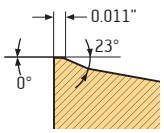


Single-sided roughing indexable insert **Fig.:** CNMM543-HU WSM20S

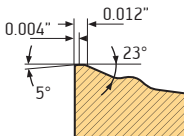
THE GEOMETRIES – HU5

- Specially developed for tough roughing operations
- Extremely soft cutting action for low machining temperatures
- Main cutting edge protected by negative chamfer (0.004" × -5°) (enables machining of skins and hard surface zones)

Corner radius – HU5

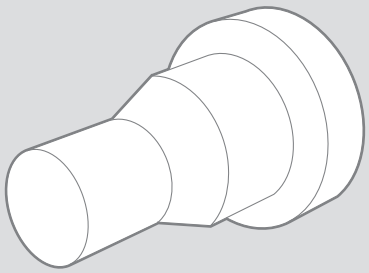


Main cutting edge – HU5



MACHINING EXAMPLE

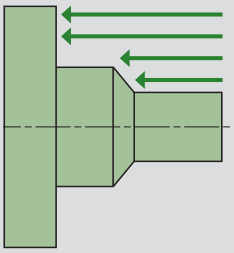
Valve: Oil and gas industry, dia. 4 in/length 6 in



Material:	AISI304 / X5CrNi18-10
Machine:	DMG MORI CTX Beta 200
Tool:	PCLNL2525M12

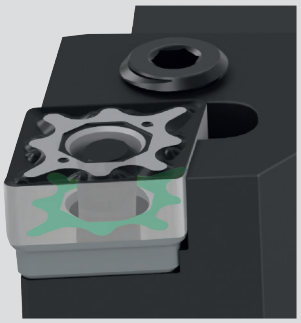
Comparison of double-sided vs single-sided geometries

Existing:
CNMG433-MM5 WMP20S

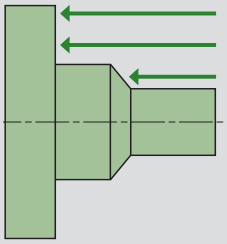


4 cutting passes/
0.118" depth of cut

Smaller contact surface
in the tool holder

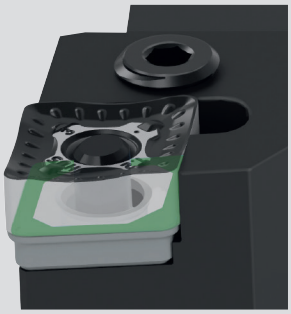


New:
CNMM433-HU5 WMP20S



3 cutting passes/
0.157" depth of cut

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



Cutting data:

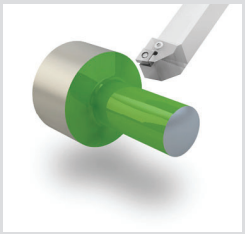
Indexable insert	Existing CNMG433-MM5 WMP20S	NEW CNMM433-HU5 WMP20S
v_c (sfm)	590	590
f (in)	0.012	0.018
a_p (in)	0.118	0.157
Tool life (components)	20	35
Metal removal rate (in³/min)	9.8	19.7
Machining time per workpiece (min)	2.8	1.26
Machining costs per workpiece	100%	48%

Maximum metal removal rate

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

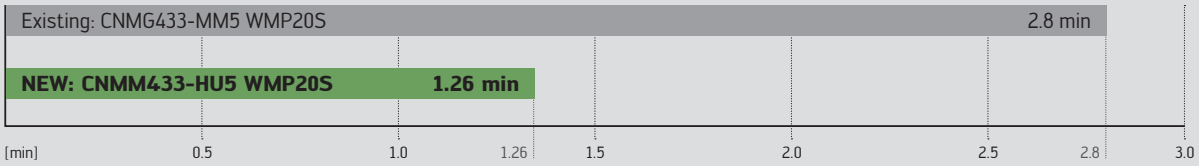
Calculation formula:

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



Machining time reduction per workpiece

-55 %



BENEFITS FOR YOU

- 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 because of soft cutting action and Tiger·tec® Silver grades

_PERFORM LINE TURNING – ISO P AND ISO K

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)

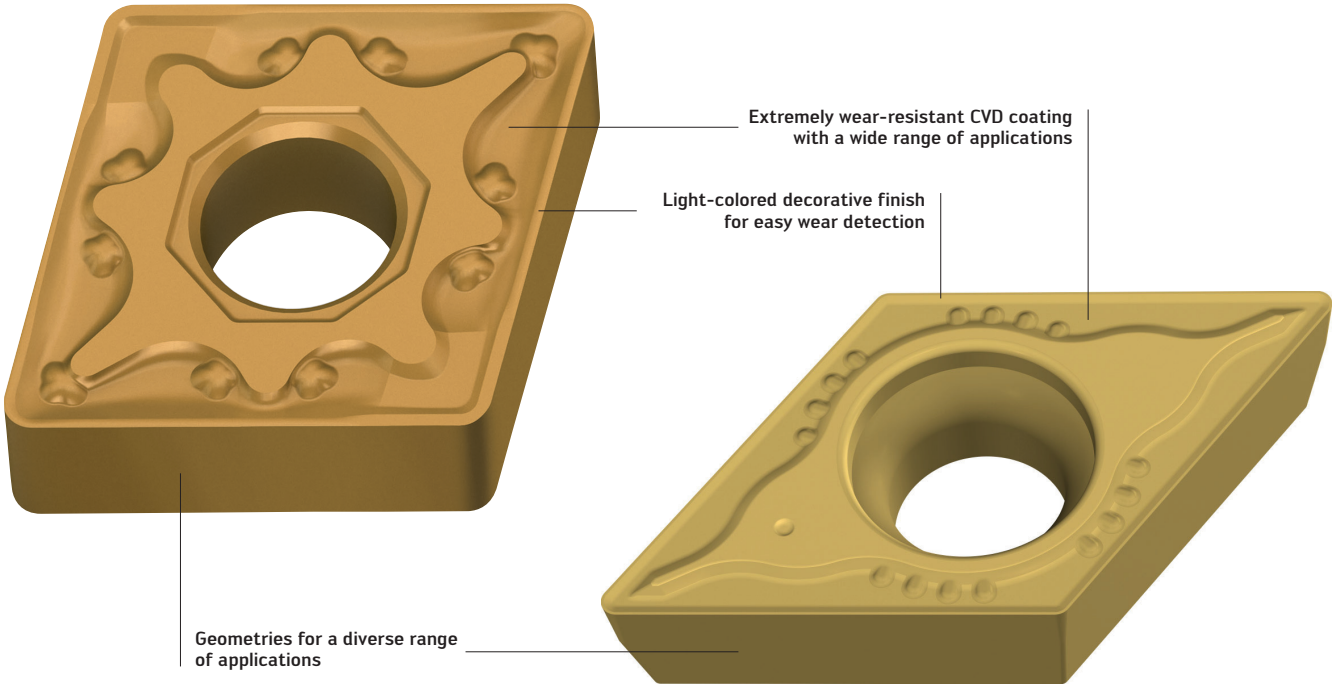
THE GEOMETRIES

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:
ISO P
– 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

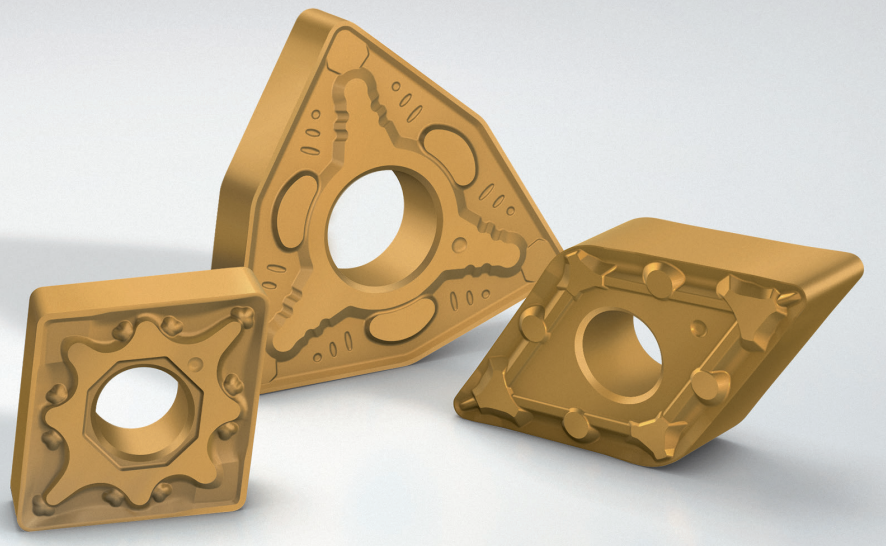


Perform line ISO indexable inserts

Fig.: CNMG432-MV5 WPV20, DCMT11T304-MV4 WPV20

BENEFITS FOR YOU

– 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



The latest CBN generation – hard machining at the highest level.

NEW

THE INDEXABLE INSERTS

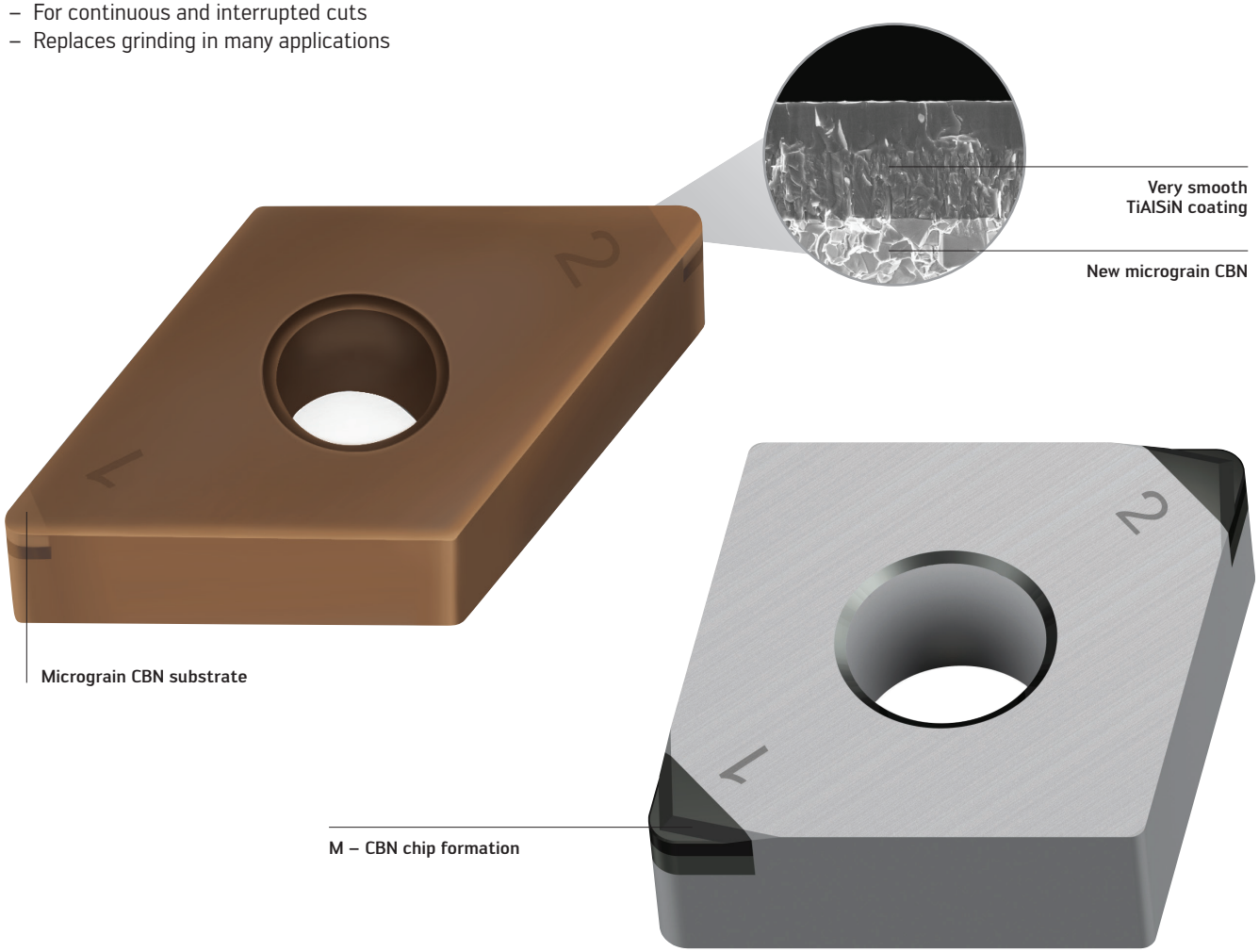
- New CBN grades for hard machining
- Technology update for chip formation and wiper geometry

THE APPLICATION

- Hard materials up to 65 HRC
- ISO H materials
- For continuous and interrupted cuts
- Replaces grinding in many applications

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.:** DNGA442TM-2 WBH10C, CNGA442TM-M2 WBH10

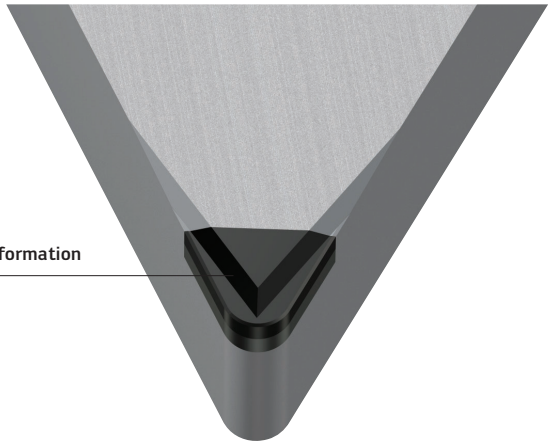
Watch the product video:
www.youtube.com/waltertools

BENEFITS FOR YOU

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

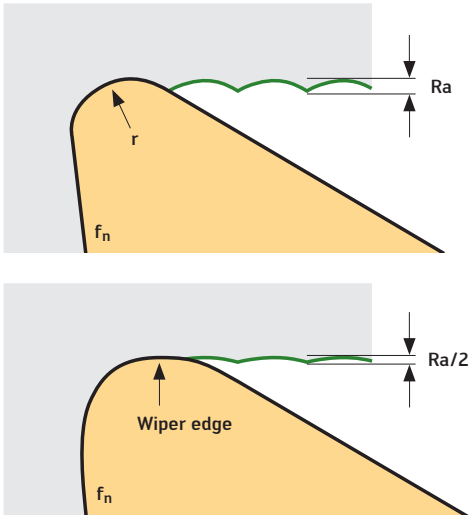
THE CHIP FORMATION

- M CBN chip formation
- Controlled chip removal
- Continuous cut without interruptions



THE WIPER GEOMETRY

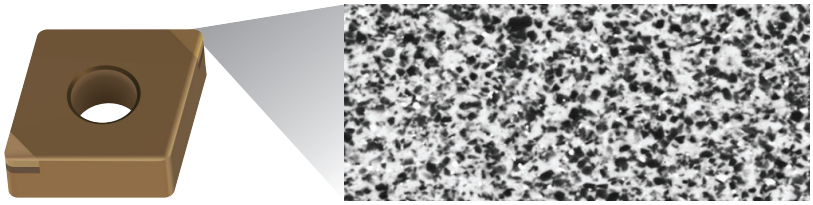
- MW wiper geometry
- Higher feed
- Better surface quality



THE CBN GRADES*

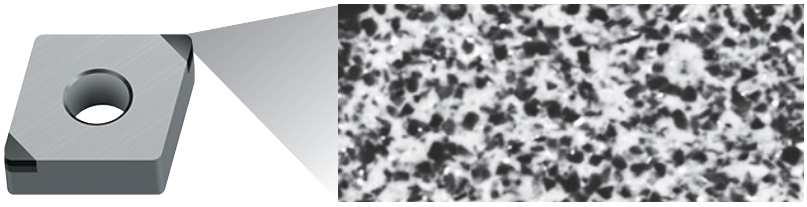
WBH10C (ISO H10)

- CBN substrate (grain size dia. 1.5 µm)
- Coated with new TiAlSiN coating technology
- Wear-resistant at highest cutting speeds (v_c)



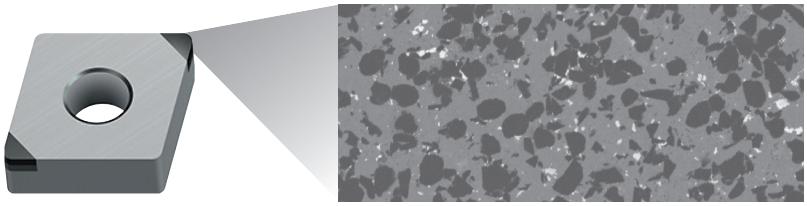
WBH10 (ISO H10)

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



WBH20 (ISO H20)

- CBN substrate (grain size dia. 2.0 µm)
- Wear-resistant with interrupted cuts and medium cutting speeds (v_c)



* Substrate grain sizes: Micrograin – 1.5 µm | Fine grain – 2.0 µm

Finishing heat-resistant high-temperature alloys at 820 sfm.

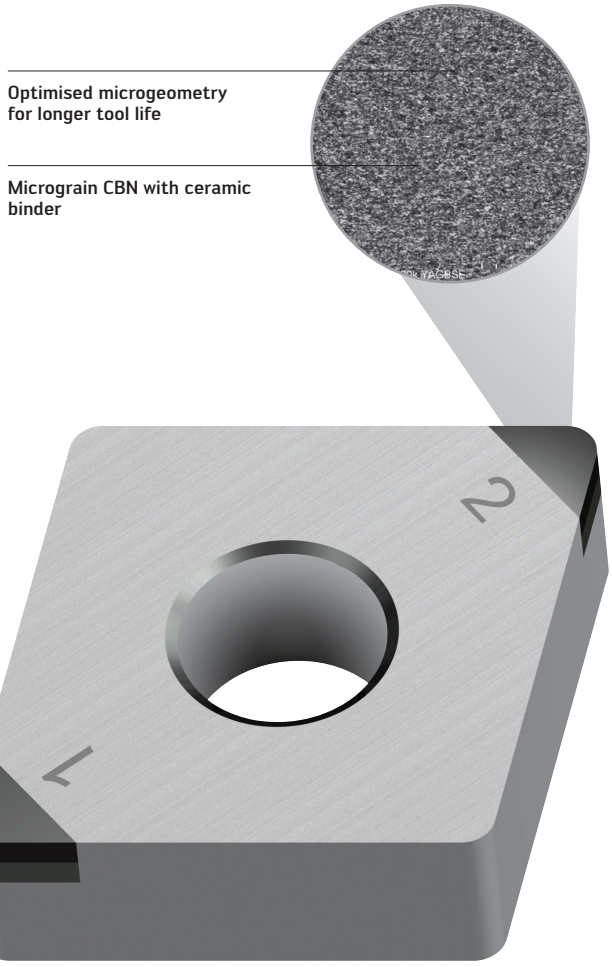
NEW

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

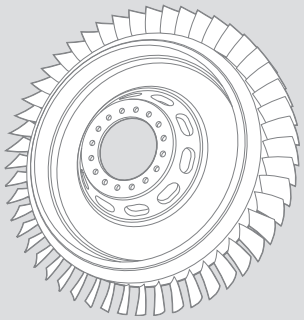


CBN indexable insert – ISO S

Fig.: CNGA432-EM2 WBS10

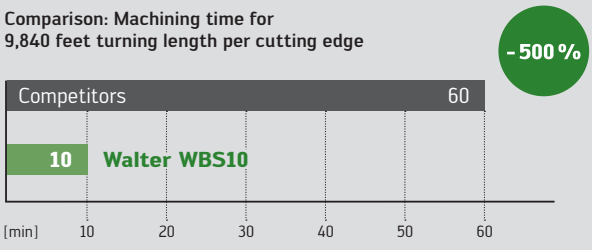
APPLICATION EXAMPLE

Facing – blisk



Material:	Inconel 718-42HRc (2.4668)	
Tool:	SVHCL2525M16	
Indexable insert:	VCGW332EM-2	
Grade:	WBS10	
	Competitors Carbide ISO S	**Walter CBN WBS10**
v_c (sfm)	165	820
f (in)	0.004	0.004
a_p (in)	0.010	0.010
Unwound turning length/ hour (feet)	9,840	49,210
Comment	Structural changes	No structural changes

Comparison: Machining time for 9,840 feet turning length per cutting edge



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

BENEFITS FOR YOU

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

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

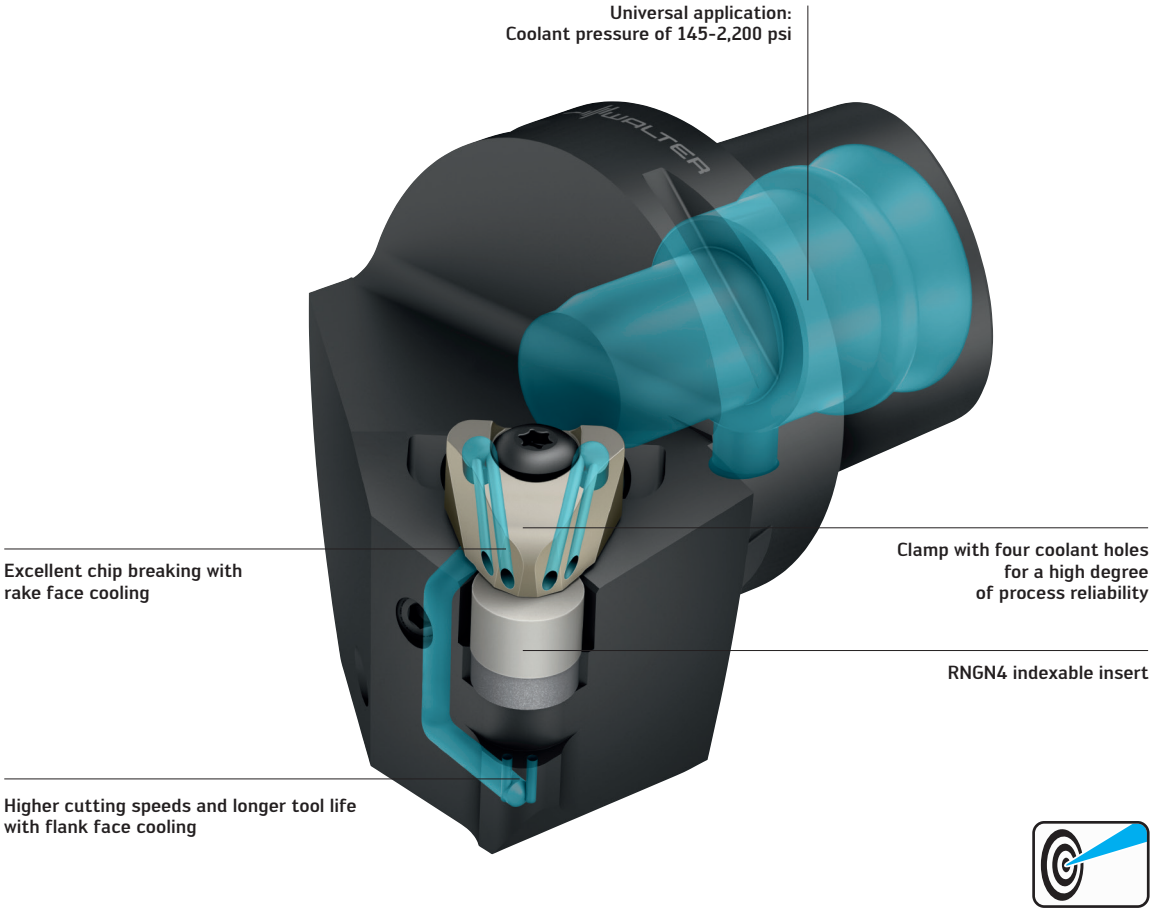
NEW

THE TOOL

- Coolant supplied directly through the clamp and along the flank face
- Tool variants:
  - Square shank 25 × 25 mm
  - Walter Capto™ C6
- RNGN45 (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 SiAlON ceramic or WWS20 whisker ceramic
- Can be used starting from 145 psi up to a maximum coolant pressure of 2,200 psi; pressures up to 5,000 psi also possible following technical clarification
- Excellent chip breaking, easy chip removal



Walter Capto™ tool with precision cooling for RNGN4 **Fig.:** C6-CRSNR-45065-12-P

BENEFITS FOR YOU

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

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

Multiply your success – with four cutting edges.

NEW

THE INDEXABLE INSERTS

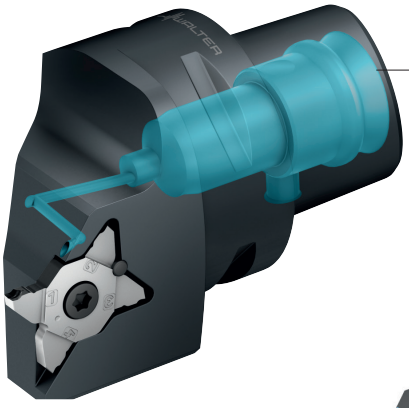
- Four precision-ground cutting edges ±0.0008" (±0.02 mm)
- Insert widths from 0.031"-0.222" (0.80–5.65 mm)
- Cutting depth up to 0.236" (6 mm)
- Four chip formation geometries: GD8, CF5, RF5 and AG
- One insert for left and right tool holders

THE APPLICATION

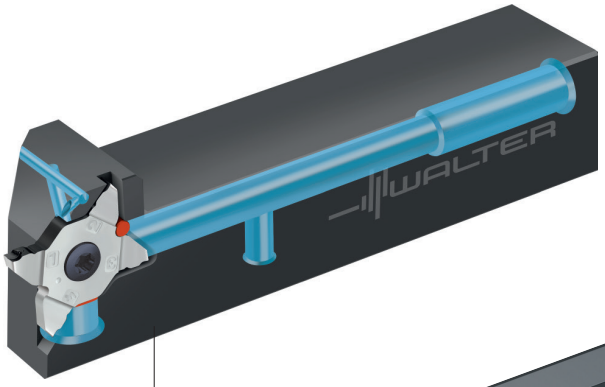
- Grooving, parting off, profiling, recessing and thread turning
- Where a high degree of precision and small diameters matter
- Areas of use: Swiss type lathes and multi-spindle machines, automatic lathes (bar feeders), machines with Walter Capto™ interface

THE TOOLS

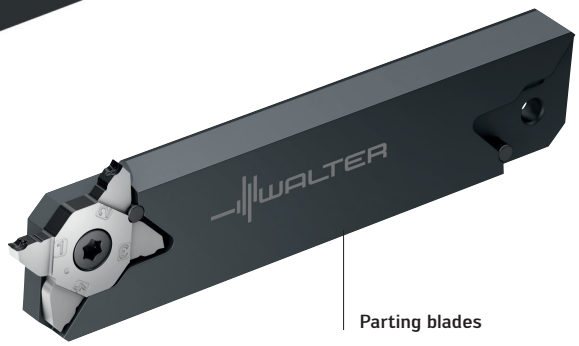
- Grooving and parting off tool with precision cooling
- Stable, self-aligning, tangential insert mount
- Available tools:
  - Shank sizes: 0.75"x0.75", 1.0"x1.0", 10 × 10, 12 × 12, 16 × 16, 20 × 20, 25 × 25 mm
  - Walter Capto™: C3, C4, C5 and C6
  - Parting blades: 26 mm blade height



Walter Capto C3–C6
for quick tool changes



0.75"-1.0"
10–25 mm
shank tools



Parting blades

Walter Cut MX system **Fig.:** G3011-C-P, G3011-P, G3041

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

BENEFITS FOR YOU

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

THE GEOMETRIES

Grooving and parting off

GD8:

- Grooving operations
- Straight cutting edge for flat groove base

CF5:

- Grooving and parting off operations
- Excellent chip control

Profiling and thread turning

RF5:

- Full-radius grooving operations
- Contour turning with small machining allowances

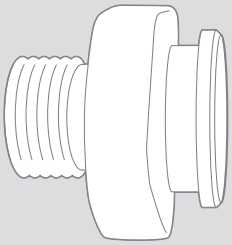
A60/ AG60..:

- Thread turning operations where space is limited
- Thread turning inserts held in the same holder that holds other MX geometries

Other special profiles available from: Walter Xpress

APPLICATION EXAMPLE

Grooving in stainless steel – connector

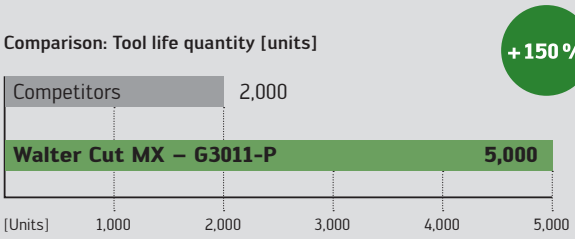


Material:	AISI TP316LN Austenitic Stainless X2CrNiMo17-12-2
Tool:	G3011-C3R-MX22-2-P
Indexable insert:	MX22-2E200N02-CF5
Grade:	WSM23S

Cutting data:

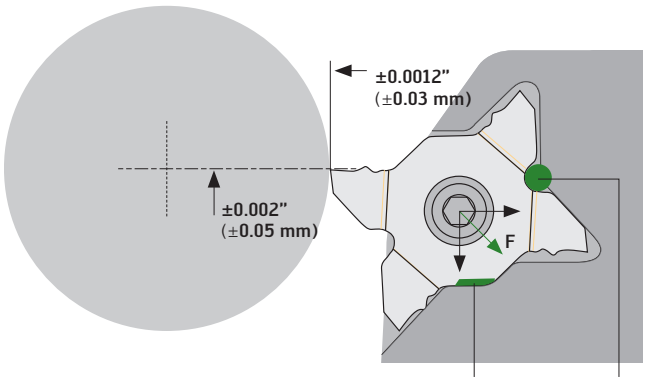
	Competitors Five-edged grooving insert	**Walter Four-edged grooving insert**
v_c (sfm)	475	475
f (in)	0.002	0.002
Cutting depth (in)	0.060	0.060
Tool life (units)	2,000	5,000

Comparison: Tool life quantity [units]



THE TECHNOLOGY

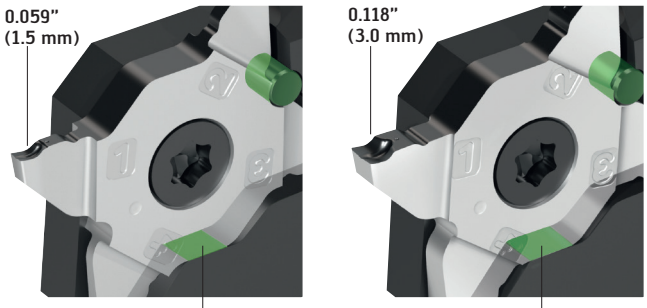
Maximum change accuracy and user-friendliness



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



Stable contact surface

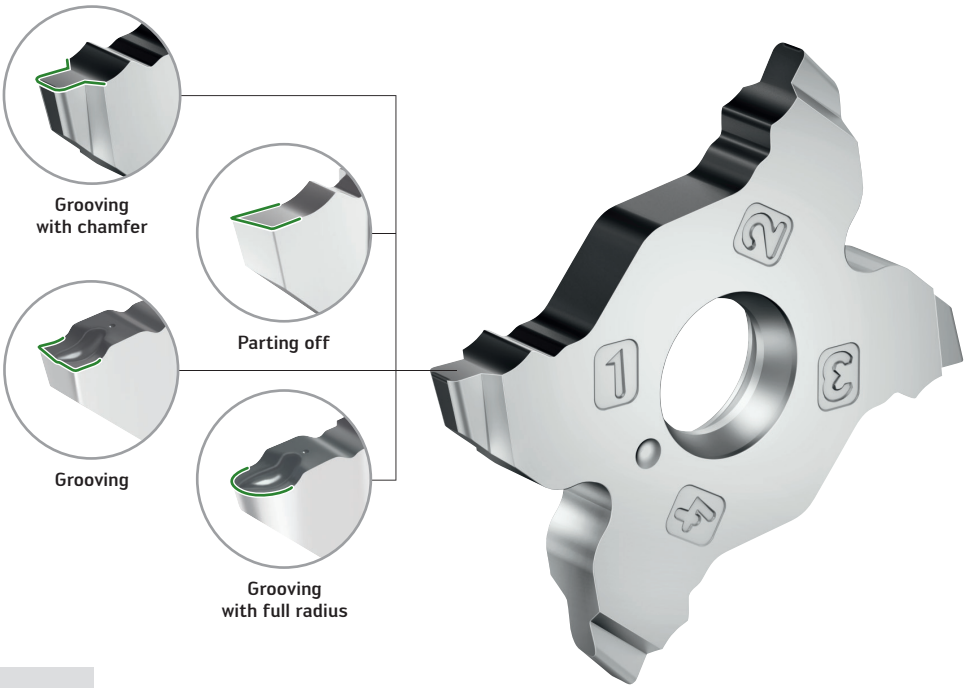
_FOR WALTER CUT MX

Walter Xpress – special profiles delivered within four weeks.

NEW

THE INDEXABLE INSERT

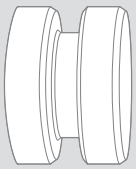
- Insert widths from 0.020"-0.216" (0.5–5.5 mm)
- Cutting depths up to 0.236" (6 mm)
- Radii from 0.002"-0.213" (0.05–5.4 mm)
- Parting off approach angles from 3–20°
- Chamfer angles from 30–60°



Walter Xpress

APPLICATION EXAMPLE

Grooving with chamfer – shaft



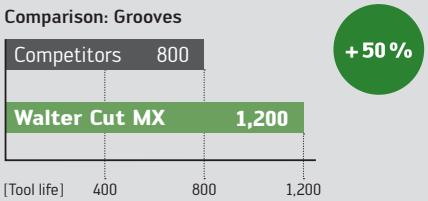
Material: AISI4140 (42CrMo4)

Tool: G3011-C4R-MX22-2-P

Cutting insert: Xpress 0.087" with 0.008" x 45° chamfer (2.2 mm with 0.2 × 45° chamfer)

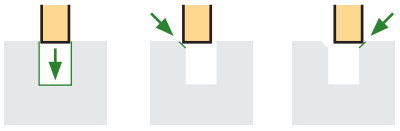
	Competitors Three-edged grooving insert	**Walter Four-edged grooving insert**
v_c (sfm)	460	460
f (in)	0.005	0.005
T (in)	0.043	0.043
Tool life (grooves)	800	1,200
Increase in productivity		+40%

Comparison: Grooves



THE APPLICATION

Standard Solution:



Chamfering and grooving with corner radii

Disadvantages: Longer runtime and higher peripheral cutting edge wear

New with Xpress special insert:

Grooving and chamfering in a single step

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

BENEFITS FOR YOU

- 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 simultaneaous operations such as groove-chamfering

Internal grooving and recessing with cool precision.

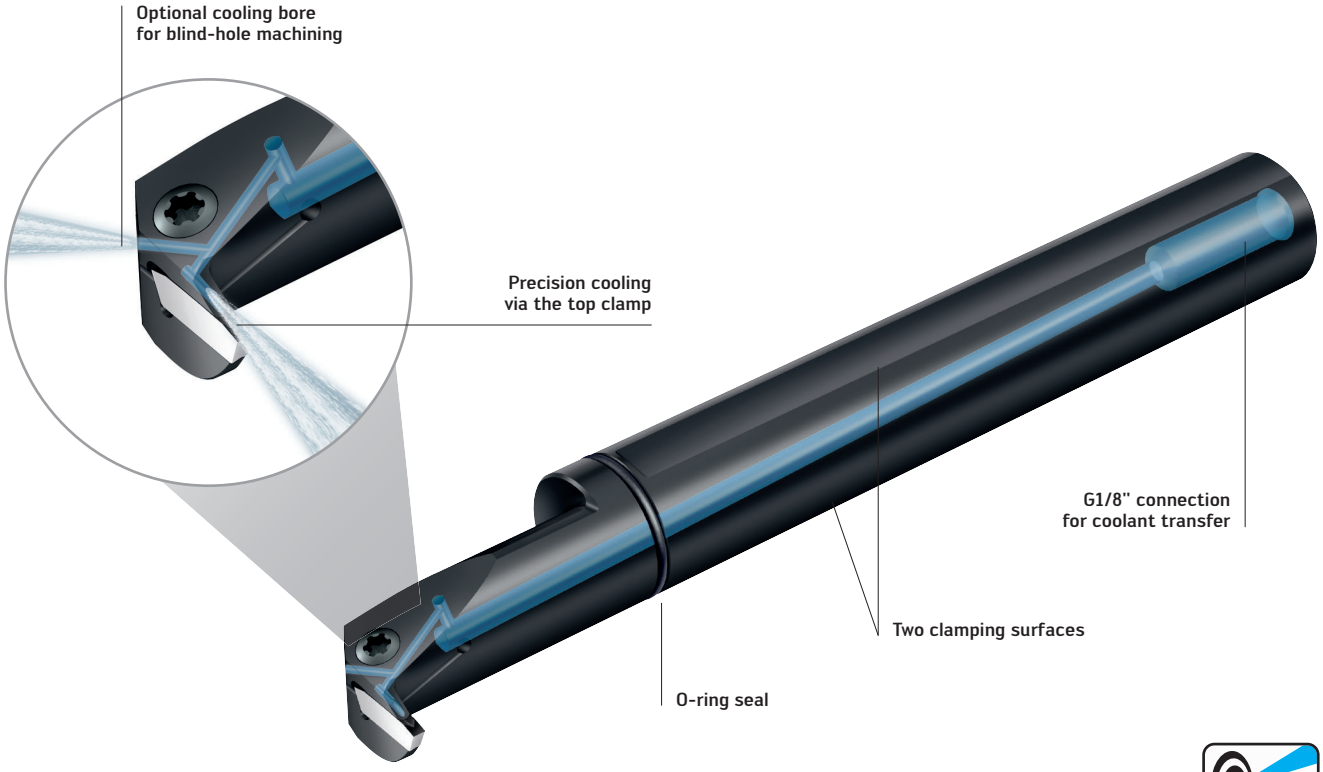
NEW

THE APPLICATION

- First choice for internal grooving and recessing
- Internal grooves with a diameter starting from D_{min} = 0.630 (16 mm)
- Grooving to a depth of T_{max} = 0.472" (12 mm)
- Insert widths of 0.079, 0.118, 0.157, 0.197 in (2, 3, 4, 5 and 6 mm)
- Can be used up to a coolant pressure of 1,160 psi
- Shank dia. 0.630"-1.575" (16–40 mm)

THE TOOL

- Precision cooling thru the top clamp
- Sealable axial coolant bore for blind-hole machining
- Connection using K601 coolant hose set (G1/8" thread on shank) or Installation, e.g. using a Weldon base 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 because of the 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 because of sophisticated clamping system

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

_GX PCD GROOVING INSERT – WDN10

Efficient grooving in aluminum and titanium alloys.

NEW

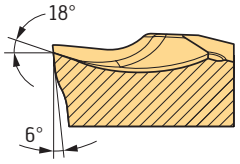
THE INDEXABLE INSERT

- Straight and full-radius grooving inserts
- Efficient, laser-generated chip formation for reliable grooving
- Insert widths from 0.079"-0.315" (2–8 mm)

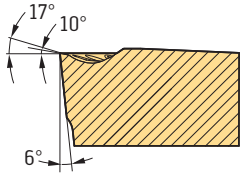
THE APPLICATION

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

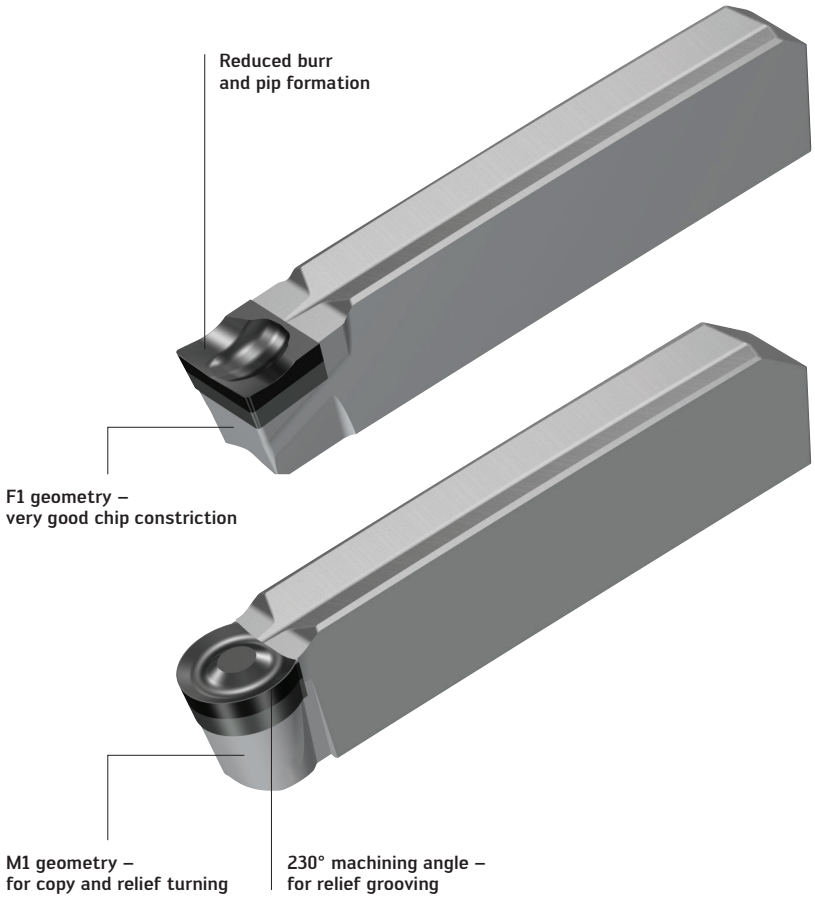
THE LASER-GENERATED PCD GEOMETRIES



– F1 geometry for grooving and parting off



– M1 geometry for grooving and copy turning



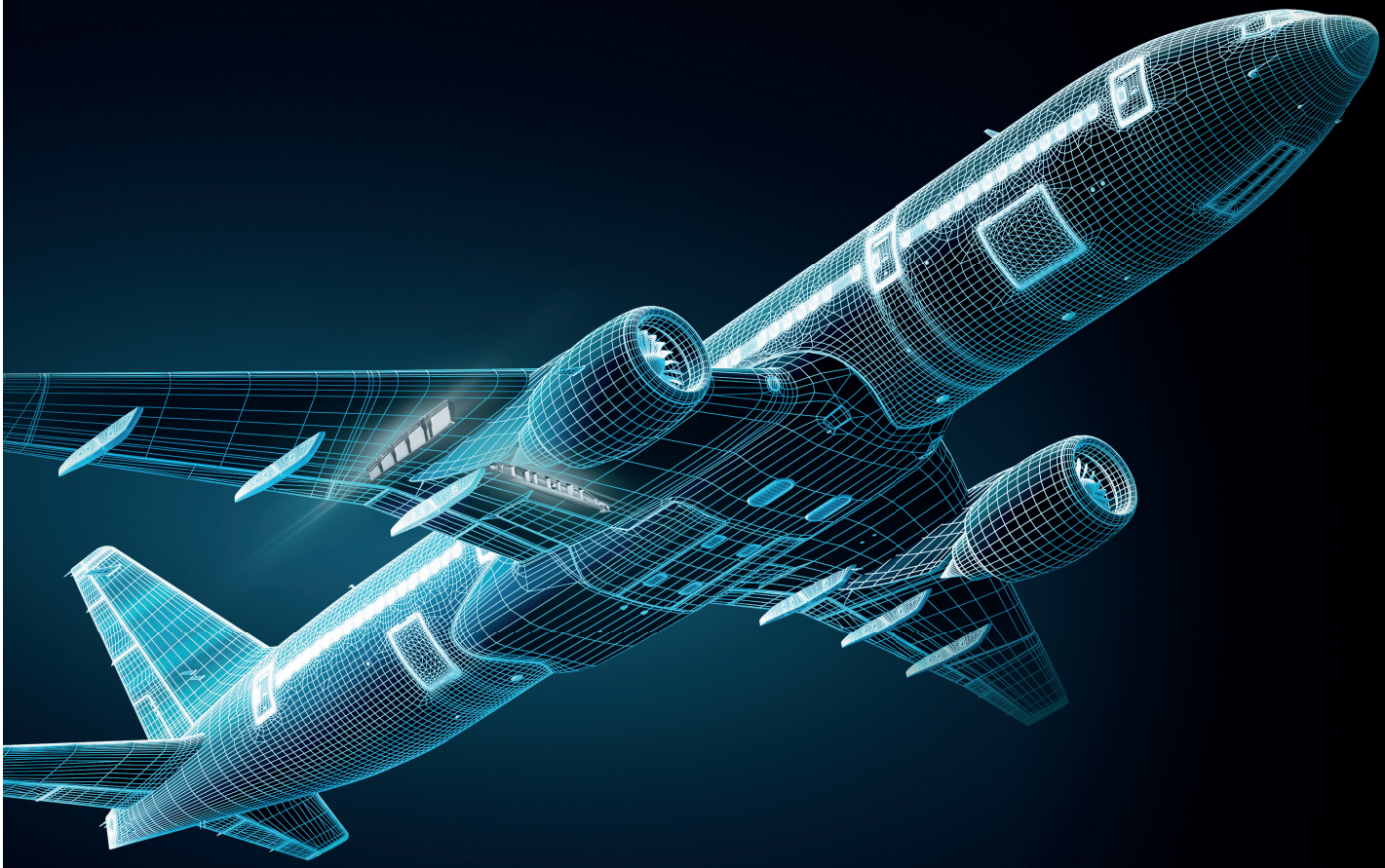
GX grooving inserts

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

BENEFITS FOR YOU

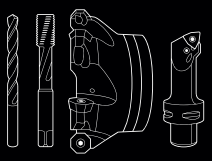
- High cutting speeds and long tool life
- Maximum process reliability through laser-generated chip formation geometry
- Highest surface quality and grade integrity

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 tons. 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.



walter-tools.com

WALTER
Engineering Kompetenz

B – Holemaking

Drilling from solid

Counterboring and precision boring

Strong performance – universal use.

NEW

NEW ADDITION TO THE PRODUCT RANGE

With internal coolant:
- 3 × D_C in accordance with DIN 6535 short
- 12 × D_C in accordance with Walter standard

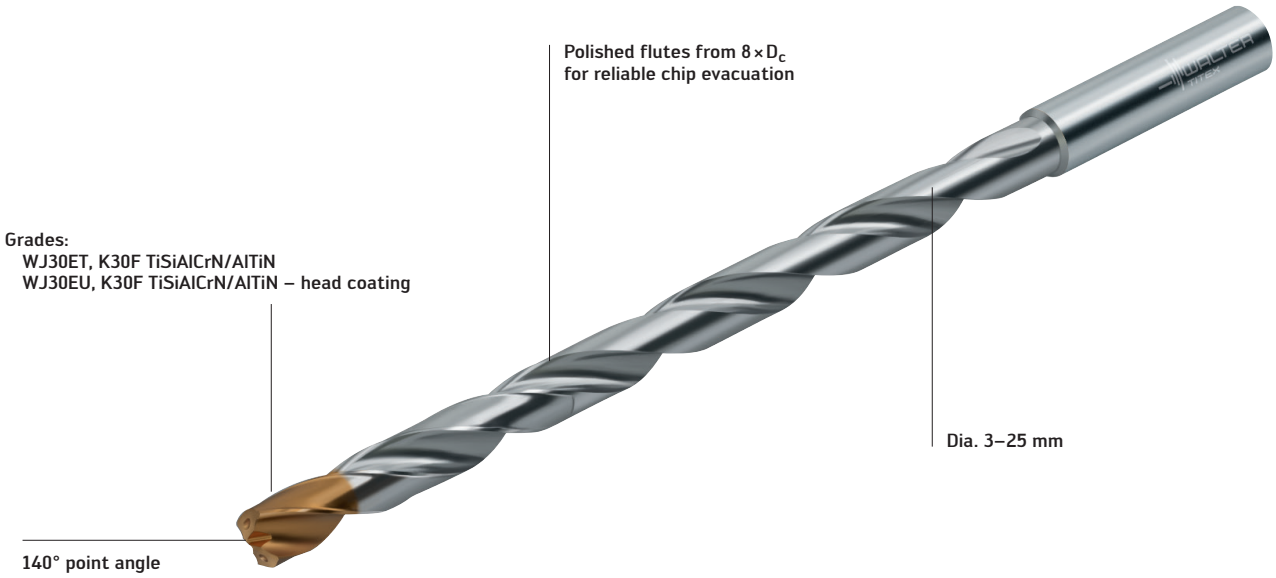
Without internal coolant:
- 5 × D_C in accordance with DIN 6535 long

Existing range:
- 5 × D_C in accordance with DIN 6537 long, with internal coolant
- 8 × D_C in accordance with Walter standard, with internal coolant
- 3 × D_C in accordance with DIN 6537 short, without internal coolant

Shank in accordance with DIN 6535:
- 3 × D_C and 5 × D_C, form HA and HE
- 8 × D_C and 12 × D_C, form HA

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



DC160 Advance solid carbide drill **Fig.:** DC160-12-08.500A1-WJ30EU

BENEFITS FOR YOU

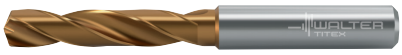
- High productivity in many different materials
- Lands located in advanced position to ensure rapid guidance in the hole
- Remarkable positioning accuracy thanks to the innovative new thinner web
- Universal application

Also available from:

Walter Xpress

THE RANGE

Solid carbide drills with internal coolant:



3 × D_c

5 × D_c

8 × D_c

12 × D_c

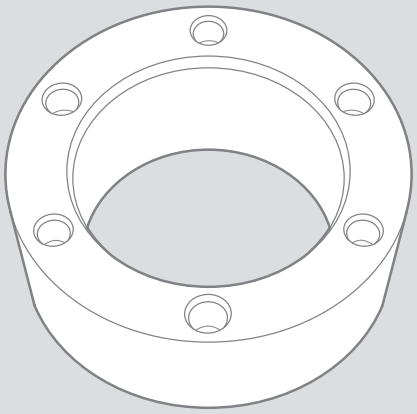
Solid carbide drills without internal coolant:

3 × D_c

5 × D_c

APPLICATION EXAMPLE

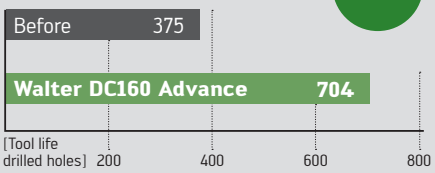
Cylinder



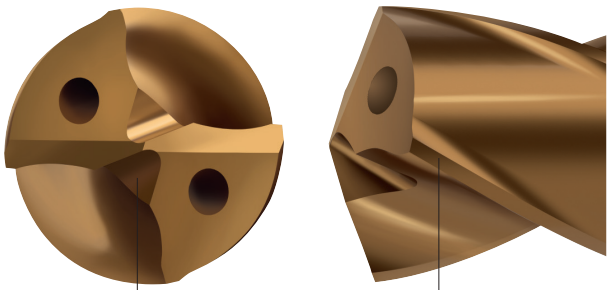
Material:	1.0570 / A572 Grade 50
Tensile strength:	550 N/mm²
Tool:	DC160-05-16.900F1-WJ30ET
Drilling depth:	1.732 in
Cooling:	Emulsion

	Before	DC160 Advance
v_c (sfm)	459	459
n (rpm)	2,640	2,640
f (in/rev)	0.014	0.014
v_f (in/min)	36.2	36.2

Comparison: Number of drilled holes **+90 %**



Very even wear on the DC160 Advance



New type of positive thinner web for reduced cutting forces

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

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

_DC260 ADVANCE SOLID CARBIDE DRILL

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 drilling thread core holes M4–M16, MF8 × 1–16 × 1.5
- Step length in accordance with DIN 8378
- Grade: WJ30ET, K30F TiSiAlCrN/AlTiN
- Dimensions: Walter standard with and without internal coolant

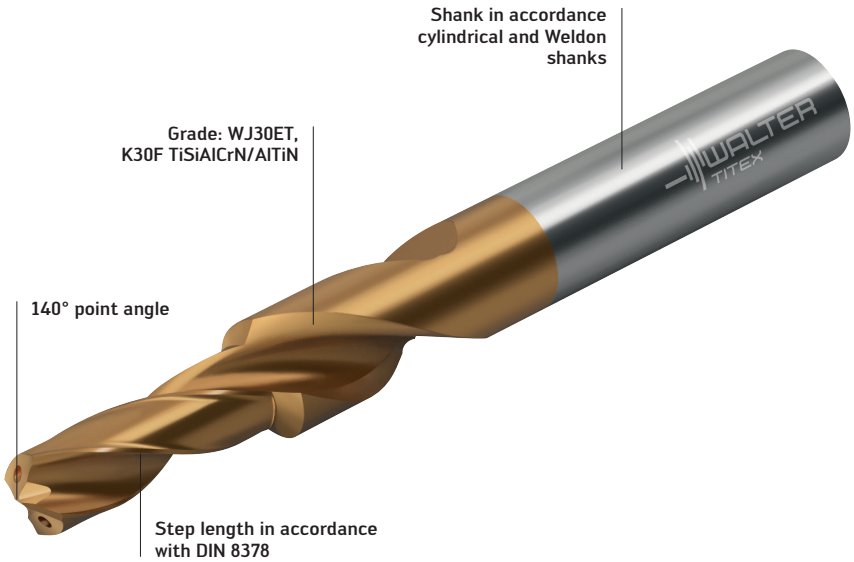
THE APPLICATION

- For drilling 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, mold and die making, energy and automotive industries

THE RANGE

Solid carbide chamfering drills with internal coolant:

Solid carbide chamfering drills without internal coolant:



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:

Walter Xpress

Superior productivity in all types of aluminium alloys.

SPECIAL TOOL

THE TOOL

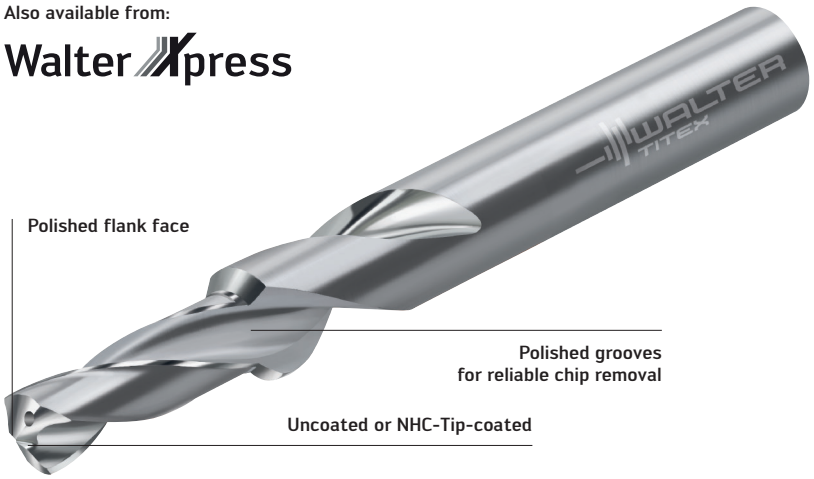
- DC166 solid carbide high-performance drill with internal coolant
- Dia. 4–20 mm drilling depth up to 30 × D_C
- Step drill with up to three steps
- Uncoated or NHC-Tip-coated, polished flutes and face
- Special tools in line with customer's requirements

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 × D_C

Also available from:

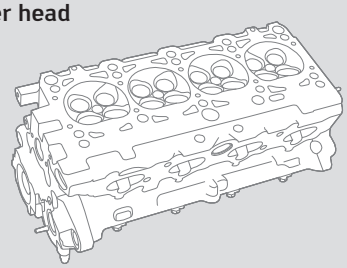
Walter Xpress



DC166 solid carbide step drill **Fig.:** Ø 9/16 in

APPLICATION EXAMPLE

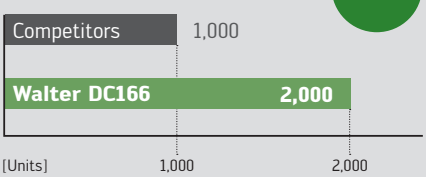
Cylinder head



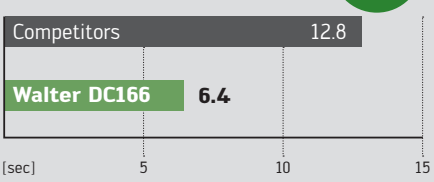
Material:	AlSi10MgCu/A360.2
Tool:	DC166 step drill, dia. 9/16 in
Drilling depth:	2.362 in
Drilled holes per workpiece:	16

	Competitors	Walter DC166
v_c (sfm)	2470	2470
n (rpm)	15,000	15,000
f_u (in/rev)	0.012	0.024
v_f (in/min)	177.2	354.4

Comparison: Number of workpieces **+100 %**



Comparison: Machining time **-50 %**



BENEFITS FOR YOU

- 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

Incomparably tough under all working conditions.

NEW TO THE RANGE

NEW ADDITIONS TO THE PRODUCT RANGE

- D4240-02 (chamfering drill 2.5 × D_C)
- D4140-01 (1.3 × D_C)

Extension (diameter and shank versions)

- D4140-03 (3 × D_C)
- D4140-05 (5 × D_C)
- D4140-07 (7 × D_C)

THE TOOL

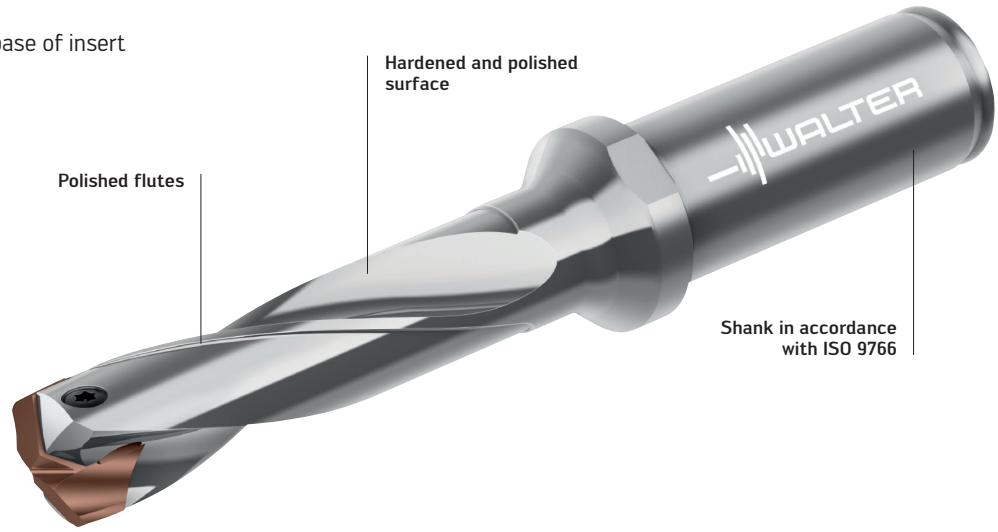
- Dia. 12–37.99 mm for 3 × D_C, 5 × D_C and 7 × D_C
- Dia. 0.472–1.496" for 3 × D_C, 5 × D_C and 7 × D_C
- Dia. 18–24.7 mm for 10 × D_C
- Optimized coolant exit at the base of insert

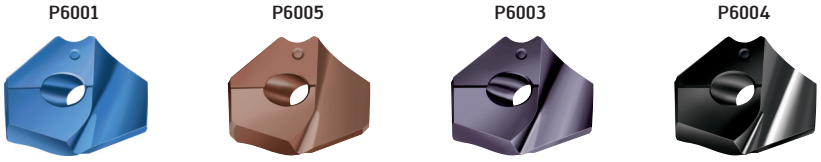
THE APPLICATION

- 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 due to 100° prism at insert seat
- Four geometries and grades





WPP45C specialist for ISO P | WKK45C specialist for ISO K | WMP35 specialist for ISO M and ISO S | WNN25 specialist for ISO N

Walter D4140 indexable insert drill

Fig.: P600x – indexable insert range

BENEFITS FOR YOU

- Maximum process reliability and tool life with coolant applied directly at the cutting edge
- Effiecient and reliable chip evacuation due to polished flutes
- Long tool life for the drill body due to reduced friction at the hardened and polished flute surface
- Simple indexable insert selection with Color Select

Also available from:

Walter Xpress

Perfect performance and precision.

NEW

NEW ADDITION TO THE PRODUCT RANGE

- Drill Bodies
  D4120-02 ($2 \times D_C$)
  D4120-03 ($3 \times D_C$)
  D4120-04 ($4 \times D_C$)
  D4120-05 ($5 \times D_C$)

THE TOOL

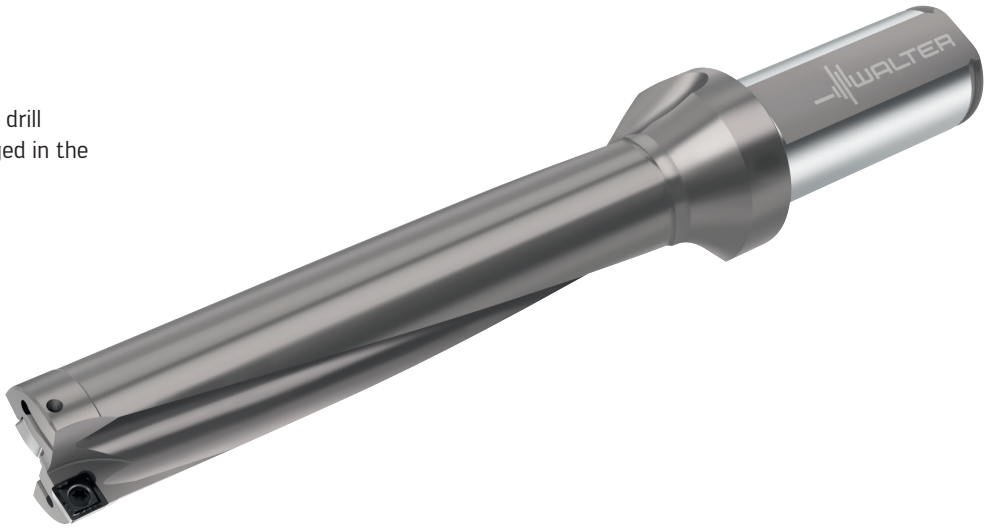
- Dia. 14–42 mm ($2 \times D_C$ and $3 \times D_C$)
- Dia. 17–42 mm ($4 \times D_C$ and $5 \times D_C$)
- Two optimised coolant-exits
- Polished flutes
- Hardened and polished surface
- Torx Plus clamping screws
- Measuring collar for D_C for easy drill identification, even when engaged in the spindle

THE APPLICATION

- Drilling from solid in difficult applications, such as cross holes, chain drilling, inclined inlet and exit
- ISO materials P, M, K, S, H
- Areas of use:
  General mechanical engineering, mould and die making, energy and automotive industries

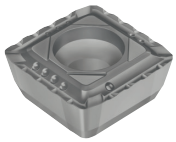
THE INDEXABLE INSERTS

- Four-edged, positive indexable insert
- Three geometries:
  A57 – The stable one
  E57 – The universal one
  E67 – The easy-cutting one
- Four grades:
  WKP25S, WKP35S, WSP45, WXP40



Centre inserts

A57

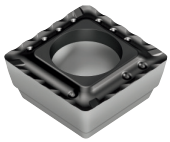


E67

Outer inserts

A57

E57



E67

Walter D4120 indexable insert drill

Fig.: D4120-04-21.00F25-P43

BENEFITS FOR YOU

- Maximum process reliability due to easy chip removal
- Hardened and polished surfaces offer protection against friction
- Secure indexable insert clamping with Torx Plus screws
- Low cutting material costs due to four cutting edges
- Long tool life because of wear-resistant Tiger·tec® Silver grades

Also available from:

Walter Xpress

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 analog indicator
- 0.00008 in. (0.002 mm) adjustment accuracy
- Dia. 2–203 mm using boring bars and cartridges
- Dia. 150–640 mm with aluminum bridge design
- Thru coolant supply very close 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
- For precision production
- 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[Precision] **precision boring tools** **Fig.:** B3230. EB512, EB518.CS, EB347.TC06

BENEFITS FOR YOU

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

_ISO CARTRIDGES FOR SPECIAL SOLUTIONS

Proven, flexible – and highly productive.

NEW

THE TOOL

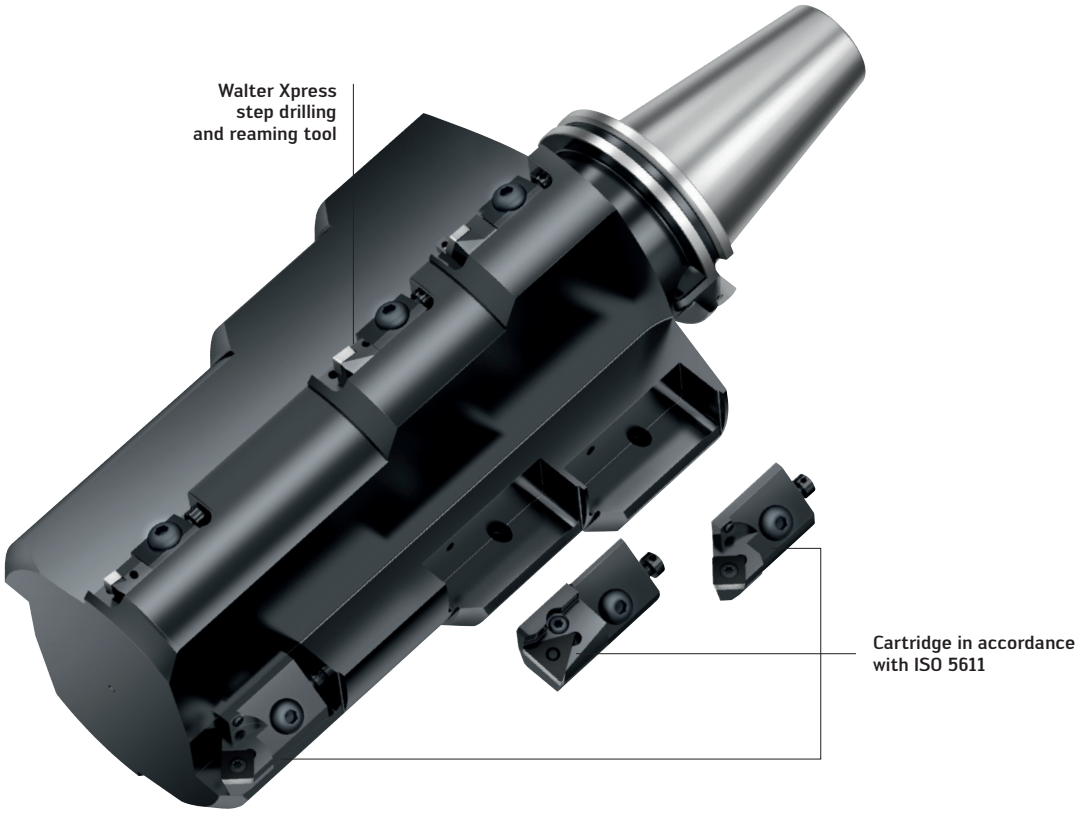
– Cartridges in accordance with ISO 5611 for special solutions

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:

Walter Xpress

B – Threading

The high-tech threading tool for a wide range of applications.

NEW TO THE RANGE

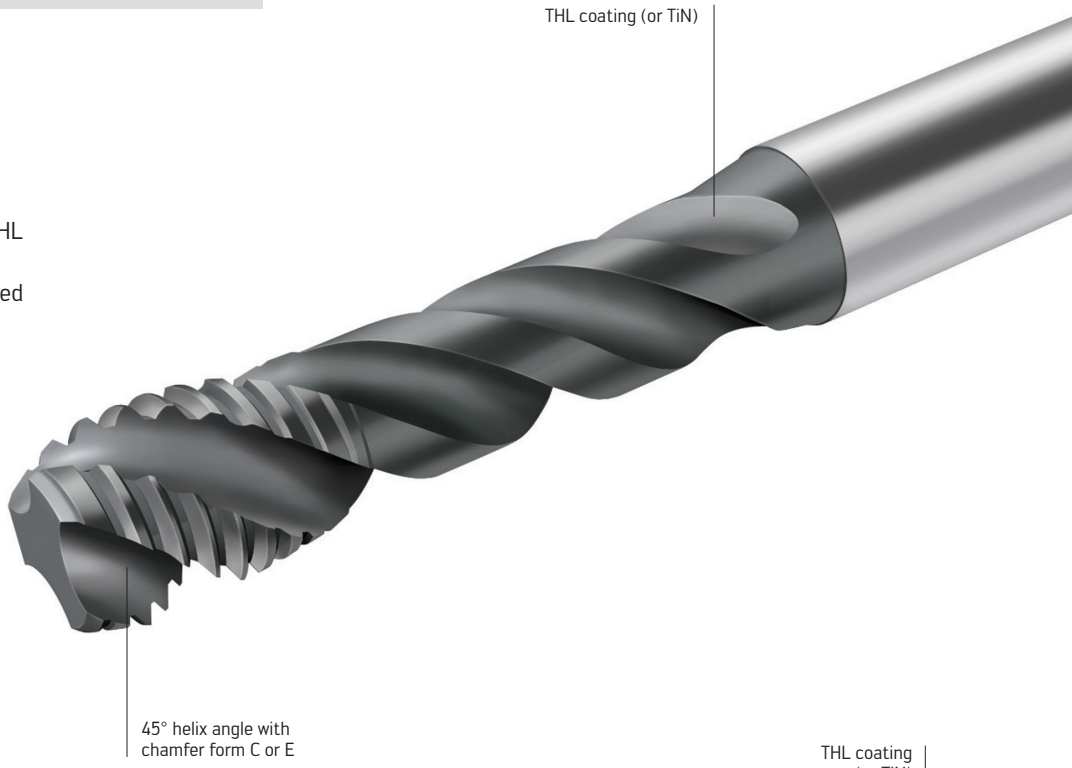
DIMENSION RANGE

DIN/ANSI
UNC 4-40 - UNC 3/4-10
UNF 6-40 - UNF 3/4 - 16

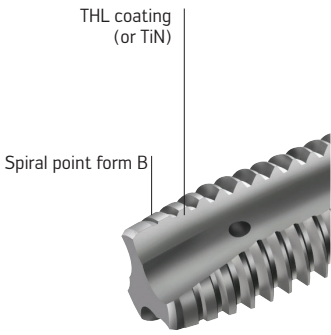
DIN
UNC 2-56 - UNC 3/4-10
UNF 4-48 - UNF 5/8 - 18
M2 - M64
MF 6x0.75 - MF 22x1.5
G 1/8-28 - G1-11

THE TOOLS

- Universal high-performance cut taps, made from HSS-E-PM
- Outstanding chip control due to optimized surface finish and specialized THL coating
- Low risk of fractures thanks to improved micro geometry
- Wear resistant but tough substrate
- Variants: with axial or radial coolant channel

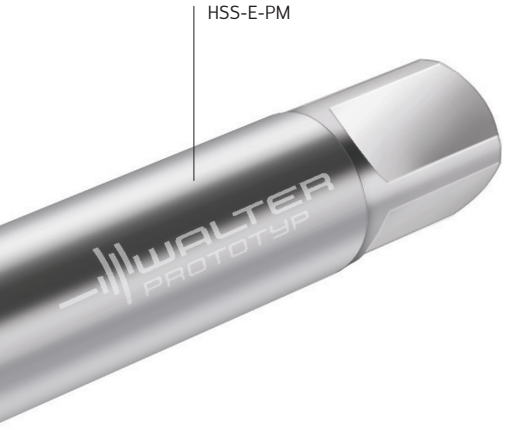


Paradur® Eco Plus **Type:** EP2051302



BENEFITS FOR YOU

- Highest productivity in a wide range of materials and applications
- Excellent process reliability due to outstanding chip control and tough substrate
- Very good wear resistance because of HSS-E-PM substrate
- Reliable machining of deep threads

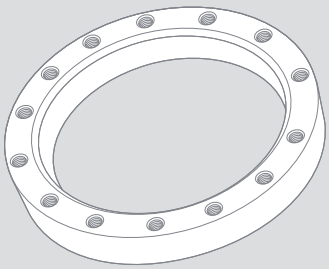


THE APPLICATION

– Paradur® Eco Plus: blind hole threads up to 3 x D_N
– Prototex® Eco Plus: through hole threads up to 3.5 x D_N
– ISO P, M, K and N materials from 150 up to 370 HB
  · unalloyed and alloyed steels
  · stainless steels (austenitic, duplex, ferritic/martensitic)
  · GJS as main application, GJL/CGI as secondary application
  · Al wrought alloys, AlSi alloys up to 12 % Si content
  · Copper and copper alloys as secondary application

Prototex® Eco Plus **Type:** EP2021342

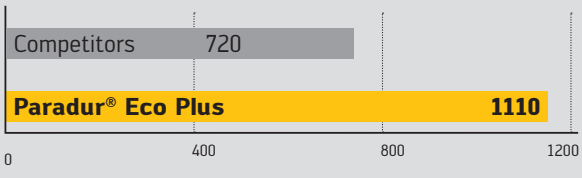
Lock ring
Paradur® Eco Plus
M6 blind hole



Workpiece material: 17-4 PH
Tool: **Paradur® Eco Plus** EP2051302-M6
Coating: THL
Hole type: Blind hole
Thread depth: 16 mm (2.5 x D_N)
Cooling lubricant: Emulsion 7%

Cutting data	Competitors	Paradur® Eco Plus
n	159 rpm	265 rpm
Cutting speed v_c	10 SFM	16 SFM

Comparison of tool life (number of threads)



Excellent reliability, advanced performance

NEW

DIMENSION RANGE: TC117/TC217 Advance

DIN/ANSI

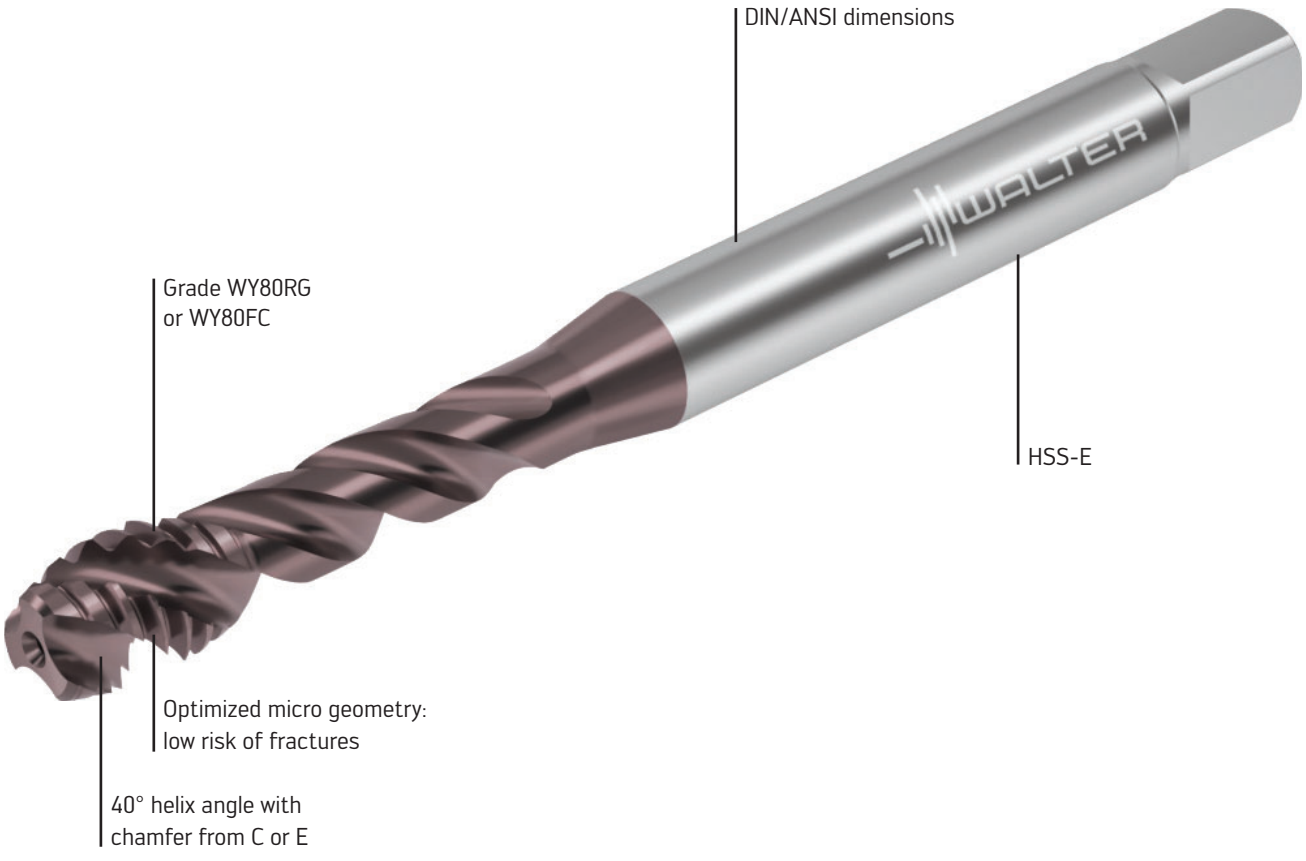
UNC 1-64 - UNC 1 1/2-6
UNF 0-80 - UNF 1 1/4-12
UN 1 1/8-8 - UN 1 5/8-8
UNS 1-14
STIUNC 2-56 - STIUNC 3/8-16
STIUNF 10-32 - STIUNF 3/8-24
M3 - M20

THE TOOLS

- Universal HSS-E cut taps
- Outstanding chip control due to optimized surface finish and specialized coating / surface treatment
- TC117: Stable and wear resistant cutting edges thanks to 40° helix angle
- TC217: HSS-E with increased hardness for higher tool life
- One single tap for 2B and 3B tolerances
- DIN/ANSI dimensions (DIN length, ANSI shank)

THE APPLICATION

- TC117: blind hole threads up to 2,5 x D_N
- TC217: through hole threads up to 3,0 x D_N
- ISO P, M, K and N materials up to 370 HB
  - · unalloyed and alloyed steels
  - · stainless steels (austenitic, duplex, ferritic/martensitic)
  - · GJS as main application, GJL/CGI as secondary application
  - · Al wrought alloys, AlSi alloys up to 12 % Si content
  - · Copper and copper alloys as secondary application



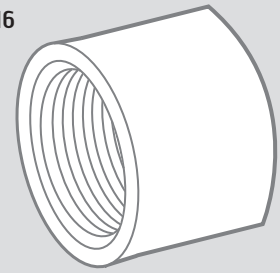
TC117 Advance cut tap **Fig.: TC117**

THE GRADES: TC117/TC217

- WY80RG (HSS-E + THL): good chip control, good wear resistance and higher cutting speed
- WY80FC (HSS-E + vap): best chip control, lesser wear resistance and lower cutting speed

APPLICATION EXAMPLE

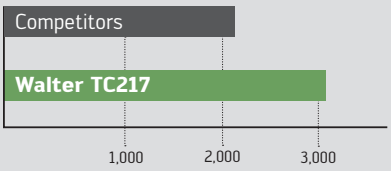
Tapping - Through hole M6



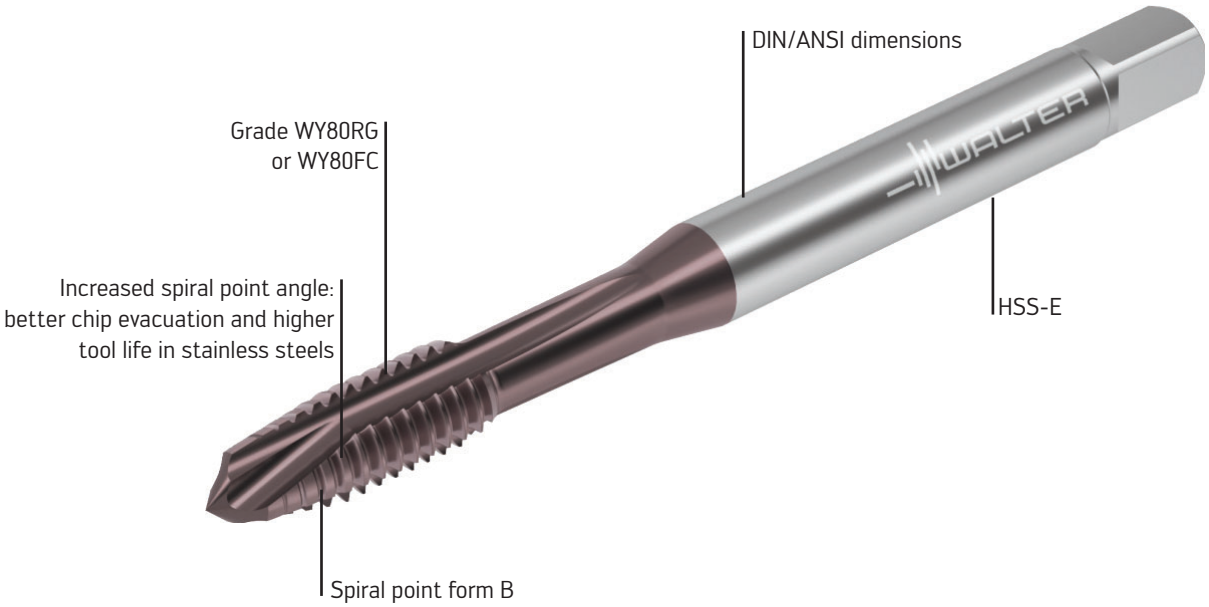
Workpiece Material:	316Ti
Coolant:	emulsion 6%
Thread dimension:	M6
Thread depth	15mm

	Competitors	TC217.M6-C0-WY80FC
v_c (sfm)	10	10
Tool life	2,100	3,050

Comparison Tool life



+45%



TC217 Advance cut tap **Fig.: TC217**

BENEFITS FOR YOU:

- High productivity in a wide range of different materials
- Excellent process reliability due to outstanding chip control
- Reduced inventory: machining of 2B and 3B tolerances with the same tap
- Large variety of thread types and dimensions available from stock

The all-rounders for small and medium batch sizes.

NEW TO THE RANGE

DIMENSION RANGE: TC115/TC216 Perform

DIN/ANSI	DIN
UNC 6-32 - UNC 3/4-10	UNC 6-32 - UNC 3/4-10
UNF 10-32 - UNF 3/4 - 16	M1.6 - M20
	MF 8X1 - MF 18X1.5

THE TOOLS: TC115/TC216

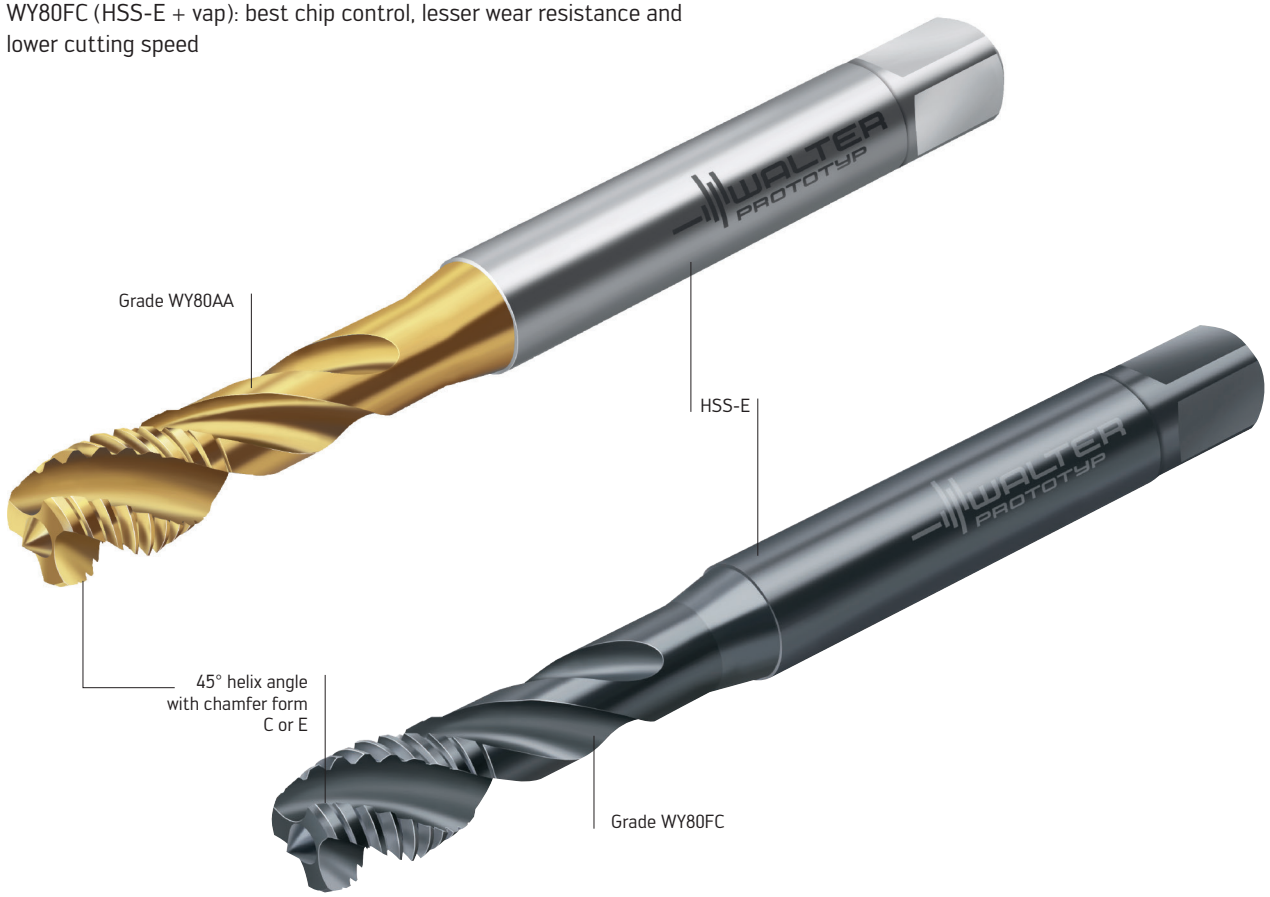
- Universal HSS-E cut taps
- Excellent self guidance due to low relief angles: no axial miscut in soft materials
- TC115: deep threads possible thanks to 45° helix angle

THE APPLICATION

- TC115: blind hole threads up to 3 x D_N
- TC216: through hole threads up to 3 x D_N
- ISO P, M, K and N materials up to 300 HB
  - unalloyed and alloyed steels
  - austenitic stainless steels
  - nodular cast iron (GJS)
  - Al wrought alloys, AlSi alloys up to 7% silicon content
- Floating chucks can be utilized even in very soft materials

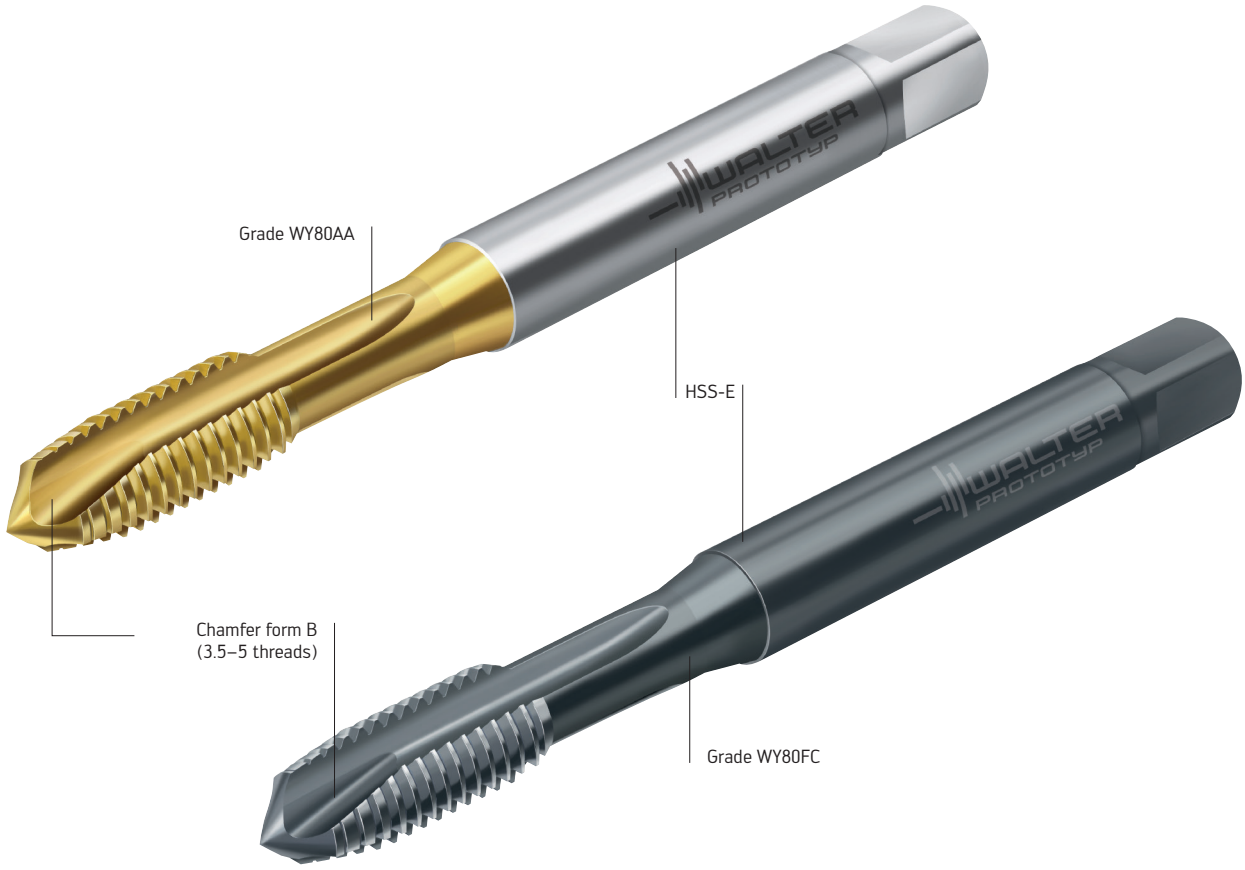
THE GRADES

- WY80AA (HSS-E + TIN): good wear resistance and higher cutting speed
- WY80FC (HSS-E + vap): best chip control, lesser wear resistance and lower cutting speed



The Walter Perform product line

The Perform line of tools from Walter will ensure that you enjoy a high level of profitability, as they also win your approval through their wide range of applications. They are ideal for use with a variety of materials, when the work at hand involves small and medium batch sizes.



BENEFITS FOR YOU - TC115/TC216

- Cost-efficient and reliable machining of small and medium batch sizes
- Reduced number of tools thanks to universal use in a wide range of materials

Short chips – safe process.

NEW TO THE RANGE

DIMENSION RANGE

DIN/ANSI
UNC 1/4-20 - UNC 5/8-11

DIN
M5 - M12
MF 12x1.5 - MF 16x1.5

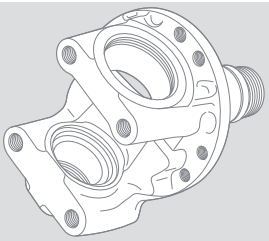
THE TOOL

- High-performance blind hole cut tap
- Problem solver for steel machining in case of poor chip control / birds nesting
- Short chips thanks to reduced helix angle and uncoated rake face
- Axial internal coolant supply ensures chip evacuation

THE APPLICATION

- Blind hole threads up to 3.5 x D_N
- Steels from 230 to 370 HB as main application
- Ductile cast iron (GJS) and Al wrought alloys as secondary application

Truck steering knuckle
Paradur® Short Chip HT
Blind hole

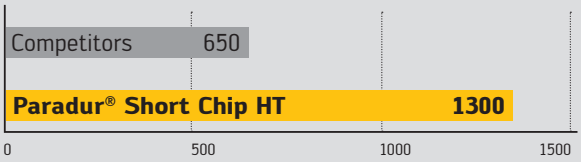


Workpiece material:	4140
Tensile strength:	320 HB
Tool:	**Paradur® Short Chip HT** 20410TR-M16x1,5
Coating:	THL
Hole type:	Blind hole
Thread depth:	38 mm
Cooling lubricant:	Emulsion
Adaptor:	Floating holder

Cutting data

n	298 rpm
Cutting speed v_c	50 SFM

Comparison of tool life (number of threads)



The tool

- No bird nesting
- 100% longer tool life
- Good thread surface

Paradur® Short Chip HT **Type:** 20410TR

BENEFITS FOR YOU

- High degree of process reliability even with deeper blind hole threads
- No birds nesting thanks to short chips
- Interference contours no problem thanks to short chips

The specialist for stainless steels.

NEW TO THE RANGE

DIMENSION RANGE

DIN/ANSI
UNC 2-56 - UNC 3/4-10
UNF 10-32 - UNF 9/16-18

DIN
M1.6 - M36
MF 8x1 - MF 20-1.5
G 1/8-28 - G 1/4-19

THE TOOL

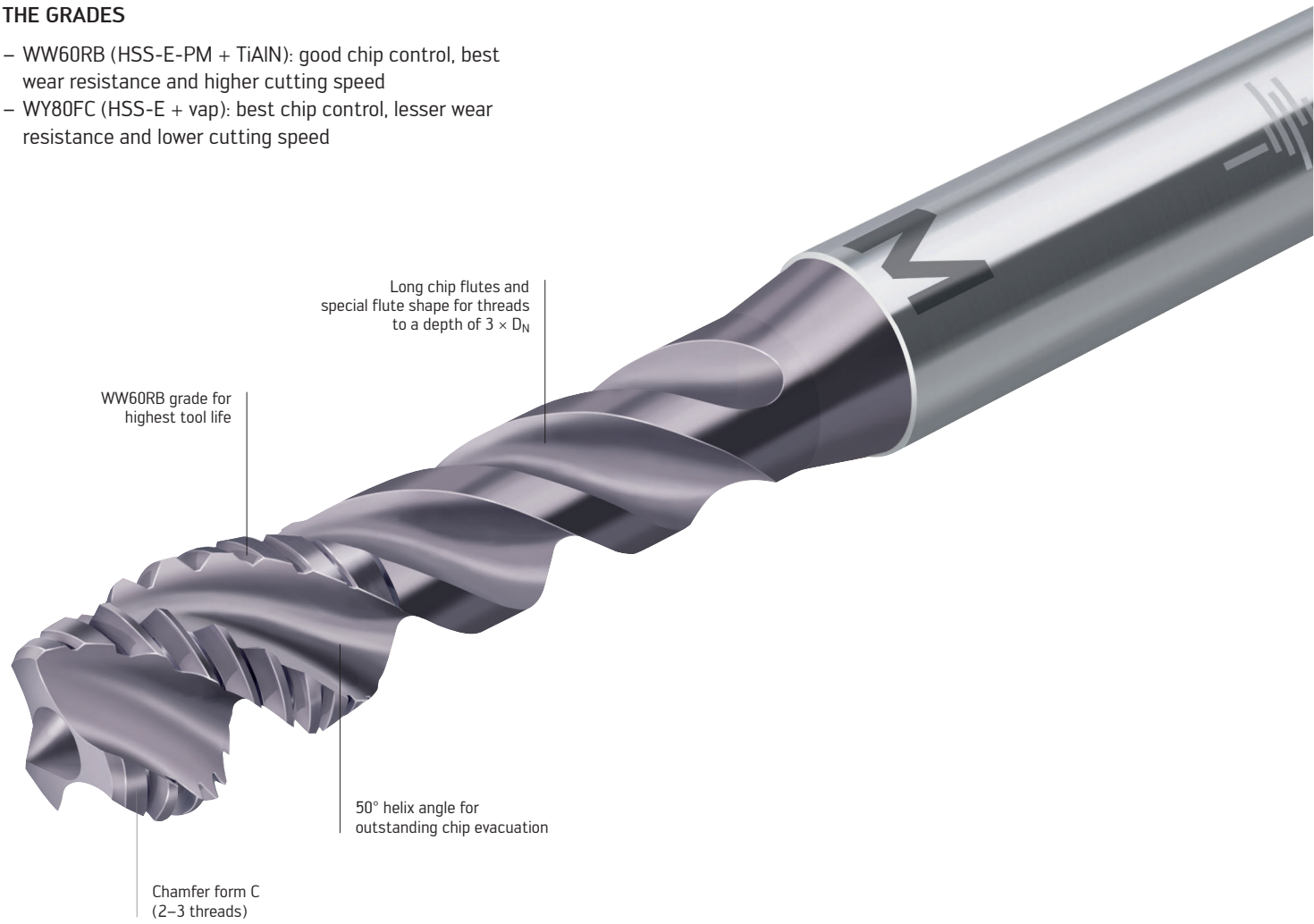
- High-performance blind-hole cut tap
- Designed for stainless steel machining: sharp cutting edges, fast helix and large rake angle
- Excellent chip evacuation due to 50° helix angle

THE APPLICATION

- Blind hole threads up to 3 x D_N
- ISO M: stainless steels up to 300 HB (austenitic and duplex)
- ISO P: steels from 200 to 350 HB as secondary application

THE GRADES

- WW60RB (HSS-E-PM + TiAlN): good chip control, best wear resistance and higher cutting speed
- WY80FC (HSS-E + vap): best chip control, lesser wear resistance and lower cutting speed

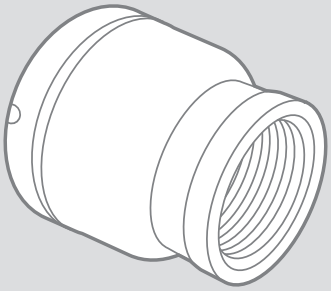


The Walter Supreme product line

Within the Supreme line, you will find tools with optimized machining qualities. These tools are always the first choice if high cutting speeds and long tool life are required when machining medium to large batch sizes.

Supreme tools are designed for machining very specific material groups, and often exceed the performance of comparable tools.

G1/4 TC142 coupling piece

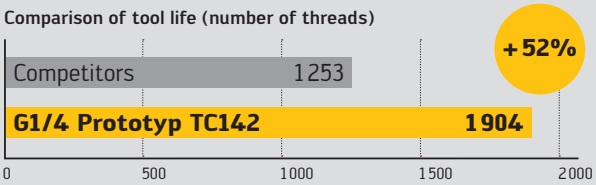


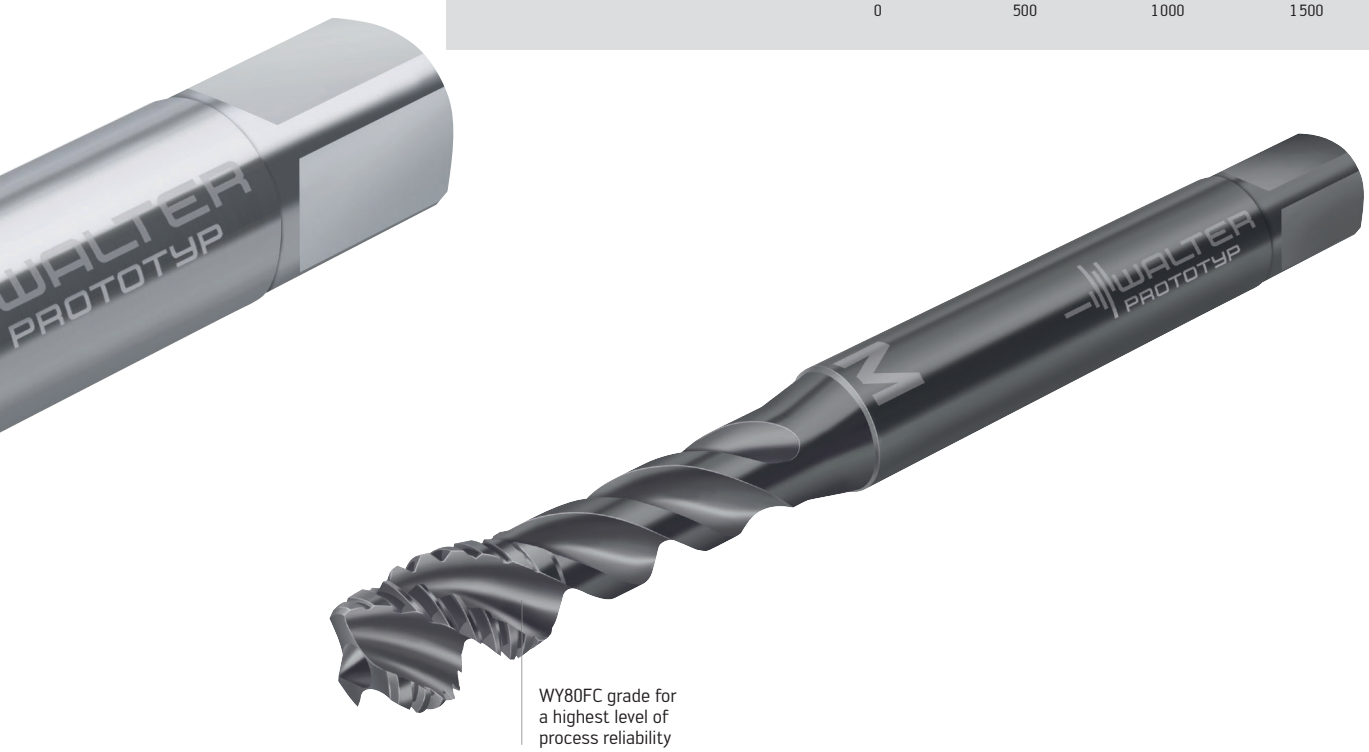
Material:	316 Ti
Tensile strength:	Approx. 175 HB
Tool:	**TC142-G1/4-LO-WY80FC**
Coating:	TiAlN
Hole type:	Blind hole
Thread depth:	$2 \times D_N$
Cooling lubricant:	Emulsion 7%

Cutting data:

	Competitors	**TC142**
n	318 rpm	318 rpm
Cutting speed v_c	20 SFM	20 SFM

Comparison of tool life (number of threads)





WY80FC grade for a highest level of process reliability

BENEFITS FOR YOU

- Maximum tool life and high reliability for stainless steel machining
- Secure machining of deep threads in tough materials
- Two grades with unique strengths

_ PARADUR® ECO CI CUT TAP

Maximum productivity for cast iron machining.

NEW TO THE RANGE

DIMENSION RANGE

DIN/ANSI
UNC 8-32 - UNC 1-8
UNF 10-32 - UNF 1-12

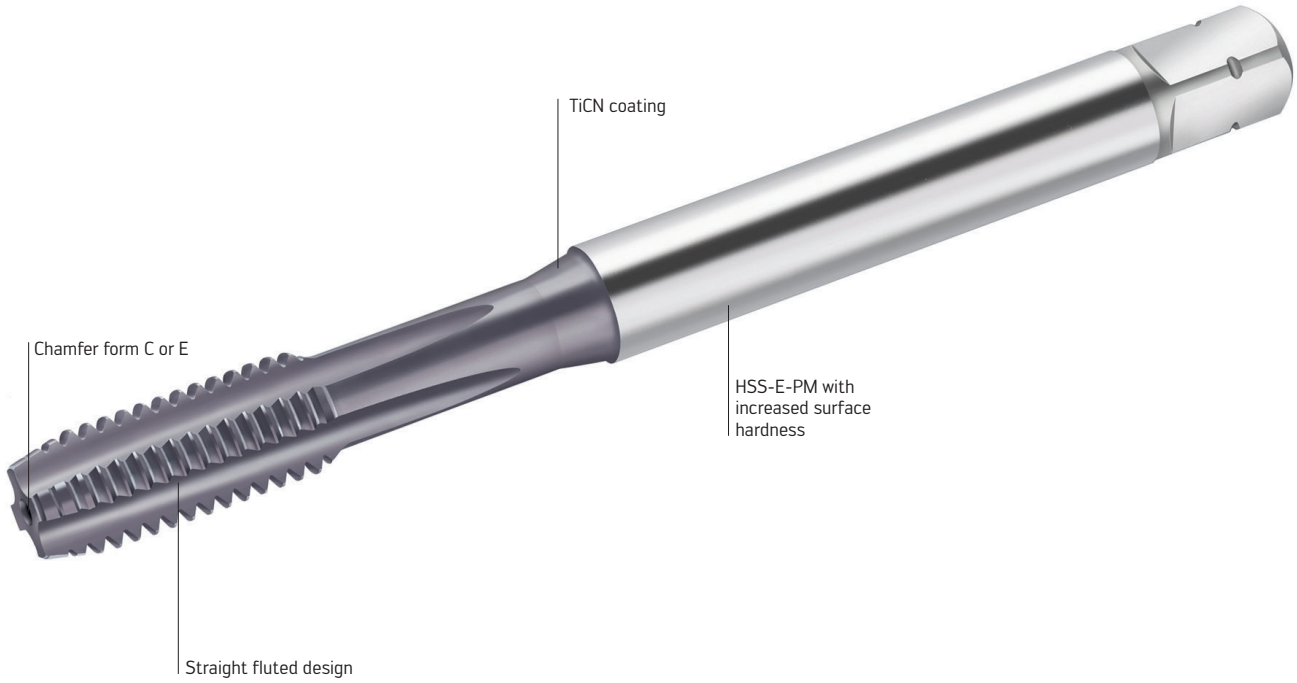
DIN
UNC 6-32 - UNC 7/8-9
UNF 10-32 - UNF 7/8-14
M 3 - M 30
MF 6x0.75 - MF 30x1.5
G 1/8-28 - G 1 1/2-11

THE TOOL

- High-performance cut tap for grey cast iron machining
- Maximum wear resistance thanks to HSS-E-PM with high surface hardness
- Large number of flutes
- Internal coolant supply secures chip evacuation

THE APPLICATION

- Blind and through hole threads up to 3 x D_N
- ISO K:
  - Primary application: GJL (grey cast iron) and CGI (compacted graphite iron)
  - Secondary application: GJS (nodular cast iron) up to 2 x D_N
- ISO N: AlSi alloys with an Si content > 7%



Paradur® Eco CI

Type: E2031406

BENEFITS FOR YOU

- Highest productivity for grey cast iron machining
- Extremely high tool life thanks to extraordinary wear resistance
- Short machining time due to high cutting speeds

_ PARADUR® X·PERT K CUT TAP

Maximum reliability for cast iron machining.

NEW TO THE RANGE

DIMENSION RANGE

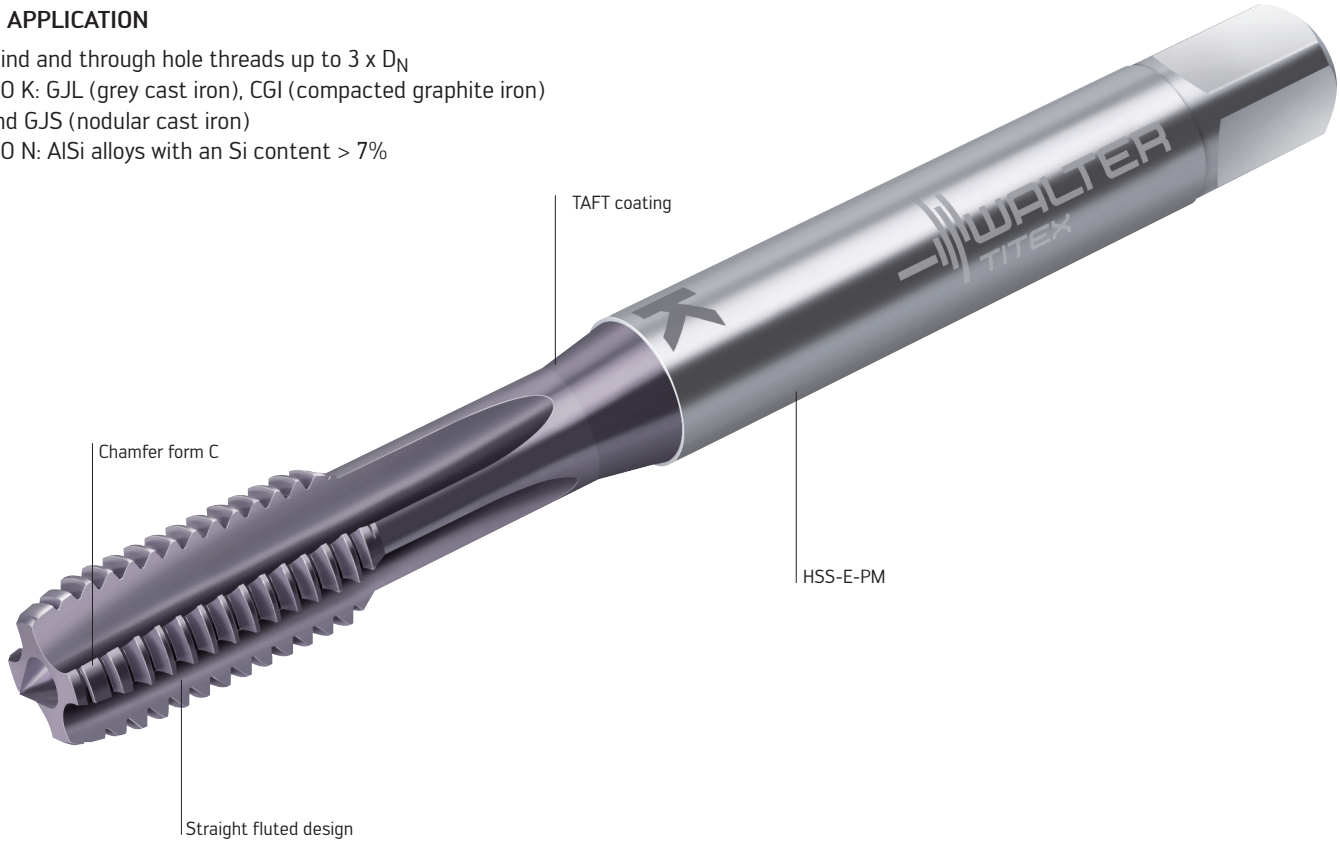
DIN/ANSI	DIN
UNC 2-56 - UNC 3/4-10	M 3 - M 20

THE TOOL

- Sturdy cut tap for cast iron machining
- Good wear resistance thanks to HSS-E-PM
- Large number of flutes

THE APPLICATION

- Blind and through hole threads up to 3 x D_N
- ISO K: GJL (grey cast iron), CGI (compacted graphite iron) and GJS (nodular cast iron)
- ISO N: AlSi alloys with an Si content > 7%



Paradur® X·pert K **Type:** K2031407

BENEFITS FOR YOU

- Good performance in all ISO K materials
- Reliable even in case of unfavorable conditions

– PARADUR® X·PERT N CUT TAP

The solution for soft and sticky aluminum alloys.

NEW TO THE RANGE

DIMENSION RANGE

DIN/ANSI
UNC 2-56 - UNC 3/8-16
STIUNC 2-56 - STIUNC 1/4-20
STIUNF 10-32 - STIUNF 1/4-28
M 2 - M 8

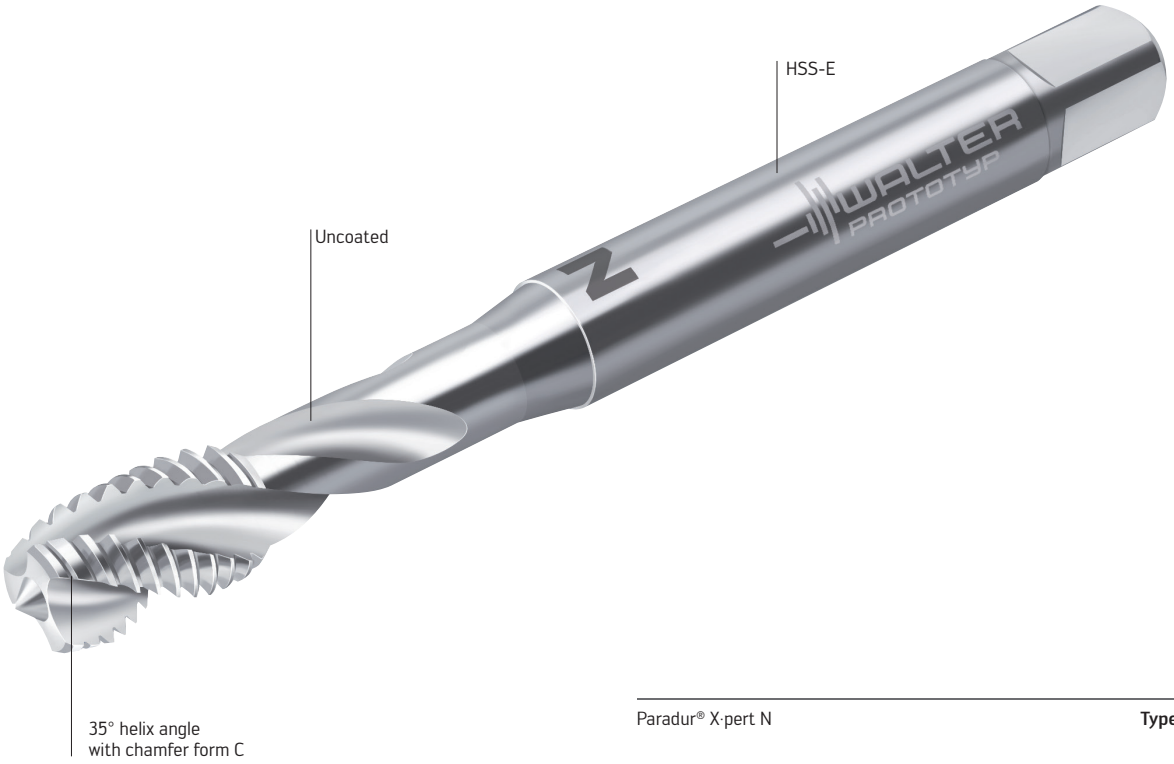
DIN
UNC 2-56 - UNC 3/8-16
STIUNC 6-32 - STIUNC 1/4-20
STIUNF 10-32 - STIUNF 1/4-28
M 1.6 - M 20
MF 8x1 - MF 20x1.5
M 3 LH - M 16 LH
G 1/8-28 - G 1-11

THE TOOL

– HSS-E cut tap
– Designed for soft and sticky aluminum alloys: sharp cutting edges and broad chip flutes
– Excellent self guidance due to low relief angles

THE APPLICATION

– Blind hole threads up to 3 x D_N
– Long-chipping materials with up to 200 HB
– ISO N:
  • AlSi alloys with an Si content of up to 7%
  • Pure copper
– ISO S:
  • Pure Titanium and Nickel
– ISO O: Thermoplastics

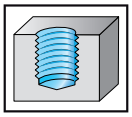


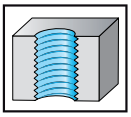
Paradur® X·pert N **Type:** N205166

BENEFITS FOR YOU

– High process reliability because of excellent chip formation
– Little tendency to form built up edges thanks to bright finish
– No miscutting in soft materials

Taps for all needs.



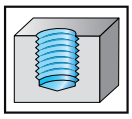


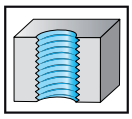
Tailored to different requirements:
Universal cut taps and cut taps for particular applications.

	Dimension range	Tool characteristics	Advantages	Material groups P	M	K	N	S	H	O
Paradur®/ Prototex® Eco Plus 	M, MF, UNC, UNF, G	– Universal high-performance cut taps, made from HSS-E-PM – Outstanding chip control	– Highest productivity in a wide range of materials and applications – Excellent process reliability	●●	●●	●●	●●			
TC117 Advance 	UNC, UNF, UN, UNS, STIUNC, STIUNF, M	– Universal HSS-E cut taps – Outstanding chip control – Large variety of standard tools	– High productivity in a wide range of materials and applications – Excellent process reliability – Machining of 2B and 3B tolerances with the same tap	●●	●●	●●	●●			
TC217 Advance 										
TC115 Perform 	M, MF, UNC, UNF	– Universal HSS-E cut taps – Excellent self guidance	– Cost-efficient and reliable machining of small and medium batch sizes – Floating chucks can be utilized even in very soft materials	●●	●●	●●	●			
TC216 Perform 										
Paradur® Short Chip HT 	M, MF, UNC	– Reduced helix angle and uncoated rake face – Problem solver	– Safe process thanks to short chips – No birds nesting	●●		●	●			
TC142 Supreme 	M, MF, G, UNC, UNF	– Sharp cutting edges, fast helix and large rake angle – For stainless steels	– Max tool life & reliability for stainless steels – Secure machining of deep threads in tough materials	●	●●					
Paradur® Eco CI 	M, MF, UNC, UNF	– HSS-E-PM with high surface hardness – For grey cast iron (GJL)	– Highest productivity for grey cast iron machining – Extremely high tool life			●●	●●			●●
Paradur® Advance X·pert K 	M, UNC	– Sturdy cut tap for cast iron machining – For GJL, CGI, and GJS	– Good performance in all ISO K materials – Reliable even in case of unfavorable conditions			●●	●			
Paradur® Advance X·pert N 	M, MF, UNC, G	– Sharp cutting edges and broad chip flutes – For sticky Al alloys	– High process reliability because of excellent chip formation – Little tendency to form built up edges				●●	●		●

Three for all applications: The new thread former generation.

NEW

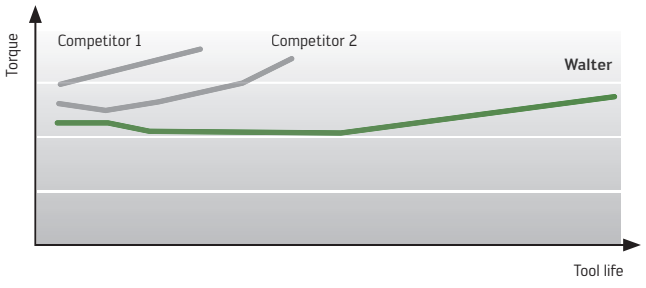


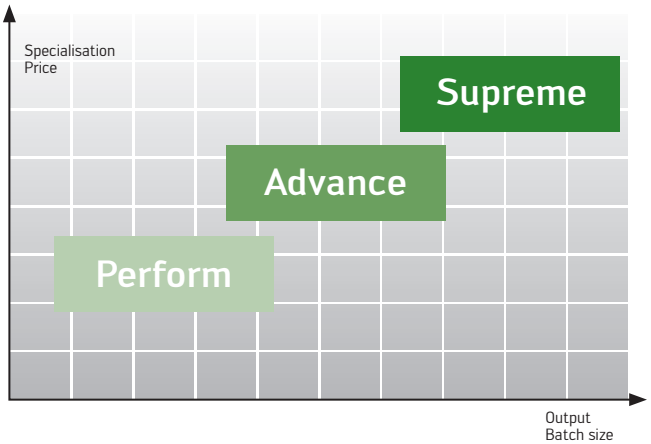


Tailored to different requirements:
Three thread formers with individual geometries and coatings for machining all formable materials and specifically for ISO P.

	Area of use	Tool characteristics	Advantages	Material groups P	M	K	N	S	H	O
TC430 Supreme 	ISO P	– HIPIMS and TiN coating – Higher number of forming edges – HSS-E-PM – Short threaded part	– Maximum tool life – For ISO P materials	●●	●	●	●	●		
TC420 Supreme 	Universal	– TiN and TiCN coating – HSS-E-PM – Short threaded part	– Long tool life – For all formable materials	●●	●●	●	●●	●		
TC410 Advance 	Universal	– TiN coating – HSS-E – Long 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





_TC410 ADVANCE THREAD FORMER

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

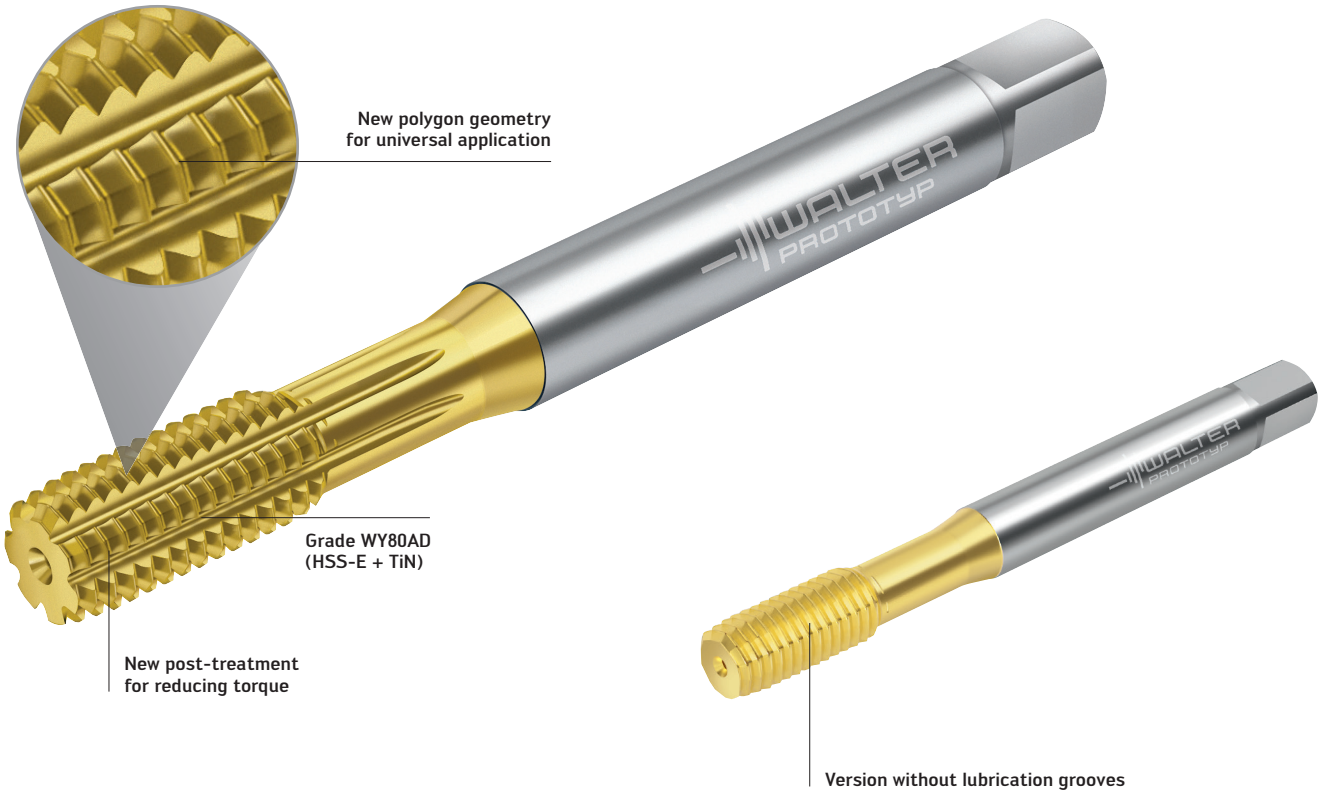
- WY80AD (HSS-E + TiN)

Dimension range:

- Metric: M1–M24
- Metric fine: M4 × 0.5–M30 × 2
- UNC: UNC 2–56 – UNC 7/8–9
- UNF: UNF 0–80 – UNF 7/8–14
- G: G1/8"–G1"

THE APPLICATION

- Blind-hole and through-hole threads
- Thread depth up to 3.5 × 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

BENEFITS FOR YOU

- 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

THE TOOL

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

THE GRADE

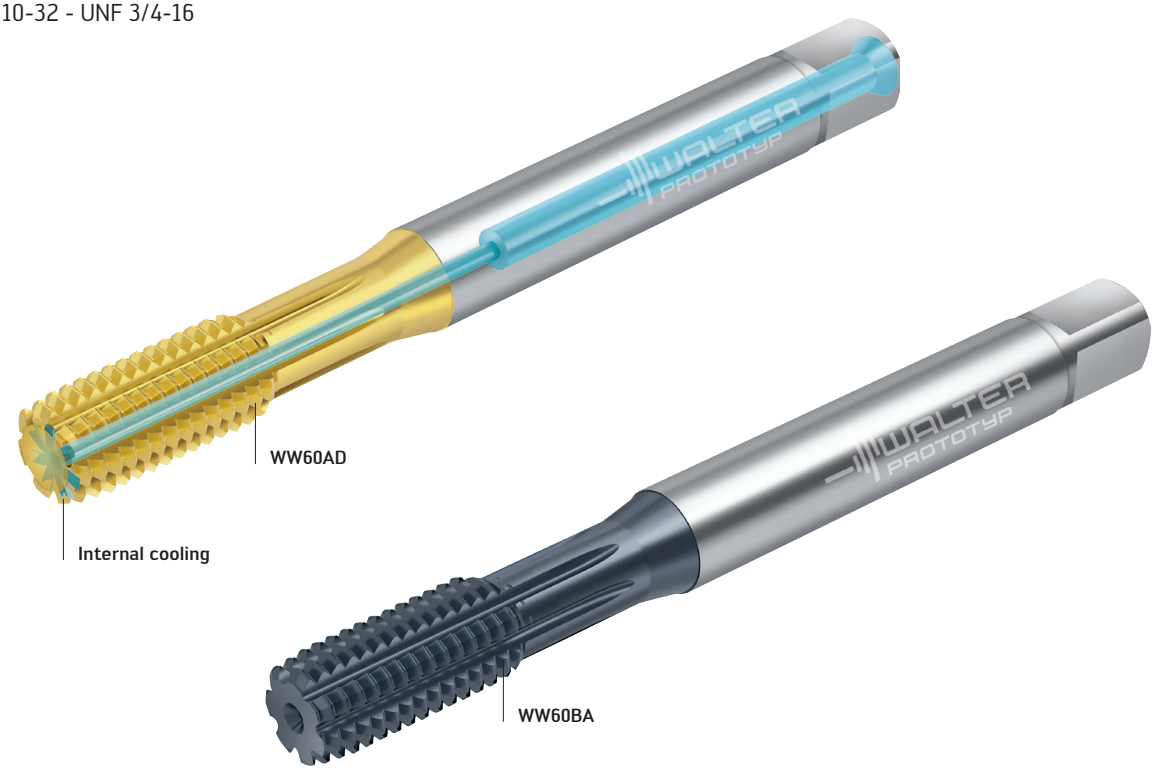
- WW60AD (HSS-E-PM + TiN)
- WW60BA (HSS-E-PM + TiCN)

Dimension range:

- Metric: M2–M20
- Metric fine: M8 × 1–M16 × 1.5
- UNC: UNC 10-32 - UNC 3/4-10
- UNF: UNF 10-32 - UNF 3/4-16

THE APPLICATION

- Blind-hole and through-hole threads
- Thread depth up to 3.5 × D_N
- ISO material groups P, M, K und N
- All formable materials
- Areas of use: General mechanical engineering, automotive and energy industries, amongst others



TC420 Supreme thread former **Fig.:** TC420

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

BENEFITS FOR YOU

- Can be used universally
- Up to 30% lower torque
- High cutting speeds possible
- Better surface finish than that achieved using thread cutting

Specialist in chip-free ISO P machining.

NEW

THE TOOL

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

THE GRADE

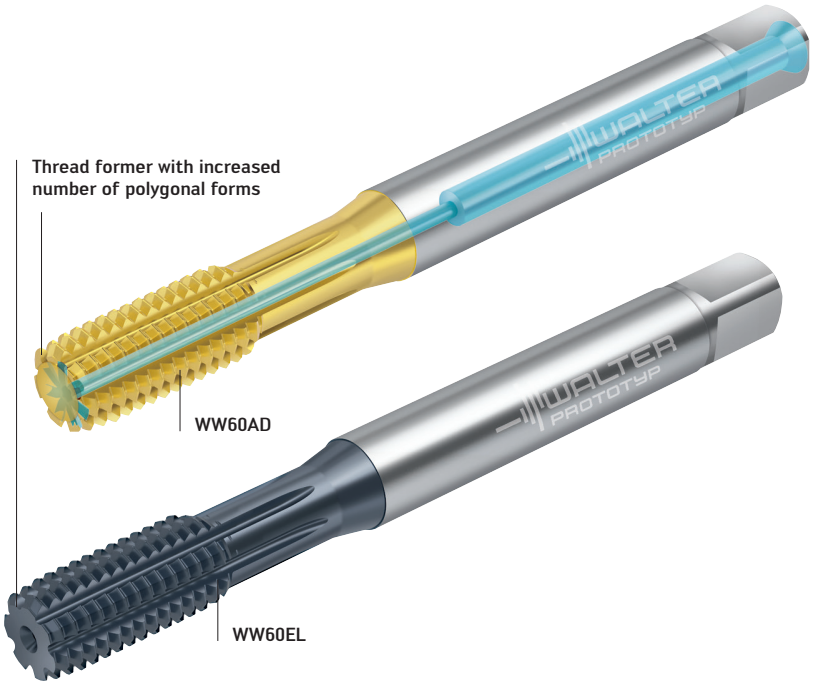
- WW60AD (HSS-E-PM + TiN)
- WW60EL (HSSE-PM + TiAlN)

Dimension range:

- Metric: M2–M20
- Metric fine: M8 × 1–M16 × 1,5

THE APPLICATION

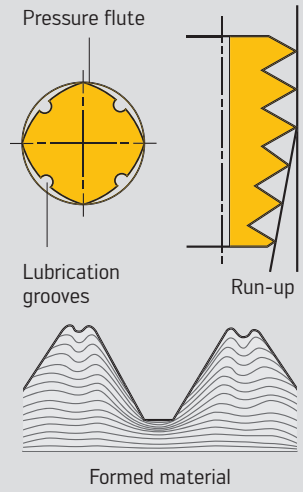
- For blind-hole and through-hole threads
- Thread depth up to 3.5 × D_N
- Spezialist for ISO P materials
- All formable steel materials
- Areas of use: General mechanical engineering, automotive and energy industries, etc.



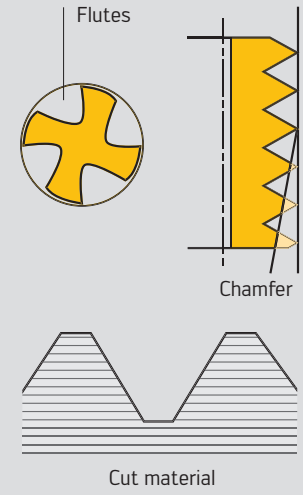
TC430 Supreme thread former **Fig.:** TC430

Non-cutting production of internal threads

Thread former:



Tap:



BENEFITS FOR YOU

- Maximum tool life with ISO P
- No chip formation, no miscutting, improved surface finish
- Stable tool design to counteract the risk of breakages
- Very strong formed thread

For the toughest challenges.

NEW

THE TOOL

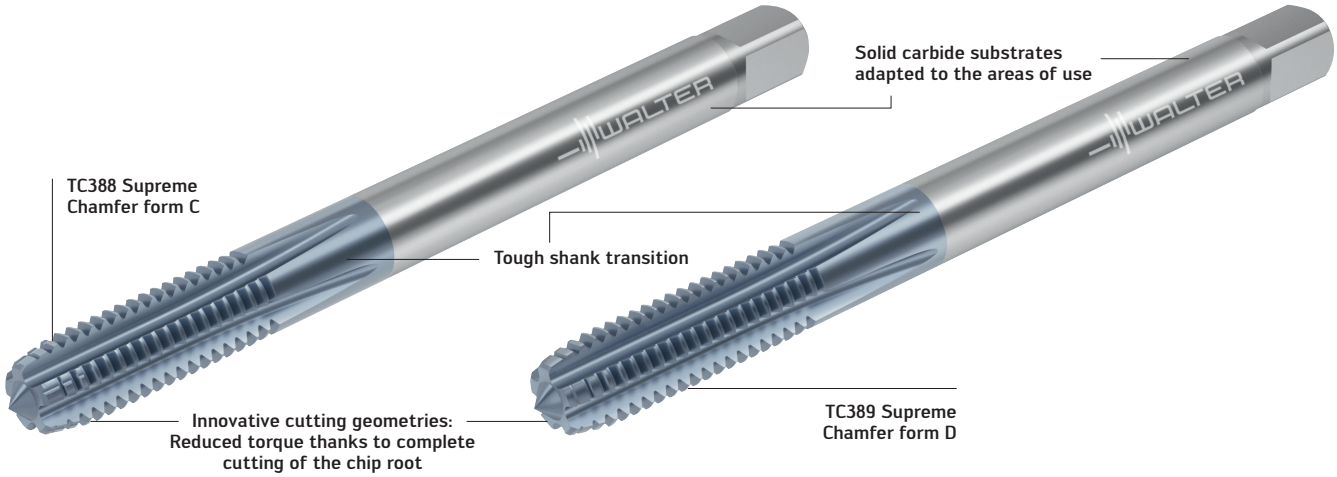
- Solid carbide tap for hard machining
- New cutting geometries for reduced torque when reversing
- Can be used with emulsion
- Suitable for manual rethreading to compensate quenching distortion

Dimension range:

- M3–M16
- G1/8" and G1/4"

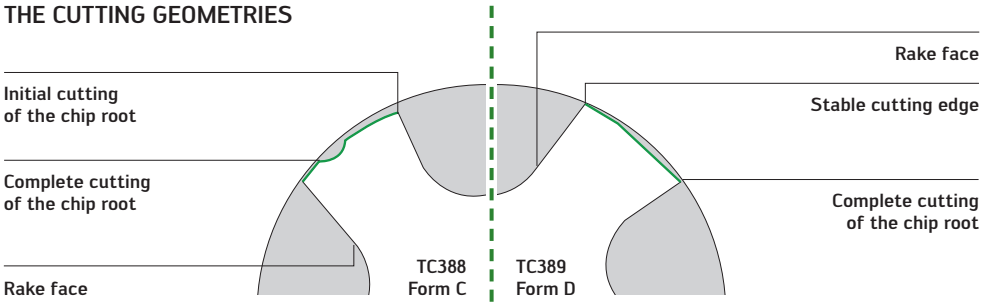
THE APPLICATION

- Blind and through-hole threads up to 2.0 × 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

THE CUTTING GEOMETRIES



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

BENEFITS FOR YOU

- 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

_TC685 SUPREME THREAD MILLING CUTTER

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

NEW

THE TOOL

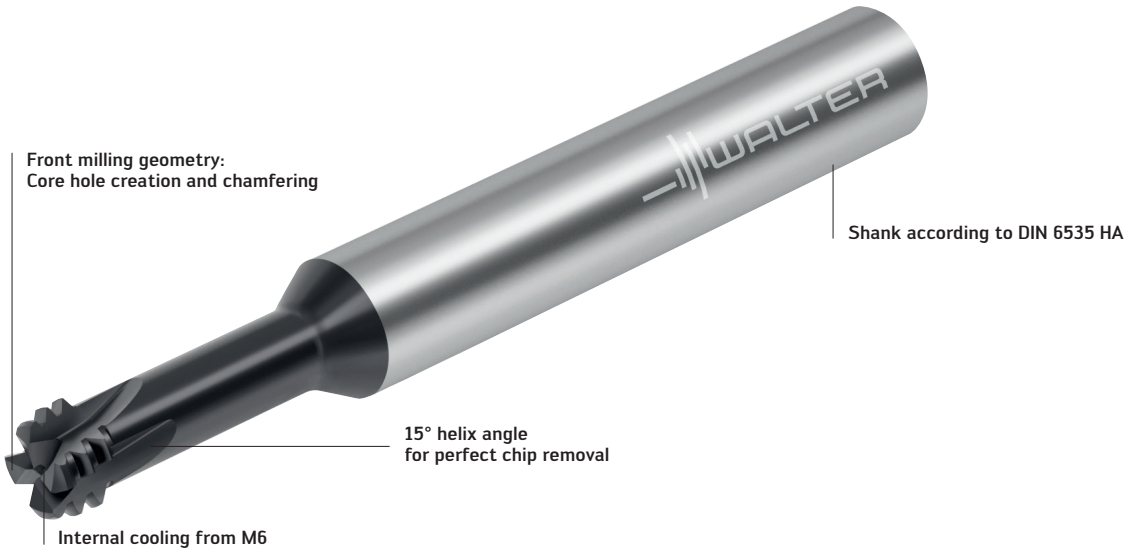
- Orbital thread mill drill for hard machining
- Creation of core hole and thread in one operation
- Can also be used for chamfering
- IMPORTANT: Left-hand cutting tool

Dimension range:

- M3–M16

THE APPLICATION

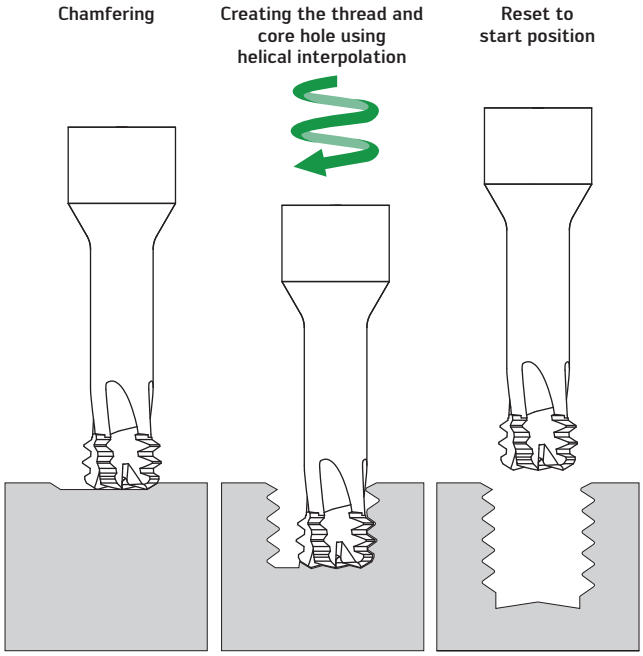
- Blind-hole and through-hole threads
- ISO P and ISO H materials with 44–65 HRC
- Thread depths of 2.0 × D_N and 2.5 × D_N



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.



BENEFITS FOR YOU

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

_TC620 SUPREME THREAD MILLING CUTTER

Reduced cutting pressure – increased productivity.

NEW

THE TOOL

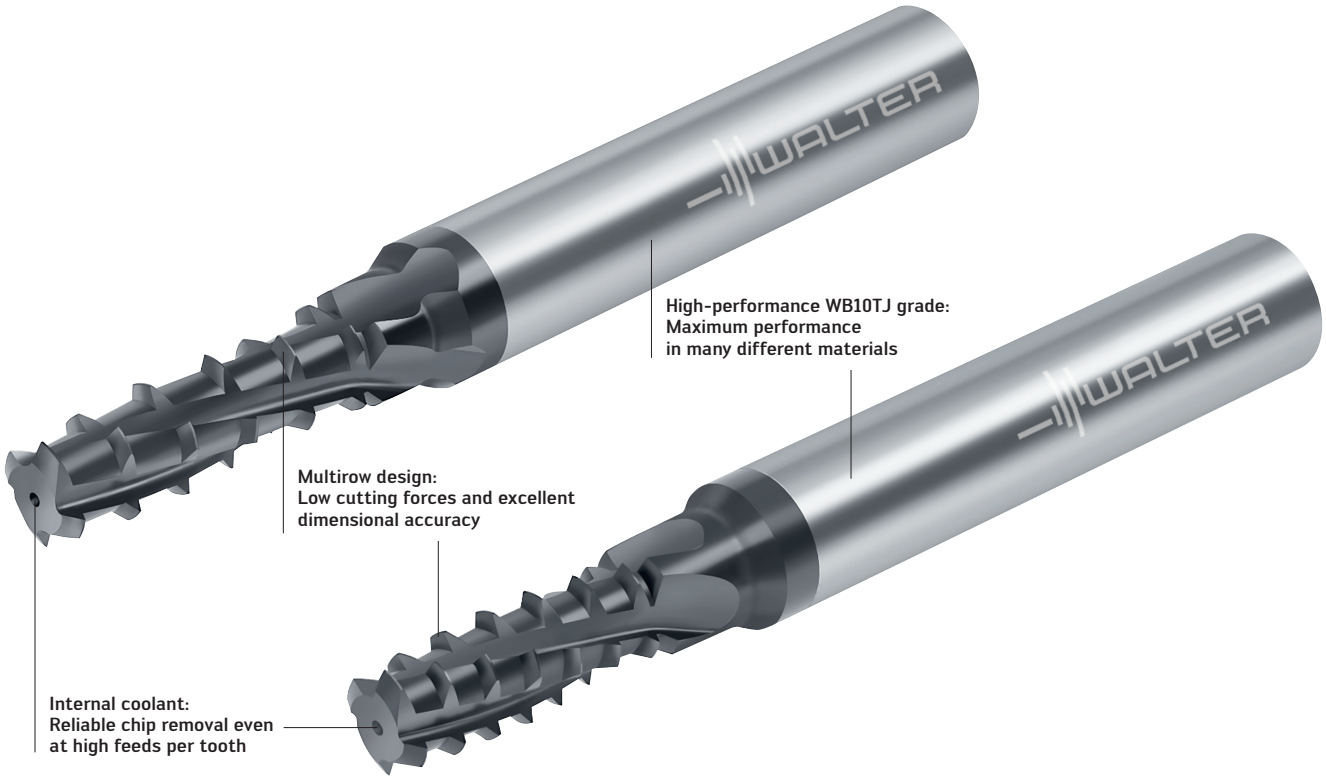
- Multirow thread milling cutter for universal application
- Designed for high cutting speeds and high feeds per tooth
- Shank according to DIN 6535 HA

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 × D_N and 2.5 × D_N



TC620 thread milling cutter **Fig.:** TC620-M8-A1E-WB10TJ / TC620-M8-A1D-WB10TJ

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

BENEFITS FOR YOU

- 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 unfavorable conditions and difficult materials

THE DESIGN

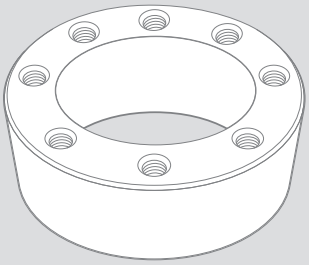
Thanks to the multirow tool design, the TC620 thread milling cutters impress with low cutting forces. This enables higher feeds per tooth than on conventional thread milling cutters.
The result: Lower wear and therefore higher tool life quantities.
The low cutting pressure means that radius corrections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

THE STRATEGY

Once the row spacing is bridged, the thread is complete. Conventional milling is advantageous when machining steel. Climb milling is recommended for tough materials, for example stainless steel. Some materials require a spring pass.

APPLICATION EXAMPLE

Thread milling – M10

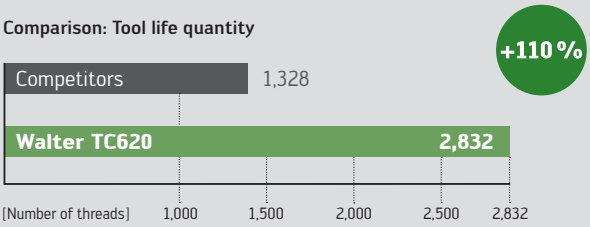


Material: ISO P - 1.0503 (C45)

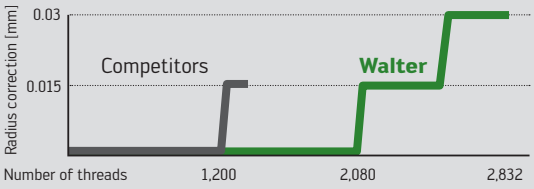
Strategy: Conventional milling

	Competitors	TC620-M10-A1D-WB10TJ
v_c (sfm)	328	426
f_Z (in)	0.0024	0.0079
Tool life quantity	1,328	2,832
Machining time (sec)	3.8	2.6

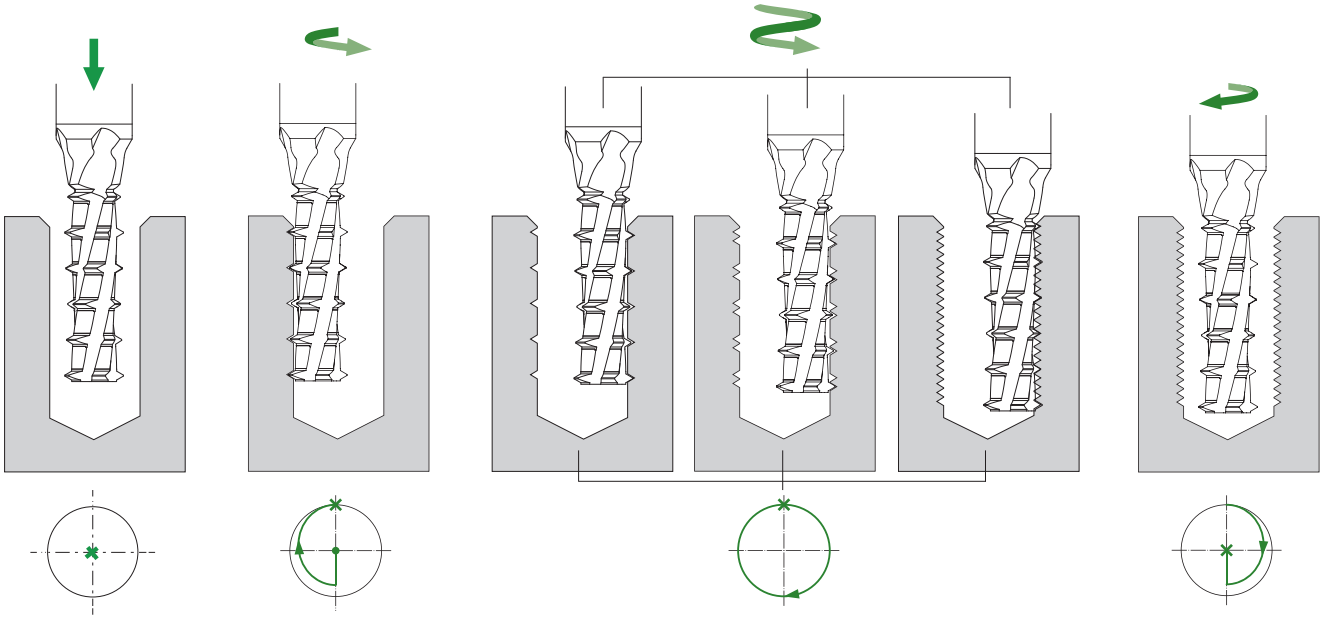
Comparison: Tool life quantity



Radius corrections



Easy handling, e.g. in unmanned production environments: Radius corrections are only required after 2080 threads.



Positioning the milling cutter over core hole and plunging

Entrance loop

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

Exit loop

Three families – uniquely 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

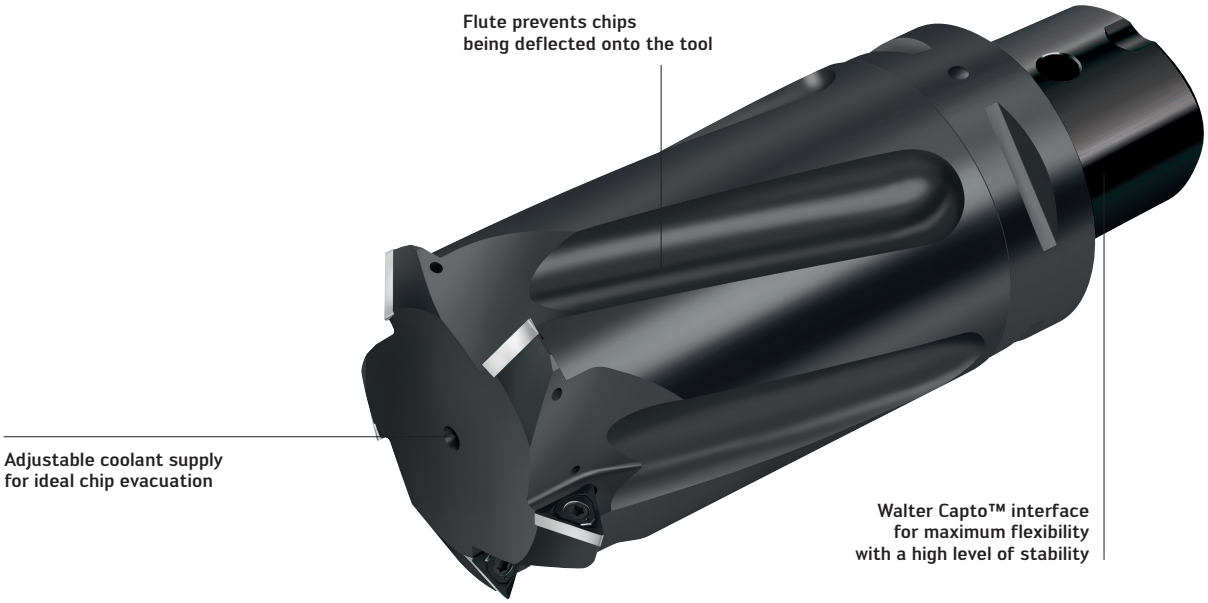
- For threads with a nominal diameter from 24 mm/1 in
- Pitch range: 1.5–10 mm/18–4 TPI
- Can be used universally with ISO material groups P, M, K, S and H up to 55 HRC

THE THREAD MILLING 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 long 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

P26310 indexable insert **Fig.:** P26310-09G11-D61 WSM37S

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 inch shank

Also available from:

Walter Xpress

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

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

T2713-29-W32-3-09

C – Milling


WALTER
WALTER
WALTER
WALTER
WALTER
WALTER

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

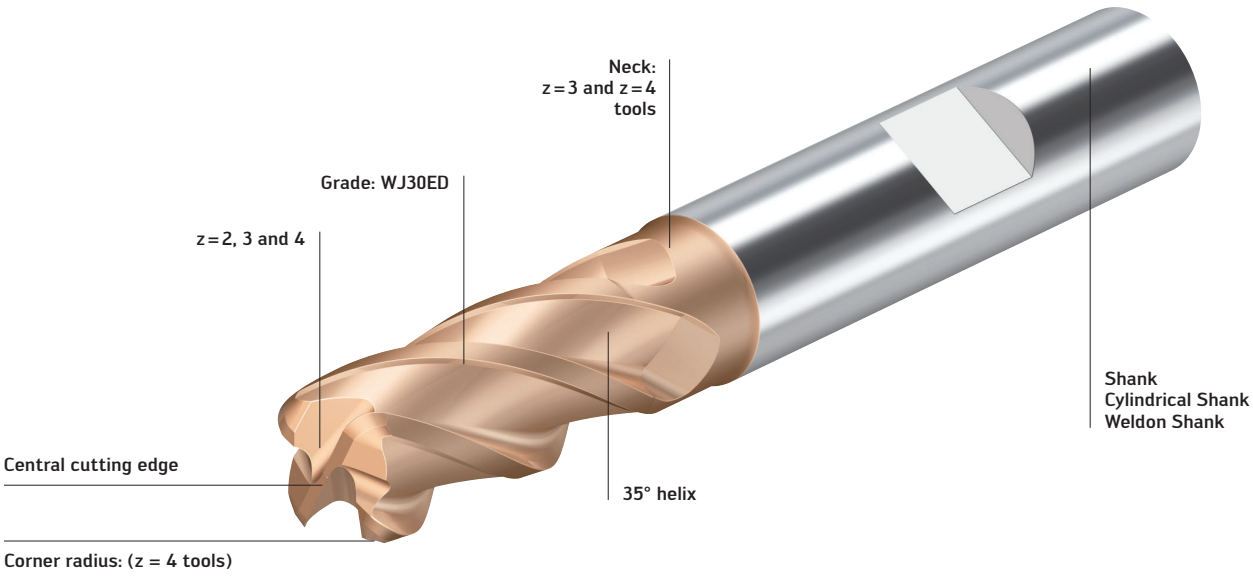
NEW TO THE RANGE

THE APPLICATION

- ISO material groups P, M and K
- Lateral milling, full slotting, pocket milling, helical plunging, ramping
- Areas of use: General mechanical engineering, mold 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; 125 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

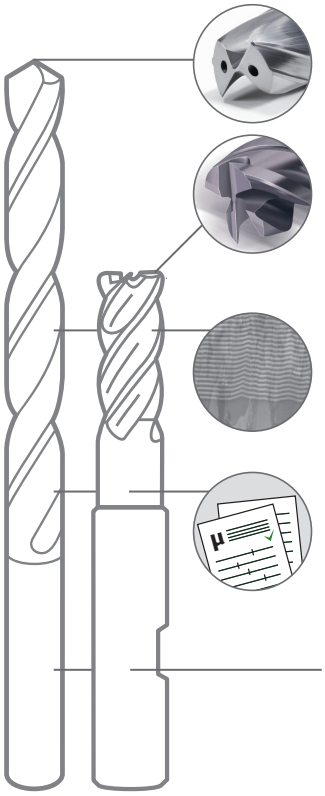
BENEFITS FOR YOU

- 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

_WALTER RECONDITIONING SERVICE

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.

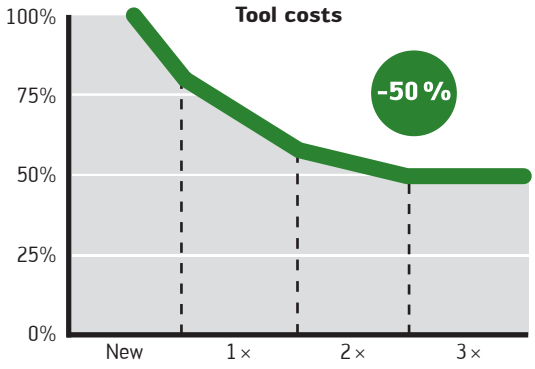
Reconditioning Service
Original Walter Quality

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!

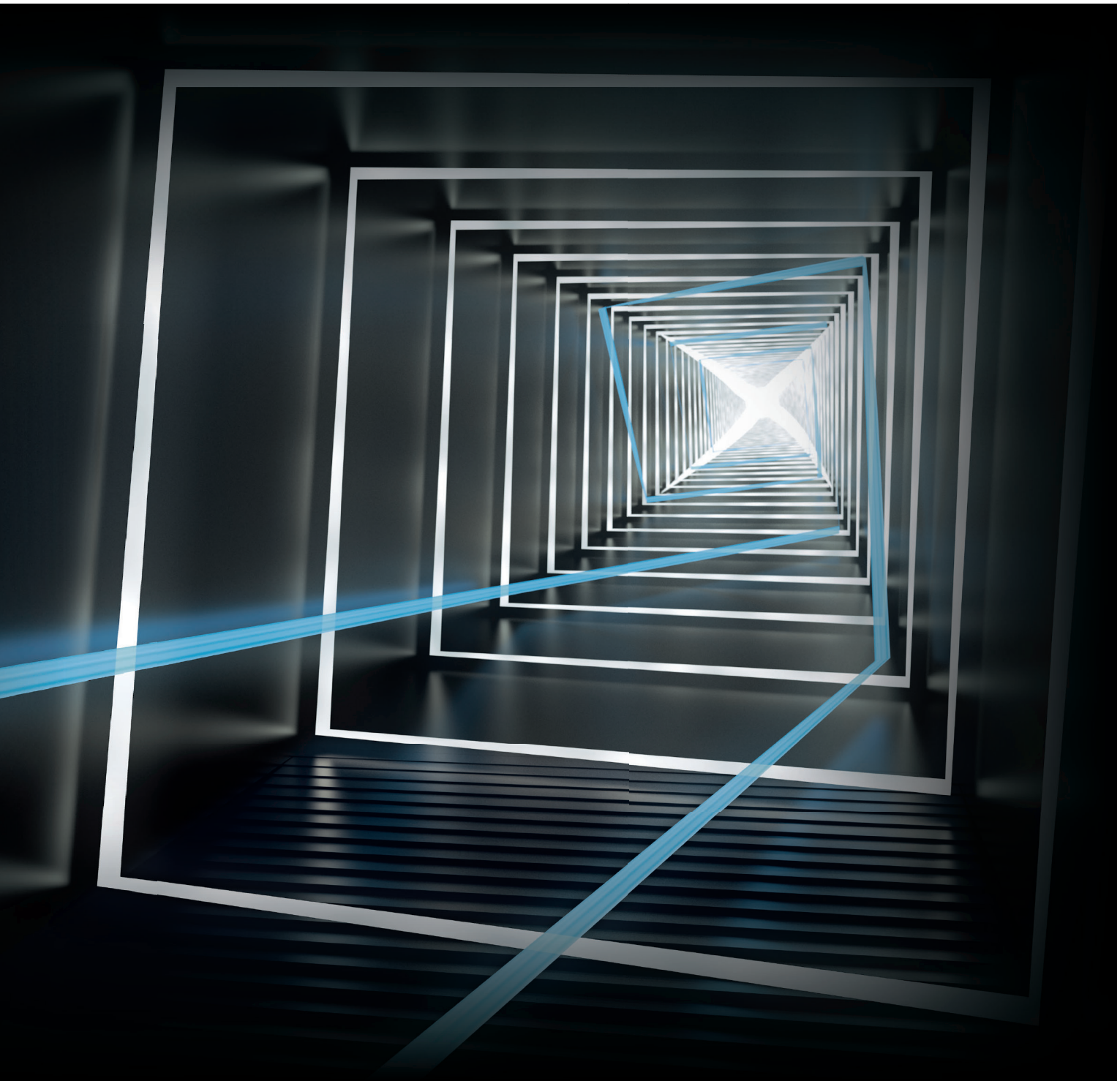
Tools are often disposed of far too early, even though the Walter Reconditioning Service can restore the tool a number of times to original manufacturer quality. Benefit from reduced costs, reliable production processes and consistent tool life by having your tools reconditioned at our Reconditioning 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

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.

Xtra·tec® XT – Performance and reliability extend your perspective.

NEW

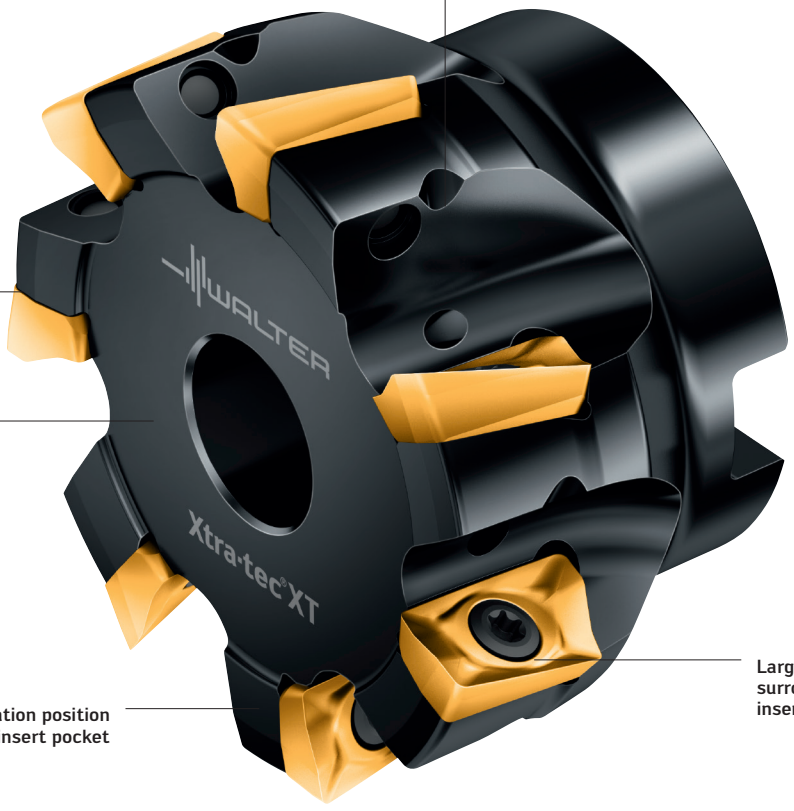
THE TOOL

- Shoulder milling cutter with indexable inserts
- Perfectly adapted to the machining situation through different insert sizes and corner radii
- Two pitches for different applications
- Approach angle: Exactly 90°
- Interfaces: ScrewFit, Weldon, cylindrical shank and shell mill mount
- Dia. 10–160 mm (or 0.5–6")

THE INDEXABLE INSERTS

- Two cutting edges with positive basic shape
- Two sizes of indexable insert with various corner radii
  - AC..0602..: r = 0.2–1.6 mm – for a max depth of cut of 5 mm for efficient machining
  - BC..1605...: r = 0.8 mm – for a max depth of cut of 15 mm
- Variants:
  - Circumference fully sintered (ACMT.., BCMT..)
  - Circumference fully ground (ACGT.., BCGT..)

Powered by
Tiger·tec® Silver
Tiger·tec® Gold



M5130 shoulder milling cutter

Fig.: Dia. 63 mm; z = 7 with BC . . 160508R . .

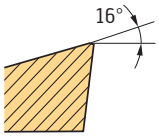
THE APPLICATION

- Xtra·tec® XT shoulder milling cutter: Face milling, shoulder milling, ramping, pocket milling and circular interpolation milling
- Can be used universally for all common material groups: Steel, stainless steels, cast iron, non-ferrous metals and materials with difficult cutting properties
- Tools with small indexable inserts and a higher number of teeth: Ideal for workpieces with small machining allowances
- Finishing operations

THE GEOMETRIES

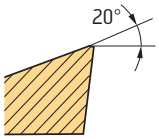
F55 – The stable one

- For unfavorable machining conditions
- Maximum cutting edge stability
- High feeds



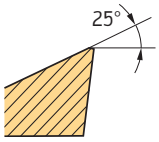
G55/G65 – The universal one

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



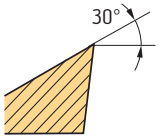
K55 – The easy-cutting one

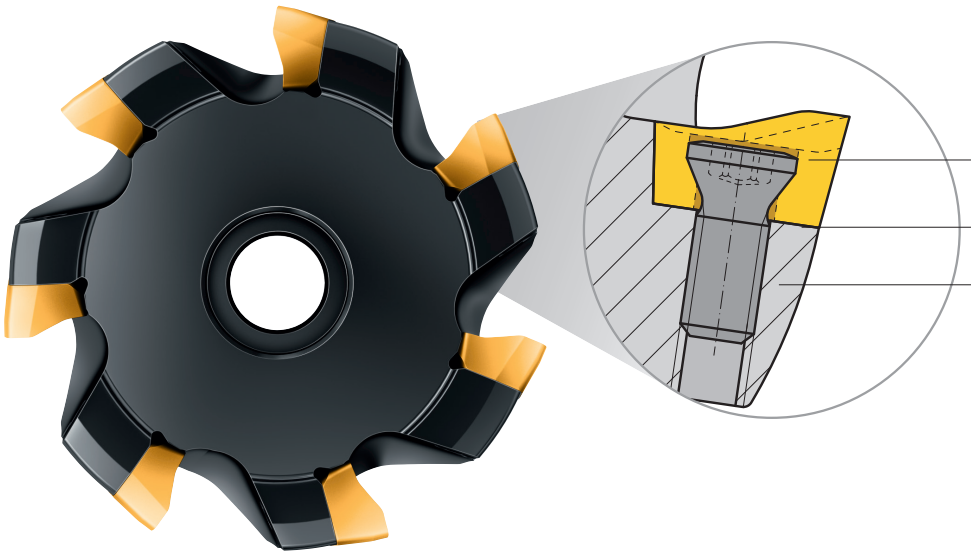
- For good machining conditions
- Low cutting forces
- Medium feeds

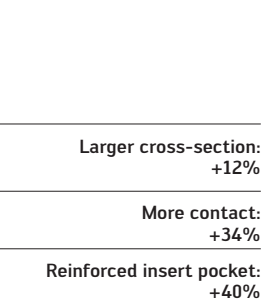


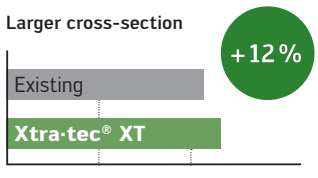
M85 – The sharp one

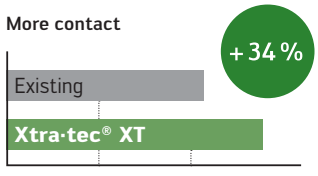
- For machining aluminium
- Low cutting forces
- Sharp cutting edges

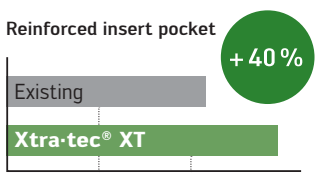












BENEFITS FOR YOU

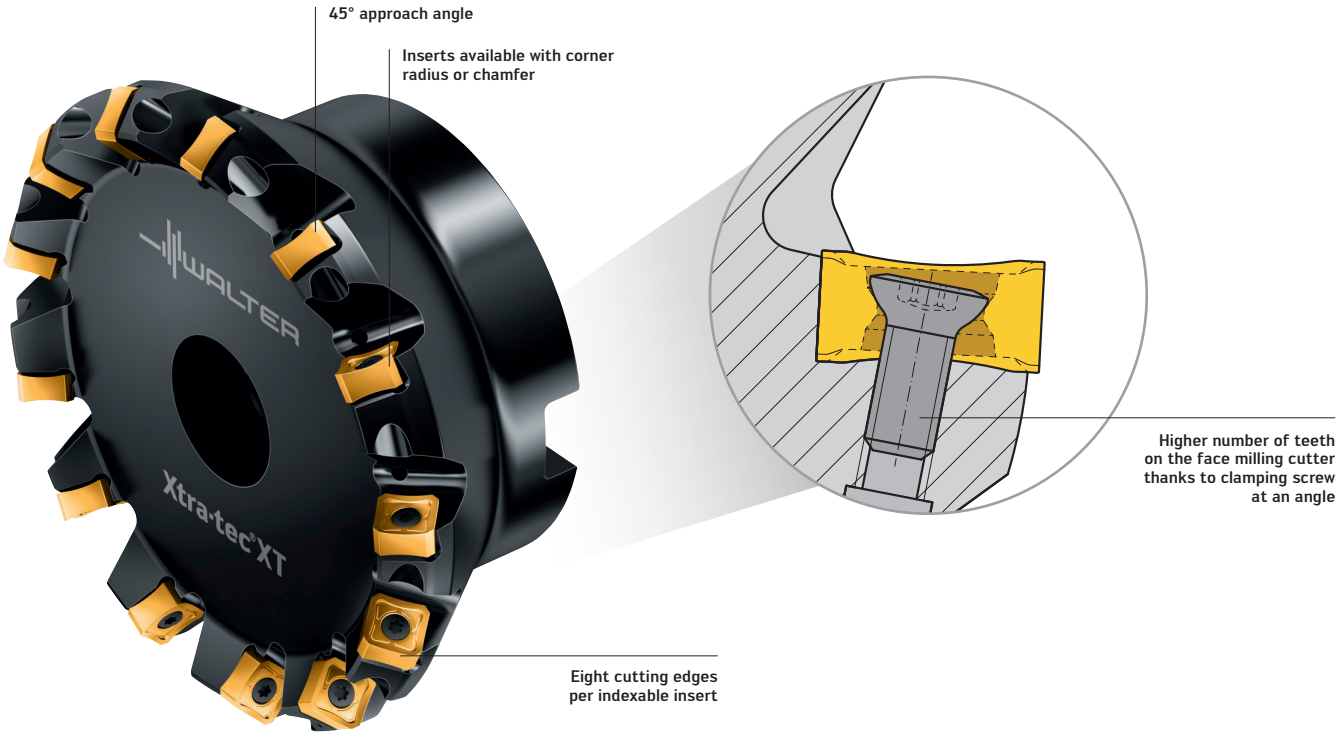
- Maximum stability for optimum productivity and process reliability
- Lower tool costs and minimal administrative effort thanks to universal usability
- No additional finishing operations thanks to exact 90° angle
- Tiger·tec® cutting tool materials guarantee extremely high cutting data
- Excellent handling thanks to improved accessibility
- High number of teeth and small indexable inserts for maximum efficiency

Small indexable inserts, great productivity – Xtra·tec® XT.

NEW

THE TOOL

- Face milling cutter with square, double-sided indexable inserts
- Small indexable inserts, resulting in a higher number of teeth
- Indexable inserts with improved access to the clamping screw for easy handling
- Body protected against wear by a special surface treatment
- Clamping screw at an angle for maximum number of teeth
- Two pitches for different applications
- Dia. 25–100 mm (or 1–4")
- Cost-efficient machining up to a depth of cut of 5 mm
- Interfaces: ScrewFit and shell mill mount



M5009 face milling cutter

Fig.: Dia. 100 mm; z = 13 with SN . X0904 . .

BENEFITS FOR YOU

- High level of stability – ideal for small machining allowances and variable conditions
- Maximum feeds, tool life and productivity thanks to small indexable inserts and high number of teeth
- High level of process reliability due to stable, double-sided indexable inserts
- Very good handling thanks to easily accessible clamping screw at an angle – prevents typical installation mistakes
- Highly cost-effective thanks to low cutting tool material costs

THE INDEXABLE INSERTS

Roughing insert:

- Square, double-sided indexable inserts with eight cutting edges
- Inserts available with corner radius or chamfer
- Easy-cutting geometries
- Variants:
  - Circumference fully sintered for maximum cost efficiency (SNMX0904...)
  - Circumference fully ground for maximum precision (SNGX0904.., SNHX0904..)
- Tiger·tec® Gold and Tiger·tec® Silver cutting tool materials for maximum cutting speeds

Wiper insert:

- Double-sided indexable insert with two cutting edges (XNGX0904...)

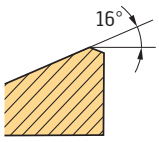
THE APPLICATION

- For all steel and cast iron workpieces, stainless steels or materials with difficult cutting properties and non-ferrous metals
- For face milling, roughing and rough-finishing with wiper inserts
- Use on less powerful machines due to the positive, soft cutting action

THE GEOMETRIES

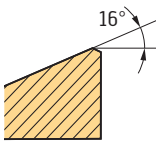
F27 – The stable one

- For unfavorable machining conditions
- Maximum cutting edge stability
- High feeds



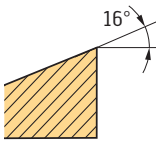
F57 – The universal one

- For medium machining conditions
- Can be used universally



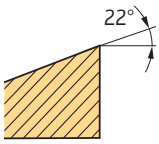
F67 – The easy-cutting one

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



K88 – The sharp one

- For machining aluminium
- Low cutting forces
- Sharp cutting edges



Invest in the future

Xtra·tec® XT and Walter Green represent shared responsibility for our use of precious resources. From raw material procurement to development and manufacture through to packing and inventory: The entire CO_2 needs of Xtra·tec® XT are balanced, documented and compensated.

Walter Green

Your production environment at a glance – transparent and in real time

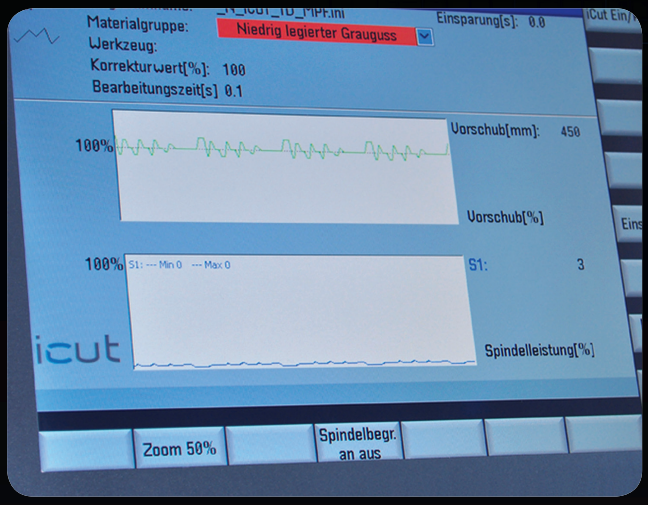
THE SOFTWARE

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.

icut

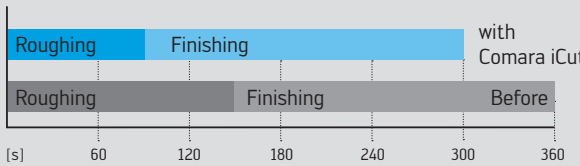


APPLICATION EXAMPLE

Reduced production time

-10 %
Reduction

Comparison: Time



BENEFITS FOR YOU

- 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

THE SOFTWARE

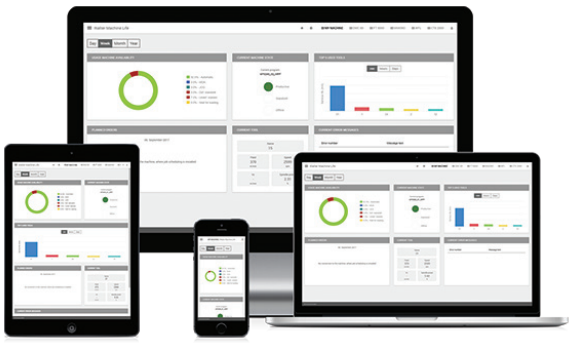
Comara appCom collects, analyses, visualises and interprets comprehensive machine and production data.

This opens up brand-new possibilities for products, services and ways of cooperation:

appcom

NC Program Changes

Dashboard



Alarm Monitor

Production Overview

Parts Overview

Alarm Assistant

OEE

Variance

Machine Live

BENEFITS FOR YOU

- Transparent machine utilisation
- Uncovers optimisation potential
- Machine data processed individually for each user group
- Live data from the machining process
- Visualisation not dependent on device (browser-based)
- Tracking of production KPIs on the basis of real data (e.g. machine availability)

For more information, visit:
walter-tools.com

D – Adaptors


WALTER
PROTOTYP

_GL00.. ER COOLING NOZZLE

Optimise tool life and lubrication.

NEW

THE COOLING NOZZLE

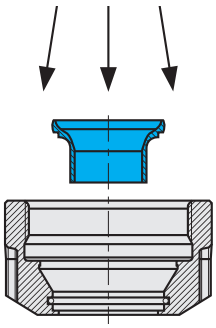
- GL00.. ER cooling nozzle
- For collets ER16, ER20, ER25, ER32
- For ER collets with:
  Tool dia. 3–10 mm – ER16
  Tool dia. 6–12 mm – ER20
  Tool dia. 6–16 mm – ER25
  Tool dia. 6–16 mm – ER32

THE APPLICATION

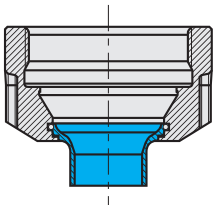
- Can be used for all ER collets in accordance with DIN 6499
- Holemaking, threading, milling
- For tools without internal coolant
- Targeted cooling along the cutting edge

THE HANDLING

Fitting

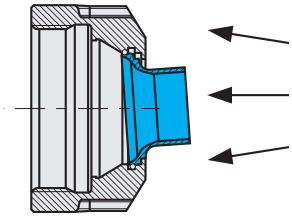


Installed

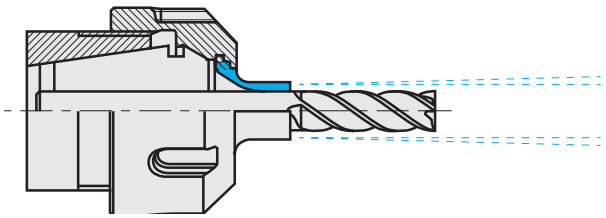


ER cooling nozzle **Fig.:** GL00..

Removal



Cooling along the tool periphery



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

BENEFITS FOR YOU

- Better cooling and lubrication
- Longer tool edge life
- Improved chip removal

ScrewFit – the adaptor for the new Xtra·tec® XT M5130 shoulder milling cutters.

NEW TO THE RANGE

NEW ADDITION TO THE PRODUCT RANGE

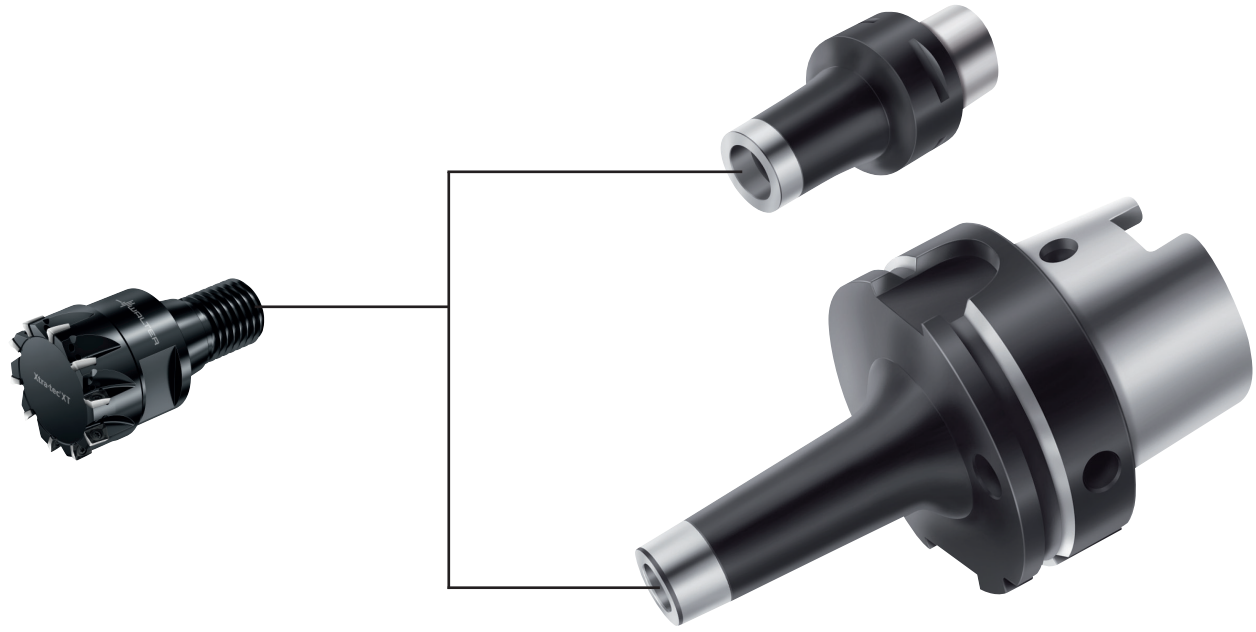
- ScrewFit adaptor AK530.H100A...
- ScrewFit adaptor AK580.C8...

THE ADAPTOR

- Walter Capto™ C8... for T09, T14, T18, T22, T28, T36, T45
- HSK 100A.. for T09, T14, T18

THE APPLICATION

- On machining centers, lathes and multi-task machines
- Holemaking and milling operations



Xtra·tec® XT M5130 shoulder milling cutter + ScrewFit adaptors **Fig.:** M5130, AK530.H.., AK580.C...

BENEFITS FOR YOU

- 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

Technologies at Walter.

Tiger·tec® Gold

Tiger·tec® Gold is a new Walter technology platform for unique indexable insert coatings. These are produced using the innovative ultra low pressure method (ULP-CVD). The special titanium aluminium nitride layer makes them highly resistant to abrasion, hairline cracks, oxidation and plastic deformation, as well as ensuring maximum tool life and process reliability.

Tiger·tec® Silver

With Tiger·tec® Silver, Walter is offering a world first in coating technology for indexable inserts. The special aluminium oxide layer with optimised microstructure reduces wear during turning, milling and holemaking operations, and increases toughness and temperature resistance for significantly higher cutting data.

Walter BLAXX

Walter BLAXX is the benchmark for a new generation of milling cutters: The milling bodies are extremely robust thanks to their special surface treatment. The milling systems, which are mainly positioned tangentially, are equipped with Tiger·tec® indexable inserts. Tools with the "Walter BLAXX" designation combine high wear resistance with unbeatable performance data.

Xtra·tec®

Xtra·tec® indexable insert milling cutters and drills guarantee extremely soft cutting action and optimal surface quality on almost all materials. Indexable inserts with highly positive geometries and the Tiger·tec® coating have a particularly beneficial hardness/toughness ratio. For maximum productivity and process reliability.

Xtra·tec® XT

Xtra·tec® XT is the latest generation of Walter milling tools. As the "Xtended" Xtra·tec® technology, it offers a completely new perspective on productivity and process reliability. It can cover nearly all milling operations in every common material group: More reliable, productive, cost-efficient than ever before – all whilst compensating for the CO_2 emissions through Walter Green.

Walter Green

Walter Green: Sustainability and responsible use of resources are central components of our company principles. We use our "Walter Green" seal to show how we implement these principles, such as by offsetting our CO_2 emissions with environmental conservation projects.

Walter Nexxt

Engineering Kompetenz and digital expertise go hand in hand at Walter. Together with our wholly owned software subsidiary Comara, we develop digital solutions that efficiently connect machines and tools, optimising their performance on the basis of real-time data. Digital solutions on a level playing field with Industry 4.0 – Walter Nexxt.

Walter Capto™ is a modular tool adaptor system. It is suitable for all turning, milling, holemaking and threading processes. Its ISO-standardised polygon taper absorbs torsional moments and bending moments extremely well and ensures optimal repeat accuracy.

Walter ConeFit is an extremely flexible solid carbide milling system with a wide range of high-performance replaceable heads and shaft variants. Its conical thread can self-centre, thereby guaranteeing maximum stability and concentricity.

Walter ScrewFit users benefit from maximum flexibility. Its modular interface is suitable for a wide variety of adaptors and a wide range of tool diameters and lengths for milling and holemaking.

The Walter precision coolant system provides cooling at the centre of chip formation. Its dual coolant jets are directed precisely onto the flank and rake faces of the insert. This system provides significantly increased tool life, improved chip breaking and greater efficiency for turning and grooving applications.

XD Technology

Walter Titex solid carbide drilling and reaming tools stand for precision, high performance and cost-effectiveness when holemaking in practically any material. Walter Titex XD Technology offers the greatest precision and cost-effectiveness in deep-hole drilling operations up to $70 \times D_C$ without pecking.

Walter Xpress

Walter Xpress is the rapid ordering and delivery service offered by Walter Multiply for high-quality special tools. It is available for around 10,000 tool varieties, with a maximum delivery time of two to four weeks from the order date. The ordering process is clearly structured and guarantees absolute planning security. Quotations for all enquiries are calculated and provided within 24 hours.

Walter GPS

The latest generation of tool navigation.

The right tool at the click of a mouse
With just four clicks, Walter GPS takes you from the definition of your objective to the most cost-effective 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.

walter-tools.com

WALTER
Engineering Kompetenz

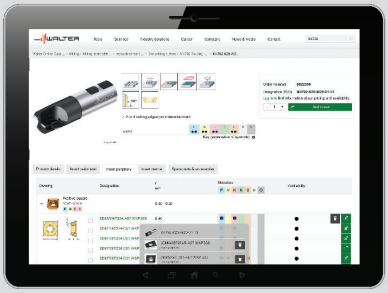
How to find and order your standard tools:

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 Catalog 2018
contains the entire standard range of our competence brands Walter, Walter Titex and Walter Prototyp. It is supplemented regularly with the latest Product Innovations catalog.

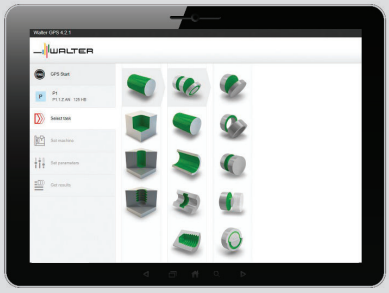
At walter-tools.com, you can access and order your Walter products quickly and conveniently online – via smartphone, tablet or PC. The benefit for you: Direct access from any device, displayed in an optimized form, at any time.

Walter online catalog



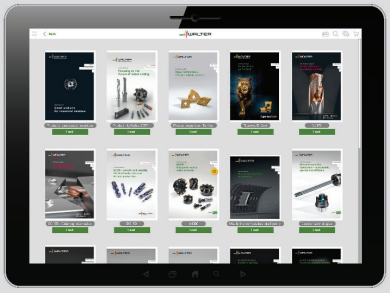
Tool-specific search
You can find products in the Walter online catalog using the familiar structure of our product catalog as well as filter and search functions. Other features: A shopping function and links to drawings and models.

Walter GPS



Application-based search
With Walter GPS, it takes just a few steps for you to find the best machining solution for your component, online and offline – and the solution can be transferred directly to the Walter TOOLSHOP if required!

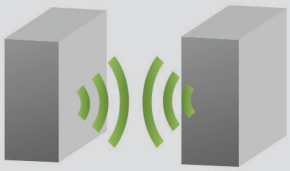
Walter eLibrary



Document-based search
The Walter eLibrary app provides you with all the information you need on your mobile devices within a matter of seconds: E.g. brochures and catalogs – online and offline, in 17 languages.

Digital ordering methods

TOOLSHOP



EDI B2B

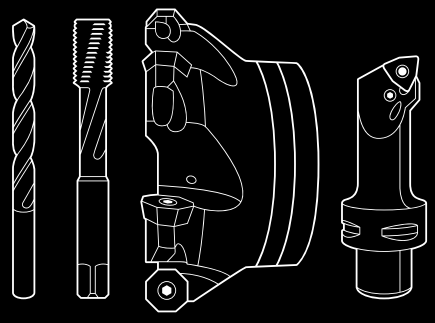
Walter TOOLSHOP & EDI
The Walter TOOLSHOP offers customers opportunities to find information and place orders quickly. EDI (electronic data interchange) also makes it possible to exchange documents (e.g. orders) – even special tools can be ordered.

Walter USA, LLC

N22W23977 RidgeView Parkway West
Waukesha, WI 53188, USA

Phone: 800-945-5554 Fax: 262-347-2500
service.us@walter-tools.com

www.walter-tools.com/us
www.facebook.com/waltertools
www.youtube.com/waltertools



Walter Canada
Mississauga, Canada
service.ca@walter-tools.com

Walter Tools S.A. de C.V.
Carr. Estatal KM 2.22 #431, Módulo 3, Interior 19 y 20
El Colorado Galindo, Municipio El Marqués,
Querétaro, C.P. 76246, México
Phone: +52 (442) 478-3500
service.mx@walter-tools.com

0996286292

Printed in the USA 996286-292, EDP-# 7799021 (3/2019)