

Flexible Line 2024

Indexable Inserts and Tool Holders
Drilling, Turning, Thread Turning and Milling

Flexible
Line 2024



Content Overview

Content		
	About us	4
	Symbol Overview	16
	ISO Indexable Inserts and Tool Holders – Identification System	18
	Carbide Grades And Coating	22
	Geometric Features	30
Drilling		
	Indexable Insert Drill 2xD	40
	Indexable Insert Drill 3xD	42
	Indexable Insert Drill 4xD	44
	Indexable Insert Drill 5xD	45
	Indexable Insert Drill / Spare parts	46
	Indexable Inserts	47
Turning – Negative		
	Overview Indexable Inserts	50
	Cutting Parameters For Negative Indexable Inserts	80
	External Turning Tool Holders / Accessories	82
	Internal Turning Tool Holders / Accessories	89
	Accessory Parts – Overview	92
Turning – Positive		
	Overview Indexable Inserts	94
	Cutting Parameters For Positive Indexable Inserts	115
	External Turning Tool Holders / Accessories	116
	Internal Turning Tool Holders / Accessories	123
	Accessory Parts – Overview	130
Turning – Gewinde		
	Wendeschneidplatten Gewinde	134
	Infeed Recommendation For Metric Threads 60° / Whitworth Threads 55° / NPT 60° / Cutting Parameters	140
	ExternaldrehHolder / InternaldrehHolder / Zubehör	142
	Insert shim	144

Face Milling 45°

Face Milling Cutter MR145	148
Inserts SNEU / Cutting Parameters	149
Face Milling Cutter MR45	150
Inserts SEET / Cutting Parameters	151

Shoulder Milling 90°

Square Shoulder Cutter MR190	152
Inserts APKT / Cutting Parameters	154
Inserts APMT / Cutting Parameters	156
Square Shoulder Cutter MR290	158
Inserts WNGX / Cutting Parameters	160
General Terms and Conditions	162

Indexable Inserts 2024 | © 2023 TOOL FACTORY Cutting Tool Solutions GmbH |

All prices are per unit plus VAT. Our General Terms and Conditions shall apply. | Subject to modifications. Errors and omissions excluded.

More than 25 years of expertise

The company name "TOOL FACTORY Cutting Tool Solutions GmbH" stands for efficient manufacturing cutting solutions. Along with offering tools, we offer advise and services on all elements of machining. Since 1995 we have been developing precision tools made from durable and high-performance cutting material.



Collaborating with us gives you a high degree of planning security

Among our customers are well-known companies from numerous industries across Germany and abroad. Yet our tools are also strongly established in the retail and private label business. Our partnership with the specialized trade make us a reliable supplier that is much appreciated by our customers.

On-schedule delivery by 12 noon on the next working day

Efficient and economical production is important to us, which is why we process your orders as fast and straightforward as possible. We always have over 22,000 different items available. With our computer-assisted and route-optimized warehouse management system, we are able to quickly dispatch your order. We can also ensure that your order is delivered on time by 12 noon on the next working day due to our excellent cooperation with our shipping partner UPS®.

Established solutions for smooth production

High-performance tools for metal cutting – that is what we are good at.

Permanently analysing new market trends and technical innovations, our employees continuously work on improving our products and services.

Your challenges push us to always become better.

The development of new technologies and materials has a substantial impact on your productivity. Companies are compelled to respond due to increasing time and cost constraints, as well as demanding standards of quality. The usage of state-of-the-art cutting technologies may result in time savings of up to 60%. So, providing effective solutions is becoming increasingly vital.

No matter where you operate, with our global network we are able to support you worldwide.



Only tools in use prove their quality of use

We know the machining challenges you face, and to ensure that you never will experience reliability issues or downtime in your production, it's important to have a supportive partner by your side.



With a wide product assortment we cover your requirements

We offer a product portfolio that provides you with the right tool for almost every application – from the smallest diameter to solutions for machining high-strength materials using complex tool sets. We make a continuous effort to enhance and optimize our product range to ensure that we have the perfect solution for each of your varied needs.

Top quality management to the highest standards

The tool won't be put up for sale until we are perfectly content with its functionality, efficacy, and performance results. As such, you can be sure that you'll get a top-notch solution for efficient use.

Since 2017, we hold an ISO 9001:2015 certification for the development, distribution, and logistics of precision tools.



More than just standard The right tool for every application

Our „Flexible Line“ catalog offers inserts for drilling, turning, threading and milling. Among them you will find a variety of specialist inserts as well as multipurpose inserts that can be used universally to optimize your processes.

We also have an extensive range of single-point cutting tools and machine taps.

Flexible Line Drilling: You can make your manufacturing more efficient with our solid drills - they are available in lengths from 2xD to 5xD and can be used for universal applications. The solid drills ensure excellent surface quality and positioning accuracy.

Flexible Line Turning: Our comprehensive range of indexable inserts for turning includes all standard shapes and chip breakers as well as suitable holders, with and without internal cooling. Our inserts are compatible with standard holders available on the market.

Flexible Line Threading: Regardless of whether you want to tap an internal or external thread – our indexable inserts for threading are available as partial and full profile inserts in all common standards: Metric 60°, Whitworth 55°, and NPT 60°.

Flexible Line Milling: We offer face milling cutters and square shoulder milling cutters with a wide range of indexable inserts. All our holders feature targeted internal cooling.

Where standard tools are not sufficient, special solutions are required

Another focus is the development of custom-fit solutions to your specifications or engineering drawings. A special tool can offer specific technical or economic added value for many applications. You benefit from our years of expertise and industry knowledge.

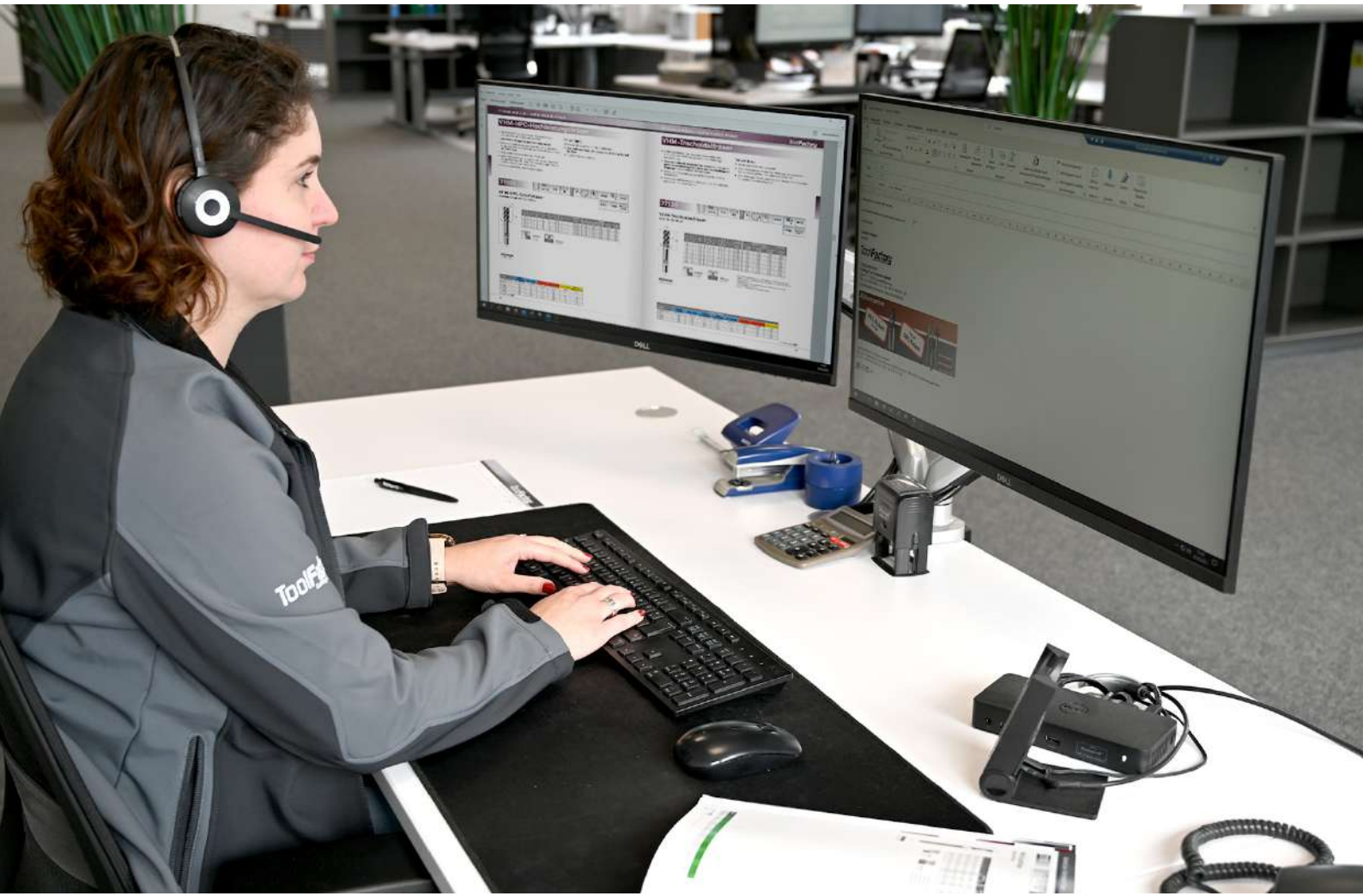
Highly efficient tools tailored to your specific demands

No matter whether you need to machine a specific material or a special geometry, we will give you comprehensive advice on individual applications and support you throughout the entire process, from the first idea to the final tool. You can also rely on the high quality and excellent functionality of our special tools.



Our services boost your success

We provide you with the right services to help you make your tools smart auxiliaries. From personal advice and Private Label Services to regrinding – whatever your requirements, we are here to support you.

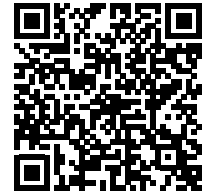


Our customer service is ready to help

We are here to assist you – in person and/or online. Our specialists are happy to help and advise you on the technical specifications of our products. If you have any questions about suitability, fields of application or cutting values, please do not hesitate to contact us:

+492174 79153 0 or info@tool-factory.de

You can also contact us if you need help with optimizing your processes and machining strategies.



Your benefit is our years of expertise

To keep you up to date with the latest knowledge, we have developed our white papers on various topics and our SPAN-ART® videos.

White paper

A white paper is a NEWtral document providing specialist inShapeation on specific topics. We spend a lot of time on researching and creating our white papers in order to communicate relevant topics to you in a hands-on and understandable way. Ideal for anyone who wants to know more. You can download all our available white papers from our homepage:

<https://www.tool-factory.de/en/media-library/>



SPAN-ART®

Our SPAN-ART® videos are explanatory videos covering the most important topics relating to machining. In cooperation with the Institute for Tooling and Production Technology (iWFT) at the RFH Cologne in Germany, we explain how chips are Shapeed, how to select turning tools and much more. We provide an inShapeative mix of both theory and practice.



Our Private Label Service helps you stay ahead of the game

Our precision tools are not always delivered straight to the end user but are also sold by our distributors – this is where our Private Label Service comes in. This special service allows you to compile an assortment of products that is flexibly tailored to your requirements. We deliver all products featuring your own corporate identity, which means that the tools are individually lasered, labeled and packaged. We will also gladly support you in compiling your product range.

You will benefit from:

- Flexibility and unique position, regardless of the purchase quantity
- Uncomplicated processing
- Reduced warehousing and less logistical and organizational effort
- Supporting marketing measures, from videos and catalogs to supporting social media activities

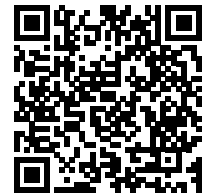


Prolonging the service life of your tools through regrinding

Economical production is the key. Did you know that tools can be reground up to three times without any major loss of quality? You can save up to 60% on costs with our regrinding service instead of buying new tools. We therefore recommend to always check the regrinding options before purchasing new tools.

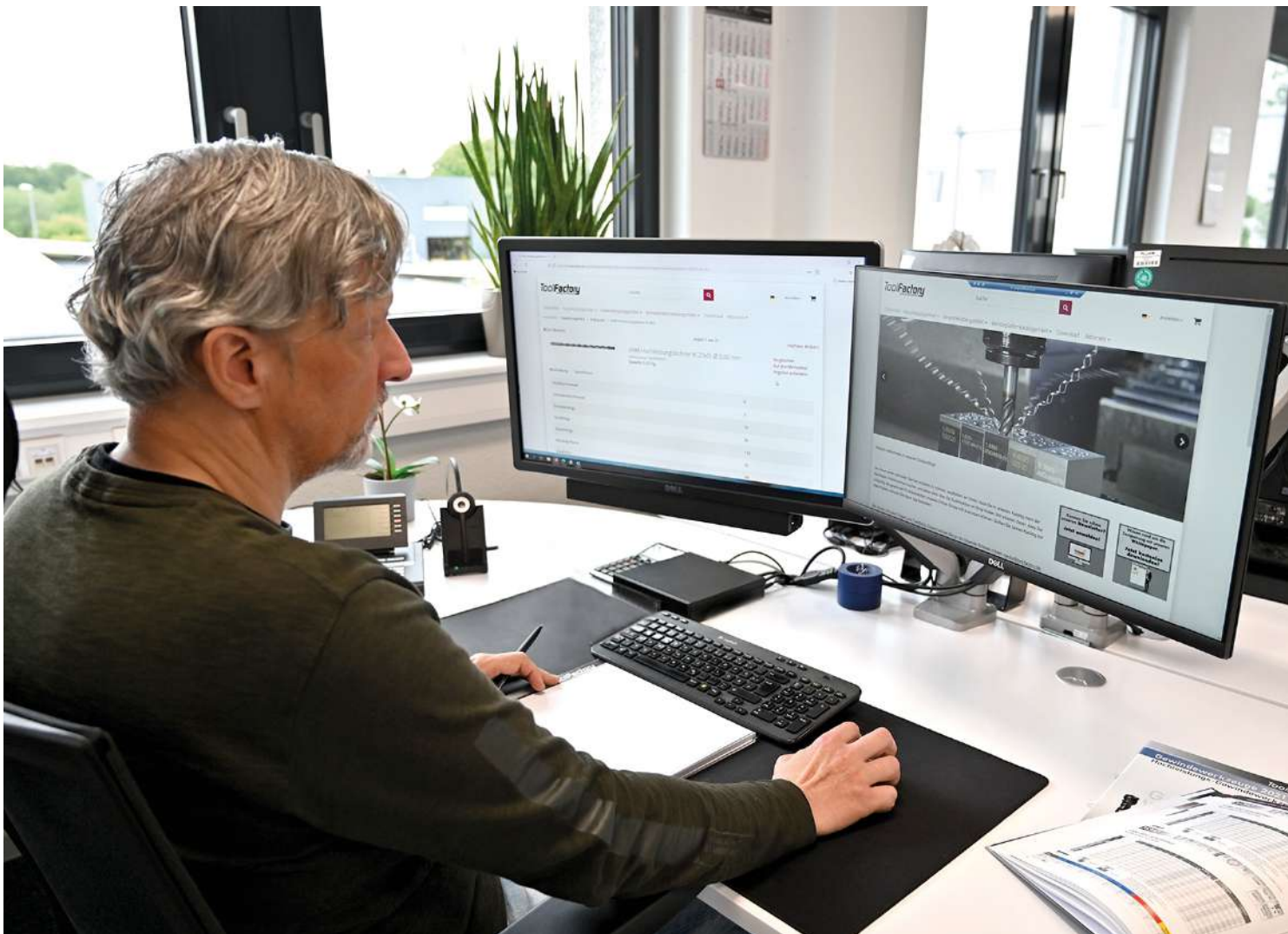
We regrind your tools, no matter of which manufacturer. We check whether regrinding is a viable option from a technical and economic point of view and whether the reconditioned tools will still achieve almost original tool life and process reliability. You will receive your reconditioned tools back within 10 working days.

<https://www.tool-factory.de/en/services/regrinding-service/regrinding-Shape/>



Order your tools online in our online store!

Regardless of opening hours, you can order the tools you need around the clock from our online store.



Flexibility with our online store

Do you already know our online store? Here you can quickly and easily access and order our standard tools. Not only can you see whether your required item is available, but also your specific terms and all relevant product specifications. We guarantee delivery by 12 noon on the next working day – with no minimum order value.

Your benefits

- Our online store also allows you to easily import and order orders from a list. This saves a lot of time, especially for recurring orders.
- Particularly for larger companies, it can also be of interest to use our store's approval process to have full transparency about your orders all the time. Simply contact us and together we will discuss your requirements and set the approval process up for you.
- We also offer an additional service for non-registered users: View our standard prices and request a quote for interesting items with just one click.

In our online store you can order 22,000 precision tools around the clock!

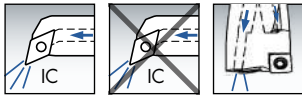
Register now:

shop.tool-factory.de/en/home



Symbols for Page Reference

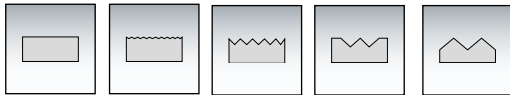
Internal coolant



Internal coolant

Without Internal coolant

Application



Fine-finishing

Finishing

withtlere Application

Roughing

Heavy roughing

Drilling depth ratio



2xD

3xD

4xD

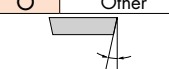
5xD

ISO-Indexable Inserts – Identification System

Symbol	Insert shape	Corner angle	Shape
H	Hexagon	120°	
O	Octagon	135°	
P	Pentagon	108°	
S	Square	90°	
T	Triangle	60°	
C	Rhombus	80°	
D		55°	
E		75°	
F		50°	
M		86°	
V		35°	
W	Trigon	80°	
L	Rectangle	90°	
A	Parallelogram	85°	
B		82°	
K		55°	
R	Circle	-	

1 Symbol for shape

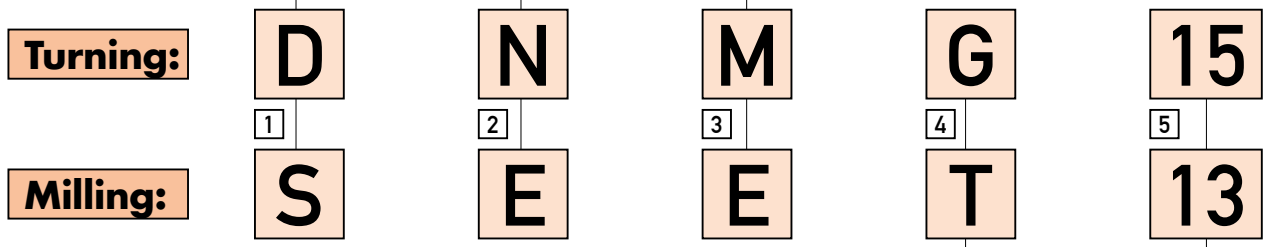
Symbol	Clearance angle
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
O	Other



2 Symbol for clearance angle

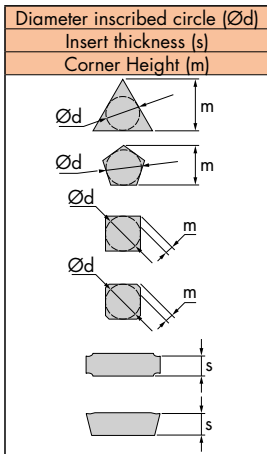
Symbol	Tolerances (mm)		
	Corner Height (m)	Insert thickness (s)	Size inscribed circle (Ød)
A	±0.005	±0.025	±0.025
F	±0.005	±0.025	±0.013
C	±0.013	±0.025	±0.025
H	±0.013	±0.025	±0.013
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
J	±0.005	±0.025	±0.05~ ±0.13
K	±0.013	±0.025	±0.05~ ±0.13
L	±0.025	±0.025	±0.05~ ±0.13
M	±0.08~ ±0.18	±0.13	±0.05~ ±0.13
N	±0.08~ ±0.18	±0.025	±0.05~ ±0.13
U	±0.13~ ±0.38	±0.13	±0.08~ ±0.25

3 Symbol for tolerance groups



4 Hole and / or chip breaker symbol				
Symbol	Hole / configuration	Chip breaker / shape		
N	without hole	without		
R		one-sided		
F		double-sided		
A	with hole	without		
M		one-sided		
G		double-sided		
W		cylindrical 40°-60°	without	
T		one-sided countersink	one-sided	
Q		double-sided countersink	without	
U	double-sided countersink	double-sided		
B	cylindrical 70°-90°	without		
H	one-sided countersink	one-sided		
C	double-sided countersink	without		
J	double-sided countersink	double-sided		
X	-	-	-	

5 Symbol for cutting edge length / insert size ISO (mm)																
R		S		C		W		T		D		V		K		Size inscribed circle (Ød)
Sym- bol	Length	Sym- bol	Length	Sym- bol	Length	Sym- bol	Length	Sym- bol	Length	Sym- bol	Length	Sym- bol	Length	Sym- bol	Length	
		03	3.97	03	4.0			06	6.9	4	4.8					3.97
		04	4.76	04	4.8			08	8.2	5	5.8					4.76
05	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5
		05	5.56	05	5.6	03	3.8	09	9.6	6	6.8					5.56
06	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6
		06	6.35	06	6.5	04	4.3	11	11	7	7.8	11	11.2			6.35
		07	7.94	08	8.1	05	5.4	13	13.8	9	9.7					7.94
08	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
09	9.525	09	9.525	09	9.7	06	6.5	16	16.5	11	11.6	16	16.6	16	19.7	9.525
10	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10
12	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12
12	12.7	12	12.7	12	12.9	08	8.7	22	22	15	15.5	22	22.1			12.7
15	15.875	15	15.875	16	16.1	10	10.9	27	27.5	19	19.4					15.875
16	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16
19	19.05	19	19.05	19	19.3	13	13	33	33	23	23.3					19.05
20	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20
		22	22.225	22	22.6			38	38.5	27	27.1					22.225
25	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25
25	25.4	25	25.4	25	25.8			44	44	31	31					25.4
31	31.75	31	31.75	32	32.2			55	55	38	38.8					31.75
31	32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32



06
6
T3

6 Symbol for insert thickness

Symbol	Thickness (mm)
01	1.59
02	2.38
T2	2.78
03	3.18
35	3.50
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.52

08
7
AG

7 Symbol for corner rounding

Symbol	Corner radius Rc (mm)	Symbol	Setting angle
00	0.03	A	45°
02	0.2	D	60°
04	0.4	E	75°
08	0.8	F	85°
12	1.2	P	90°
16	1.6	Z	Other angles
20	2.0		
24	2.4		
28	2.8		
32	3.2		

Clearance angle at face cutting edge

Symbol	Clearance angle	Symbol	Clearance angle
A	3°	F	25°
B	5°	G	30°
C	7°	N	0°
D	15°	P	11°
E	20°	Z	Other angles

E
8

8 Cutting edge design

Symbol	Design
E	
F	
T	
S	

N
9

9 Cutting direction

Symbol	Direction
R	
L	
N	

QM
10
PM

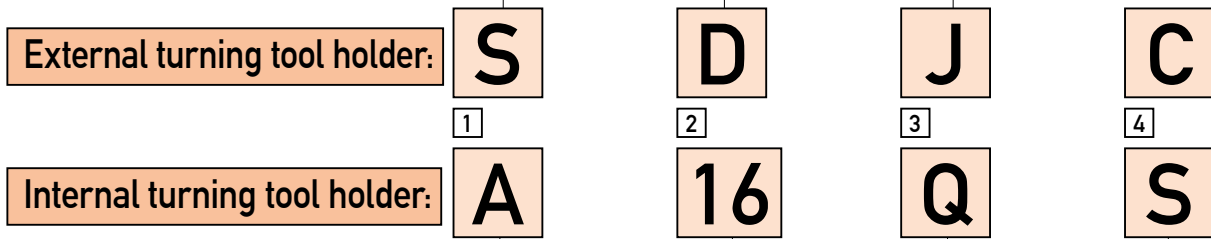
10 Symbol for chip breaker

Tool Holders – Identification System

1 Symbol for clamping system – External turning tool holder		
Symbol	Reference	Shape
D	Top clamp	
M	Multi lock	
P	Lever	
S	Screw clamp	

2 Symbol for insert shape			
Symbol	Insert shape	Corner angle	Shape
H	Hexagon	120°	
O	Octagon	135°	
P	Pentagon	108°	
S	Square	90°	
T	Triangle	60°	
C	Rhombus	80°	
D		55°	
E		75°	
F		50°	
M		86°	
V	35°		
W	Trigon	80°	
L	Rectangle	90°	
A	Parallelo-gram	85°	
B		82°	
K		55°	
R	Circle	-	

3 Symbol for tool Typee – External turning tool holder			
Symbol	Shape	Symbol	Shape
A		K	
B		L	
C		N	
D		P	
E		Q	
F		R	
G		S	
J		V	




1 Symbol for shaft design – Internal turning tool holder	
Symbol	Shape
A	Steel shaft with coolant through
C	Carbide steel head
E	Hard metal shaft with steel head and coolant through
S	Steel shaft

2 Shaft diameter D	
Symbol	mm
06	6
08	8
10	10
12	12
14	14
16	16
20	20
22	22
25	25
32	32
40	40
50	50

3 Length of cut l _i	
Symbol	mm
D	60
E	70
F	80
G	90
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Other

4 Symbol for clamping system – Internal turning tool holder		
Symbol	Reference	Shape
D	Top clamp	
M	Multi lock	
P	Lever	
S	Screw clamp	

[4] Symbol for insert clearance angle			
Symbol	Clearance angle	Symbol	Clearance angle
A	3°	F	25°
B	5°	G	30°
C	7°	N	0°
D	15°	P	11°
E	20°	O	Other



[5] Cutting direction	
Symbol	Shape
R	
L	
N	

[6] Shaft section h	
Symbol	mm
06	6
08	8
10	10
12	12
14	14
16	16
20	20
22	22
25	25
32	32
40	40
50	50

[7] Shank width b	
Symbol	mm
06	6
08	8
10	10
12	12
14	14
16	16
20	20
22	22
25	25
32	32
40	40
50	50

[8] Tool length l _t	
Symbol	mm
D	60
E	70
F	80
G	90
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Other

[9] Insert cutting edge length	
l _{mm}	

R
[5]
D

16
[6]
Q

16
[7]
C


H
[8]
R

11
[9]
11

[5] Symbol for insert shape			
Symbol	Insert shape	Corner angle	Shape
H	Hexagon	120°	
O	Octagon	135°	
P	Pentagon	108°	
S	Square	90°	
T	Triangle	60°	
C	Rhombus	80°	
D		55°	
E		75°	
F		50°	
M		86°	
V		35°	
W	Trigon	80°	
L	Rectangle	90°	
A	Parallelogram	85°	
B		82°	
K		55°	
R	Circle	-	

[6] Symbol for tool Typee – Internal turning tool holder			
Symbol	Shape	Symbol	Shape
F		U	
L		W	
Q		Z	
S		X	Other

[7] Symbol for insert clearance angle			
Symbol	Clearance angle	Symbol	Clearance angle
A	3°	F	25°
B	5°	G	30°
C	7°	N	0°
D	15°	P	11°
E	20°	O	Other

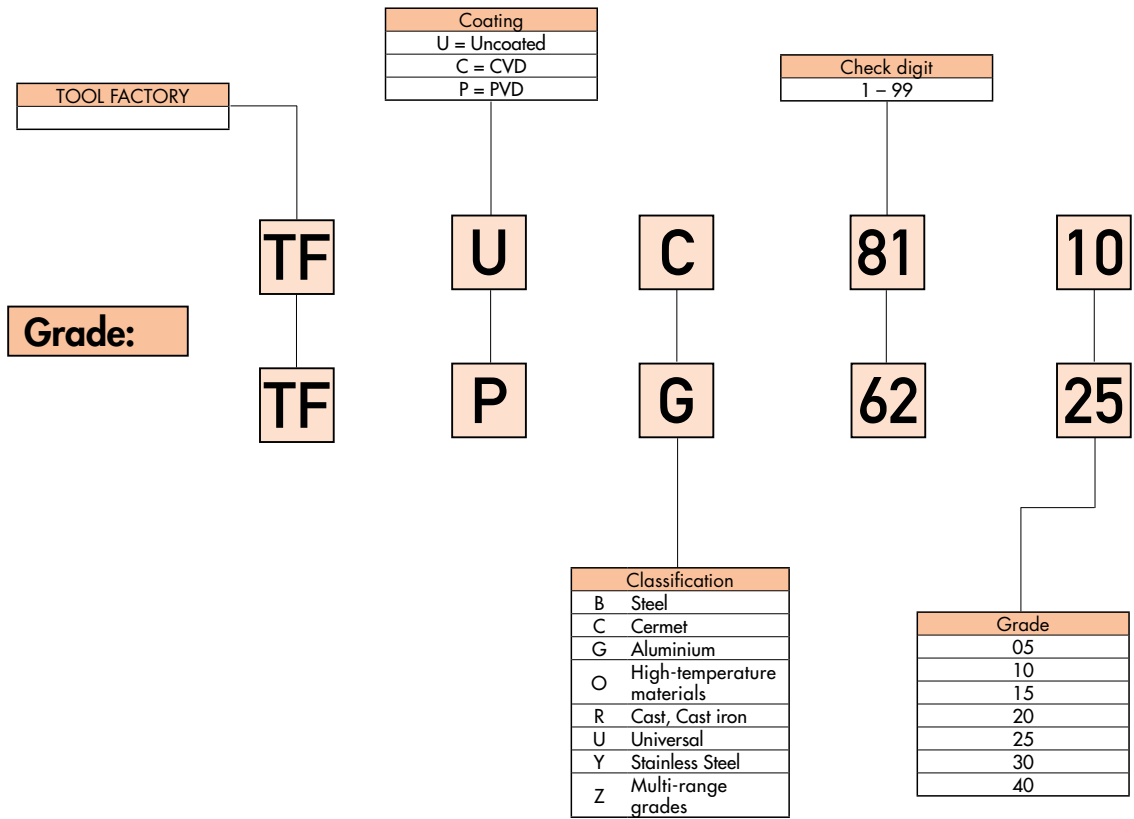


[8] Cutting direction	
Symbol	Shape
R	
L	
N	

Carbide Grades and Coating – Applications

		Steel				Inox					Cast Iron					Nonferrous metal					Super alloys																																																				
		P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30	K40	N01	N10	N20	N30	N40	S01	S10	S20	S30	S40																																															
Drilling																																																																									
HM PVD				TF PU61 30			TF PU61 30					TF PU61 30					TF PU61 30					TF PU61 30																																																			
Turning																																																																									
Cermet		TF UC81 10																																																																							
HM uncoated																								TF UG31 25																																																	
HM PVD			TF PZ51 25																								TF PZ51 25																																														
																									TF PY81 15																																																
																									TF PY91 30																																																
																									TF PY42 25																																																
			TF PO41 15																								TF PO41 15																								TF PO41 15																						
																									TF PG63 25																																																
HM CVD		TF CB31 05																																																																							
		TF CB22 10																																																																							
			TF CB41 15																																																																						
			TF CB72 15																																																																						
			TF CB32 20																																																																						
				TF CB91 25																																																																					
				TF CB52 25																																																																					
				TF CB12 30																																																																					
					TF CB71 35																																																																				
					TF CB01 35																																																																				
																									TF CY22 15																																																
																									TF CY71 25																																																
																								TF CR31 15																																																	
																								TF CR11 25																																																	
Turning threads																																																																									
HM PVD			TF PU51 25																								TF PU51 25																								TF PU51 25																						
Milling																																																																									
Cermet		TF UC81 10																																																																							
HM uncoated																								TF UG31 25																																																	
HM PVD			TF PB81 25																								TF PY31 30																																														
																									TF PR71 25																																																
			TF PU61 30																								TF PU61 30																								TF PU61 30																						
HM CVD		TF CB61 20																									TF CY01 40																																														
			TF CZ21 20																								TF CZ21 20																																														

Carbide Grades and Coating – Key



Carbide Grades and Coating – Milling

Carbide grade		Scope	Coating	Characteristics
PMK	TF PU61 30	Universal application for: <ul style="list-style-type: none"> • Steel materials • Cast materials • Stainless materials 		<ul style="list-style-type: none"> • TiAlN coating (PVD)/multi-layer • Maximum tool life

Carbide graden und Coatingen – Turning

Carbide grade		Scope	Coating	Characteristics
Cermet	TF UC81 10	<ul style="list-style-type: none"> • Fine-finishing • Finishing • Only suitable for continuous cutting 		<ul style="list-style-type: none"> • Achieves the best results for demanding surface finishing • Uncoated Cermet • High degree of wear resistance and dimensional stability

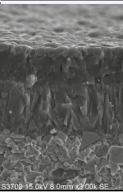
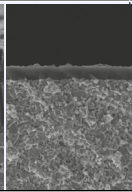
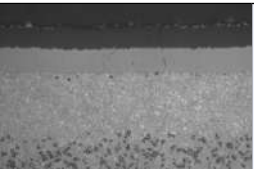
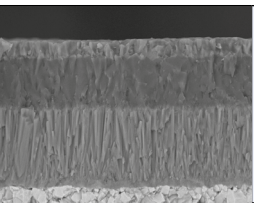
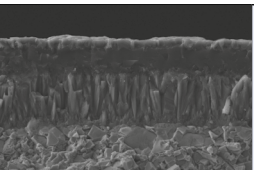

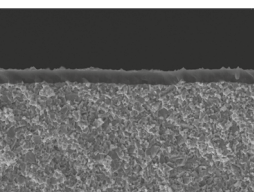
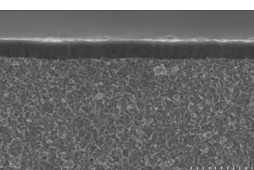
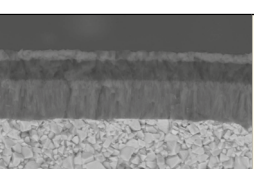
P	TF CB31 05	<ul style="list-style-type: none"> • Medium machining • Fine-finishing • Suitable for continuous cutting 		<ul style="list-style-type: none"> • First choice for steel materials with continuous cut • Gradient sintered cemented carbide MT-CVD triple-coated. • TiCN-Al₂O₃-TiN • Highly wear-resistant and high-performing
----------	-----------------------	---	--	---

P	TF CB22 10	<ul style="list-style-type: none"> • Semi-finishing • Finishing • Suitable for continuous cutting 		<ul style="list-style-type: none"> • Suitable for carbon and alloy steels under continuous cutting conditions • Best choice for high speeds and efficient machining • Gradient sintered carbide featuring latest MT-CVD triple coating layer with unidirectional crystal alignment • MT-TiCN-Al₂O₃-TiN • High thermal hardness and dimensional stability at high cutting speeds
----------	-----------------------	--	--	--

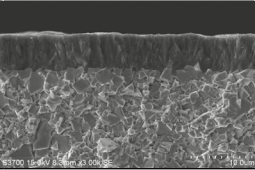
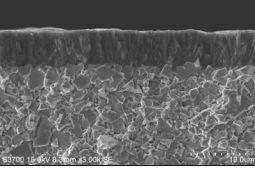
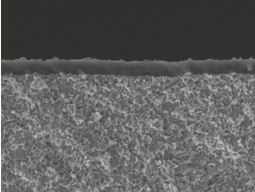
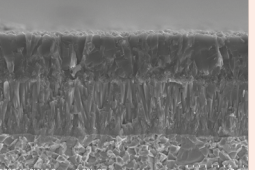
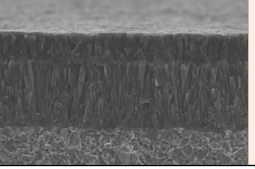
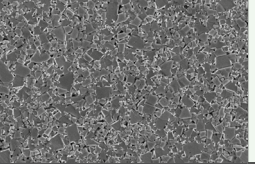
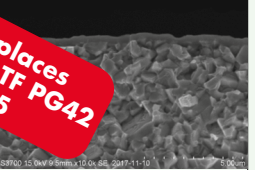
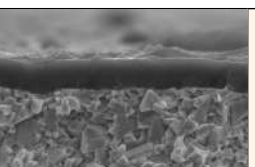
P	TF CB41 15	<ul style="list-style-type: none"> • Semi-finishing • Finishing • Suitable for continuous cutting 		<ul style="list-style-type: none"> • First choice for steel materials with continuous cut • Gradient sintered cemented carbide MT-CVD triple-coated • TiCN-Al₂O₃-TiN • Highly wear-resistant and high-performing
----------	-----------------------	--	--	--

P	TF CB72 15	<ul style="list-style-type: none"> • Semi-finishing • Finishing • Suitable for continuous cutting 		<ul style="list-style-type: none"> • First choice for steel materials with continuous cut • Gradient sintered cemented carbide MT-CVD triple-coated • TiCN-Al₂O₃-TiN • Highly wear-resistant and high-performing
----------	-----------------------	--	--	--

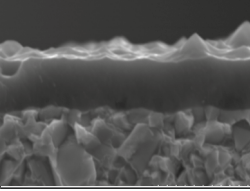
P	TF CB32 20	<ul style="list-style-type: none"> • Medium machining • Light roughing • Suitable for continuous cutting and light interruption of cut 		<ul style="list-style-type: none"> • Suitable for carbon and alloy steels in continuous cutting conditions and light interruptions of cut • Best choice for medium to high speeds • Gradient sintered carbide featuring latest MT-CVD triple coating layer with unidirectional crystal alignment • MT-TiCN-Al₂O₃-TiN • High wear resistance and tensile strength in a wide range of applications
----------	-----------------------	---	--	---

Carbide grade		Scope	Coating	Characteristics
P	TF CB91 25	<ul style="list-style-type: none"> • Medium machining • Leichtes Roughing • Suitable for continuous cutting 		<ul style="list-style-type: none"> • First choice for steel materials with interrupted cut • Gradient sintered cemented carbide MT-CVD triple-coated • TiCN-Al₂O₃-TiN • Good wear-resistance and tenacity. Wide range of applications
				
P	TF CB52 25	<ul style="list-style-type: none"> • Semi-finishing • Finishing • Suitable for continuous cutting 		<ul style="list-style-type: none"> • First choice for steel materials with interrupted cut • Gradient sintered cemented carbide MT-CVD triple-coated • TiCN-Al₂O₃-TiN • Good wear-resistance and tenacity. Wide range of applications
P	TF CB12 30	<ul style="list-style-type: none"> • Roughing • Light roughing under difficult conditions • Suitable for interrupted cuts 		<ul style="list-style-type: none"> • Suitable for carbon and alloy steels in most conditions of interrupted cutting • Best choice for low to medium speeds • Gradient sintered carbide featuring latest MT-CVD triple coating layer with unidirectional crystal alignment • MT-TiCN-Al₂O₃-TiN • High tensile strength and stability in difficult conditions
P	TF CB71 35	<ul style="list-style-type: none"> • Roughing with interruption of cut 		<ul style="list-style-type: none"> • Ultra micro grain cemented carbide with Nano structured TiAlN coating
P	TF CB01 35	<ul style="list-style-type: none"> • Rough machining under difficult conditions • Heavy roughing • Suitable for interrupted cuts 		<ul style="list-style-type: none"> • CVD coated cemented carbide • TiCN-Al₂O₃-TiN
PM	TF PZ51 25	<ul style="list-style-type: none"> • For steel and stainless machining • Medium machining • Semi-finishing • Finishing • Suitable for continuous cutting and light interruption of cut 		<ul style="list-style-type: none"> • PVD coated cemented carbide • Best suitable for applications at low to medium cutting speeds • High resistance to thermal shock
M	TF PY81 15	<ul style="list-style-type: none"> • Semi-finishing • Finishing • Suitable for continuous cutting 		<ul style="list-style-type: none"> • PVD coated cemented carbide • Best suitable for finishing of stainless steels. • Ultra micro grain cemented carbide TiAlN coated
M	TF CY22 15	<ul style="list-style-type: none"> • Medium machining • To light roughing 		<ul style="list-style-type: none"> • CVD coated cemented carbide • Thin triple-MT-TiCN-Al₂O₃-TiN coating

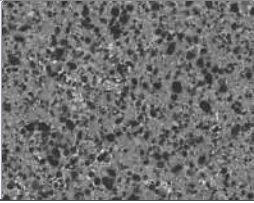
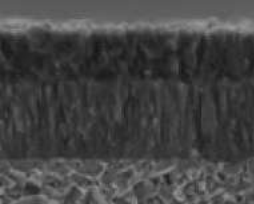
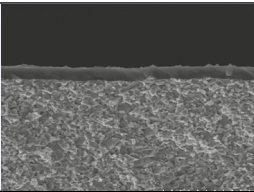
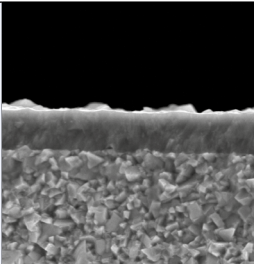
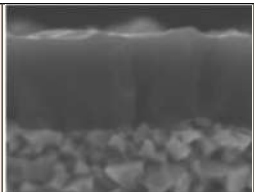
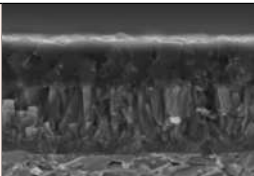
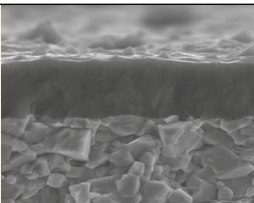
Flexible Line – Indexable Inserts and Tool Holders

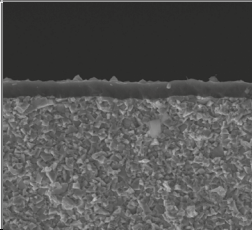
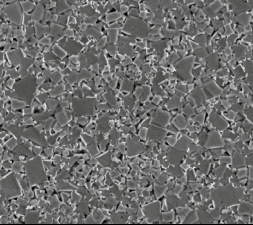
Carbide grade		Scope	Coating	Characteristics
M	TF CY71 25	<ul style="list-style-type: none"> • Medium machining • Light roughing • Suitable for continuous cutting and light interruption of cut 		<ul style="list-style-type: none"> • Most suitable for medium machining of stainless steels • Gradient sintered carbide with a MT-CVD double layer • TiCN-TiN • Good wear resistance as well as toughness
	TF PY42 25	<ul style="list-style-type: none"> • Medium machining • Roughing 		<ul style="list-style-type: none"> • Recommended for semi-finishing of stainless steels • The combination of optimized TiAlN coating and sub-micron grained carbide substrate with high Co content, provides superior adhesion and toughness
M	TF PY91 30	<ul style="list-style-type: none"> • Roughing • Medium machining • Suitable for continuous cutting and alternating cutting conditions 		<ul style="list-style-type: none"> • First choice for light roughing of stainless materials • TiAlN coated ultra micro grain cemented carbide with higher resistance to thermal and mechanic shock • highly wear-resistant
K	TF CR31 15	<ul style="list-style-type: none"> • Finishing • Medium machining • Suitable for continuous cutting and light interruption of cut 		<ul style="list-style-type: none"> • First choice for cast materials with continuous cut • Gradient sintered cemented carbide MT-CVD double-coated • TiCN-Al₂O₃ • High wear-resistance and high-performance
	TF CR11 25	<ul style="list-style-type: none"> • Roughing • Medium machining • Suitable for interrupted cut 		<ul style="list-style-type: none"> • First choice for cast materials with interrupted cut • Gradient sintered cemented carbide MT-CVD double-coated • TiCN-Al₂O₃ • Highly wear-resistant
N	TF UG31 25	<ul style="list-style-type: none"> • Semi-finishing and finishing • Medium machining 		<ul style="list-style-type: none"> • Continuous cutting and light interruption of cut • Ultra micro-grain cemented carbide
N	NEW TF PG63 25	<ul style="list-style-type: none"> • Semi-finishing and finishing • Medium machining 	 <div style="position: absolute; color: white; font-weight: bold; transform: rotate(-15deg);"> Replaces grade TF PG42 25 </div>	<ul style="list-style-type: none"> • PVD-coated micro-grain cemented carbide • Continuous cutting and light interruption of cut
S	TF PO41 15	<ul style="list-style-type: none"> • Finishing and medium machining of high temperature resistant alloys and nickel alloys 		<ul style="list-style-type: none"> • Micro-grain cemented carbide with new TiAlN coating • High resistance to wear • High resistance to heat and oxidation

Carbide Grades and Coating – Threading

Carbide grade		Scope	Coating	Characteristics
PMK	TF PU51 25	<ul style="list-style-type: none"> • Thread Turning 		<ul style="list-style-type: none"> • Ultra-fine grain carbide grade with TiAlN coating for smooth machining results in steel, stainless steel and cast materials

Carbide Grades and Coating – Milling

Carbide grade		Scope	Coating	Characteristics
Cermet	TF UC81 10	<ul style="list-style-type: none"> Fine-finishing Finishing Only suitable for continuous cutting 		<ul style="list-style-type: none"> New improved finest grain grades with MT-TiCN-Al₂O₃-Coating Balanced combination of toughness and greatly improved wear resistance Suitable for finishing up to the lightest Roughing in steel materials
	P	TF CB61 20	<ul style="list-style-type: none"> Steel material Cast materials 	
P	TF PB81 25	<ul style="list-style-type: none"> Steel materials Cast materials 		<ul style="list-style-type: none"> AlCrN coating (PVD) Maximum tool life Designed for wet & dry cutting
M	TF CY01 40	<ul style="list-style-type: none"> Difficult to cut material Stainless materials 		<ul style="list-style-type: none"> New improved grades with MT-TiCN-Al₂O₃-Coating Made of high strength carbide substrate Strongly improved wear resistance, very high toughness and thermal stability Suitable for roughing stainless and difficult-to-machine materials
M	TF PY31 30	<ul style="list-style-type: none"> Steel materials Cast materials 		<ul style="list-style-type: none"> Micro grain cemented carbide with MT-CVD coating TiCN-Al₂O₃-TiN
PK	TF CZ21 20	<ul style="list-style-type: none"> Cast materials 		<ul style="list-style-type: none"> Micro grain cemented carbide with TiAlN coating Designed for wet & dry cutting
K	TF PR71 25	<ul style="list-style-type: none"> GussMaterialie 		<ul style="list-style-type: none"> Feinstkornhartmetall with TiAlN-Coating Ausgelegt for Nass- & TrockenMachining

Carbide grade		Scope	Coating	Characteristics
PMK	TF PU61 30	Universal application for: <ul style="list-style-type: none"> • Steel materials • Cast materials • Stainless materials 		<ul style="list-style-type: none"> • TiAlN coating (PVD) / multi-layer • Maximum tool life
N	TF UG31 25	Universal application for: <ul style="list-style-type: none"> • Aluminium • Copper materials 		<ul style="list-style-type: none"> • Uncoated micro grain cemented carbide



Geometric Features – Negative Inserts

Geometry	Description	Diagram chip breaking	Cutting edge design
DL Finishing	<ul style="list-style-type: none"> Finishing geometry for general steel applications with a highly improved shearing action Minimum bur Shapeation Best suitable for unstable components Excellent chip control also at low depths of cut 		
DM Medium	<ul style="list-style-type: none"> Medium geometry for general steel applications with an improved shearing Variable cutting face Good sharpness and cutting edge stability Wide range of application Minimum cutting force 		
DS Roughing	<ul style="list-style-type: none"> Roughing geometry for general steel applications with a maximum machining performance Excellent chip breaking Special variable Geometrys for an optimum chip evacuation 		
DSM Medium	<ul style="list-style-type: none"> Medium geometry for general steel applications with an improved shearing Right hand (RH) and left hand (LH) design Allows large cut depths 		
DSS Heavy roughing	<ul style="list-style-type: none"> Heavy roughing Roughing geometry for heavy roughing demands Very stable geometry due to extra wide protective chamfer Wide range of applications 		
DSS Heavy roughing single sided Inserts	<ul style="list-style-type: none"> Heavy roughing Roughing geometry for heavy roughing demands Very stable geometry due to extra wide protective chamfer Wide range of applications 		
DFS Wiper	<ul style="list-style-type: none"> Medium turning with Wiper Top surface due to special corner radius Double feed for the same surface finish with comparable insert without Wiper Increased cost efficiency by faster processing 		

Geometry	Description	Diagram chip breaking	Cutting edge design
DGM Medium	<ul style="list-style-type: none"> • Medium machining of cast materials 		
DGS Roughing	<ul style="list-style-type: none"> • Roughing geometry for the heavy machining of cast iron • Stable cutting edge for an optimum performance 		
DMM Roughing	<ul style="list-style-type: none"> • Medium geometry for use in stainless steels and mild steels • Sharp cutting edges 		

Negative Inserts			
Geometry:	DL Finishing	DM Medium	DS Roughing
Shape:			

Geometry:	DSM Medium	DSS Heavy roughing	DFS Wiper
Shape:			

Geometry:	DGM Cast Medium	DGS Cast Roughing	DSS _{single sided} Heavy roughing	DMM Medium
Shape:				

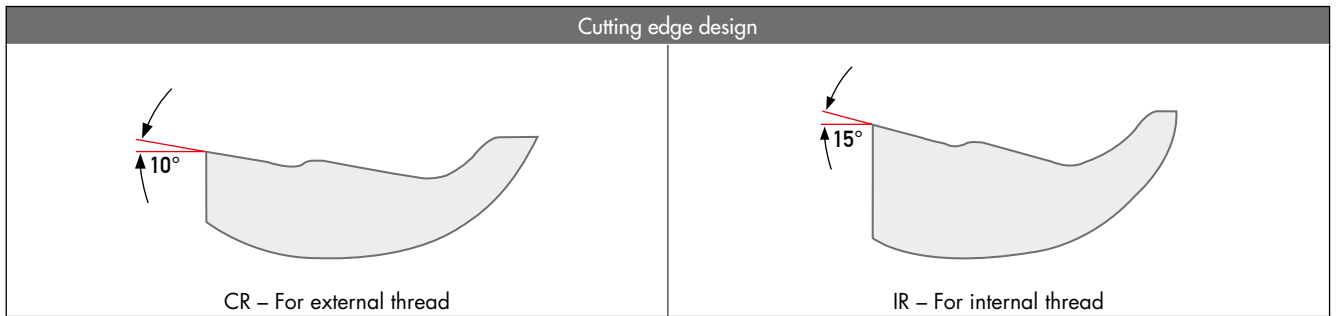


Geometric Features – Positive Inserts

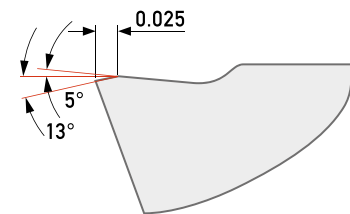
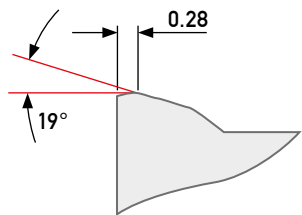
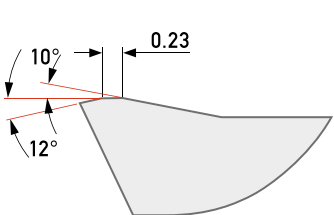
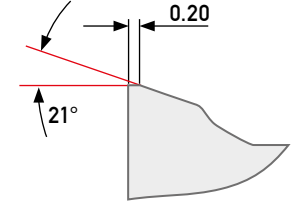
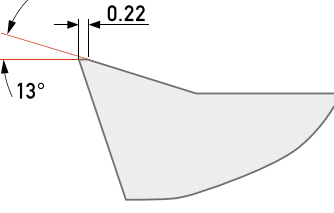
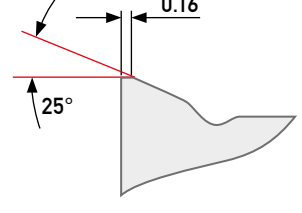
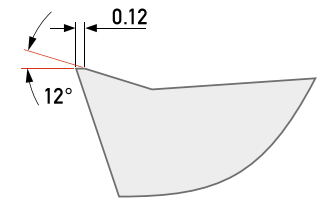
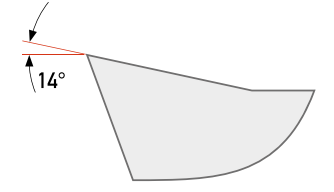
Geometry	Description	Diagram chip breaking	Cutting edge design
DL Finishing	<ul style="list-style-type: none"> • Finishing geometry for general steel applications with a highly improved shearing action • Minimum bur formation • Best suitable for unstable components • Excellent chip control also at low depths of cut 		
DM Medium	<ul style="list-style-type: none"> • Finishing geometry with a highly improved shearing action • Low generation of burs • Very low cutting force, best suited for thin-walled and long work-pieces • Special geometry leads the chip away from the cutting zone • Excellent chip control also at low depths of cut 		
DS Roughing	<ul style="list-style-type: none"> • High-performance roughing geometry • Excellent chip breaking properties • Higher stability due to optimized face • Variable rake angle and open face structure • For an optimum chip evacuation 		
AL Aluminium	<ul style="list-style-type: none"> • Extremely sharp cutting edge • periphery ground and polished • Highly positive rake angle 		

Positive Inserts				
Geometry:	DL Finishing	DM Medium	DS Roughing	AL Aluminium
Shape:				

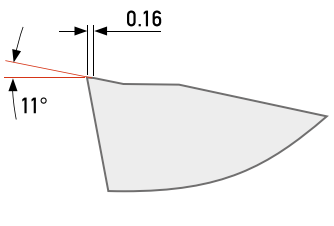
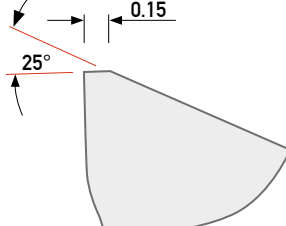
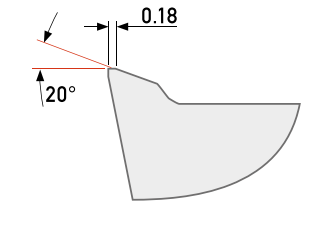
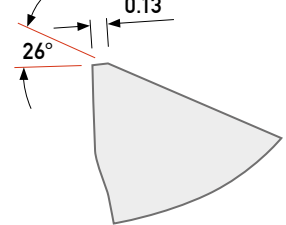
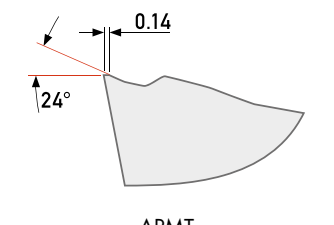
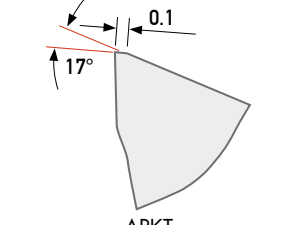
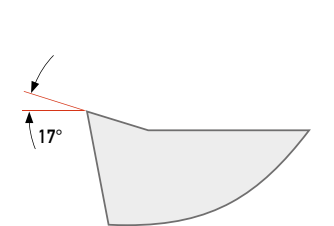
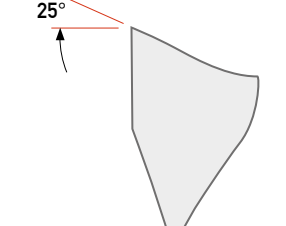
Geometric Features – Threading



Geometric Features – Milling

Geometry	Description	Cutting edge design	
<p>FSS Heavy duty</p>	<ul style="list-style-type: none"> • Very stable geometry with large negative protective chamfer • For application under heavy duty conditions 	 <p>SEET</p>	
<p>FS Heavy</p>	<ul style="list-style-type: none"> • Roughing geometry with negative protective chamfer • For universal application with large feed 	 <p>SNEU</p>	 <p>SEET</p>
<p>FM Medium</p>	<ul style="list-style-type: none"> • Medium geometry with stable cutting edge design • For universal application with medium feed 	 <p>SNEU</p>	 <p>SEET</p>
<p>FL Light</p>	<ul style="list-style-type: none"> • Geometry with large rake angle, improved shearing action • For lower cutting depths and lower feed 	 <p>SNEU</p>	 <p>SEET</p>
<p>AL Aluminium</p>	<ul style="list-style-type: none"> • Extremely sharp cutting edge • Periphery ground and polished • Highly positive rake angle 	 <p>SEET</p>	

Geometric Features – Milling

Cutting edge design		Geometry
		FSS Heavy duty
 <p>APMT</p>	 <p>APKT</p>	FS Heavy
 <p>APMT</p>	 <p>APKT</p>	FM Medium
 <p>APMT</p>	 <p>APKT</p>	FL Light
 <p>APMT</p>	 <p>APKT</p>	AL Aluminium

Flexible Line

Indexable Insert Drills



Flexible
Line

Indexable insert drills are suitable for a wide range of applications

In machining, keeping an eye on expenses is essential. For effective machining in series production, indexable insert drills deliver outstanding economic benefits: From a drill diameter of 14 mm, it pays to carefully compare solid carbide tools with indexable insert drills.

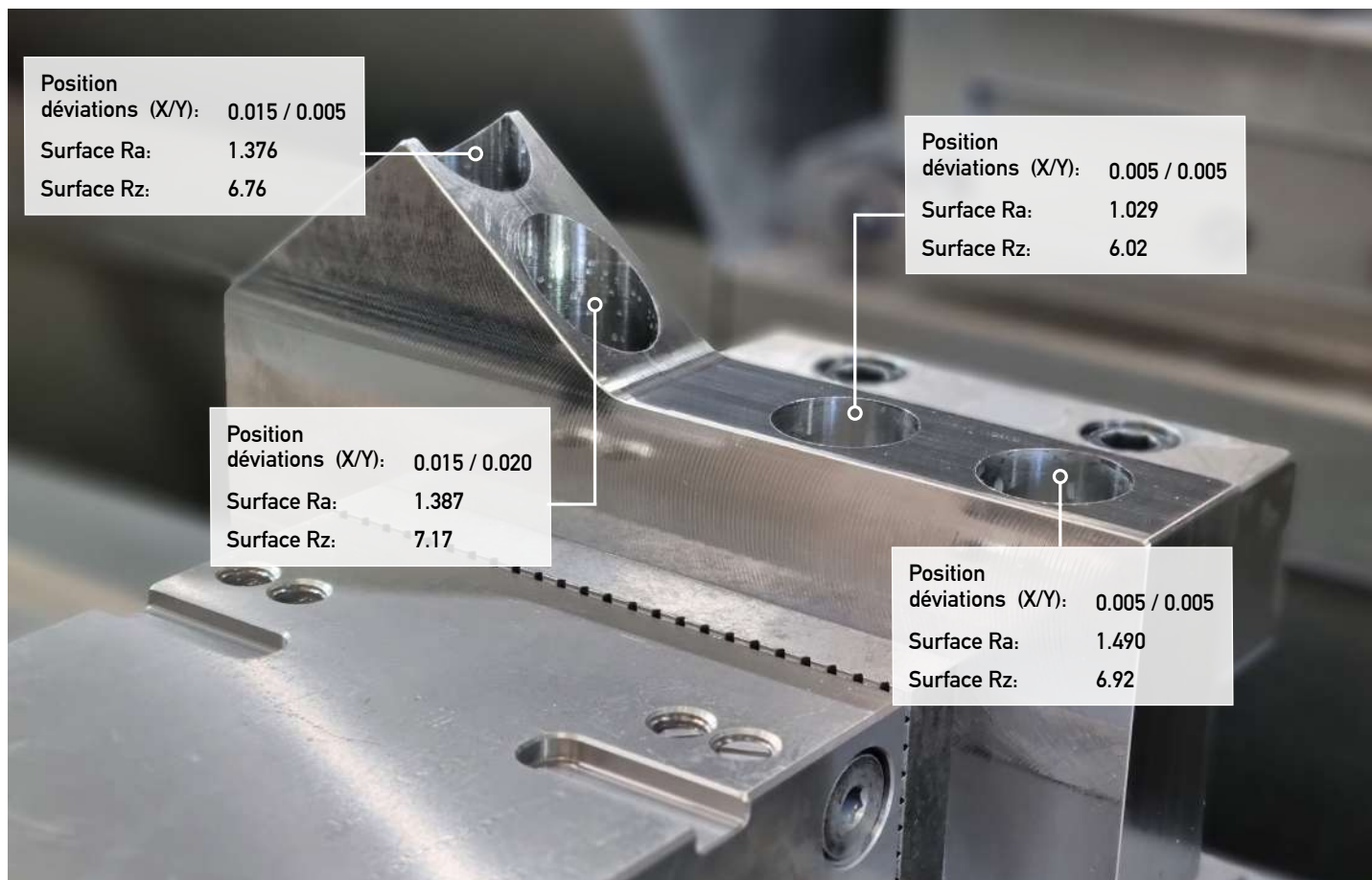
We have expanded our Flexible Line range by indexable insert drills with diameters ranging from 14mm to 40mm, available in 2xD, 3xD and 4xD lengths. The drills are suitable for a wide range of applications and provide a highly cost-efficient and process-reliable machining performance.

Optimized design

Due to its innovative design, the drill is extremely strong and features a high level of rigidity for best results in terms of shape/position tolerances and surface quality. The targeted coolant supply as well as the optimized flute size ensure a smooth chip removal.

Tailored indexable inserts

The XPMG series inserts are exceptionally durable and suitable for universal use in steel, cast iron and stainless steels. They can be placed in inner and outer positions with all four cutting edges ready for use, facilitating tool management and usage. The optimized shape of the cutting edge allows a good chip control and edge stability. The innovative design of cooling grooves on the rake face provides an optimum cooling effect during the cutting process.



Insert Drill Body

- Suitable for drilling depths from 2xD to 4xD, available in diameters from 14 to 40mm
- Solid drill bodies with high stability through optimized design for consistent dimensional accuracy and form/position tolerance
- In vertical use on lathes, off-center positioning makes it possible to drill larger holes (see Ø Dmax)
- Highly cost-efficient, when cutting large or multiple holes
- High process-reliability due to optimum cooling, optimized chip evacuation, and thick, stable indexable inserts
- Simplified tool management due to all-purpose inserts designed for machining various materials
- Each insert allows the use of four cutting edges

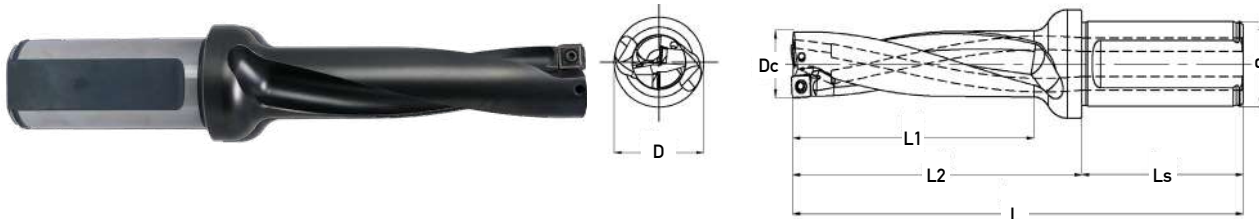
WPB 2xD

2xD



Manufacturer standard

Insert Drill Body, 2xD with Internal coolant



Product family 822

Reference	ØDc	Ød	ØD	Ls	L1	L2	L	Insert	ØDmax	Feed	Price
									mm	mm/U	€/pc.
Insert Drill Body											
WPB-140-2D-S20-X04	14.00	20	25	50	31	44	94	XPMG04	14.70	0.04 – 0.12	286.02
WPB-145-2D-S20-X04	14.50	20	25	50	33	46	96		15.10	0.04 – 0.12	286.02
WPB-150-2D-S20-X04	15.00	20	25	50	35	47	97		15.50	0.04 – 0.12	286.02
WPB-155-2D-S20-X04	15.50	20	25	50	37	49	99		15.90	0.04 – 0.12	286.02
WPB-160-2D-S20-X05	16.00	20	25	50	37	51	101	XPMG05	17.10	0.04 – 0.12	286.02
WPB-165-2D-S20-X05	16.50	20	25	50	38	52	102		17.50	0.04 – 0.12	286.02
WPB-170-2D-S25-X05	17.00	25	32	56	38	59	109		17.90	0.04 – 0.12	286.02
WPB-175-2D-S25-X05	17.50	25	32	56	39	55	111		18.30	0.04 – 0.12	286.02
WPB-180-2D-S25-X05	18.00	25	32	56	41	56	112		18.70	0.04 – 0.12	286.02
WPB-185-2D-S25-X05	18.50	25	32	56	42	57	113		19.10	0.04 – 0.12	286.02
WPB-190-2D-S25-X06	19.00	25	32	56	42	58	114	XPMG06	20.20	0.04 – 0.12	286.02
WPB-195-2D-S25-X06	19.50	25	32	56	44	60	116		20.60	0.04 – 0.12	286.02
WPB-200-2D-S25-X06	20.00	25	32	56	44	61	117		21.00	0.04 – 0.12	309.05
WPB-210-2D-S25-X06	21.00	25	32	56	47	64	120		21.80	0.04 – 0.12	309.05
WPB-220-2D-S25-X06	22.00	25	32	56	49	66	122		22.60	0.04 – 0.12	309.05

Product family 822

Reference	ØDc	Ød	ØD	Ls	L1	L2	L	Insert	ØDmax	Feed	Price
	mm	mm	mm	mm	mm	mm	mm		mm	mm/U	€/pc.
WPB-230-2D-S25-X07	23.00	25	32	56	50	69	125	XPMG07	24.40	0.06 – 0.14	309.05
WPB-240-2D-S25-X07	24.00	25	32	56	53	71	127		25.20	0.06 – 0.14	309.05
WPB-250-2D-S25-X07	25.00	25	32	56	54	74	130		26.00	0.06 – 0.14	309.05
WPB-260-2D-S32-X07	26.00	32	40	60	56	77	137		26.80	0.06 – 0.14	327.23
WPB-270-2D-S32-X07	27.00	32	40	60	59	79	139		27.60	0.06 – 0.14	327.23
WPB-280-2D-S32-X09	28.00	32	40	60	60	82	142	XPMG09	29.60	0.06 – 0.16	327.23
WPB-290-2D-S32-X09	29.00	32	40	60	63	84	144		30.40	0.06 – 0.16	327.23
WPB-300-2D-S32-X09	30.00	32	40	60	65	87	147		31.20	0.06 – 0.16	327.23
WPB-310-2D-S40-X09	31.00	40	48	70	67	90	160		32.00	0.06 – 0.16	327.23
WPB-320-2D-S40-X09	32.00	40	48	70	70	92	162		32.80	0.06 – 0.16	327.23
WPB-330-2D-S40-X09	33.00	40	48	70	71	95	165		33.60	0.06 – 0.16	333.29
WPB-340-2D-S40-X11	34.00	40	48	70	75	98	168	XPMG11	35.80	0.08 – 0.18	333.29
WPB-350-2D-S40-X11	35.00	40	48	70	78	101	171		36.60	0.08 – 0.18	333.29
WPB-360-2D-S40-X11	36.00	40	48	70	78	104	174		37.40	0.08 – 0.18	333.29
WPB-370-2D-S40-X11	37.00	40	48	70	80	105	175		38.20	0.08 – 0.18	333.29
WPB-380-2D-S40-X11	38.00	40	48	70	82	108	178		39.00	0.08 – 0.18	333.29
WPB-390-2D-S40-X11	39.00	40	48	70	85	110	180		39.80	0.08 – 0.18	333.29
WPB-400-2D-S40-X11	40.00	40	48	70	86	113	183		40.60	0.08 – 0.18	333.29
NEW WPB-410-2D-S40-X13	41.00	40	48	70	92	117	187		XPMG13	42.80	0.08 – 0.18
NEW WPB-420-2D-S40-X13	42.00	40	48	70	92	119	189	43.60		0.08 – 0.18	433.88
NEW WPB-430-2D-S40-X13	43.00	40	48	70	94	122	192	44.20		0.08 – 0.18	433.88
NEW WPB-440-2D-S40-X13	44.00	40	48	70	98	124	194	44.90		0.08 – 0.18	433.88
NEW WPB-450-2D-S40-X13	45.00	40	48	70	103	127	197	45.70		0.08 – 0.18	433.88
NEW WPB-460-2D-S40-X15	46.00	40	48	70	102	130	200	XPMG15	47.80	0.08 – 0.18	539.33
NEW WPB-470-2D-S40-X15	47.00	40	48	70	102	132	202		48.50	0.08 – 0.18	539.33
NEW WPB-480-2D-S40-X15	48.00	40	48	70	110	135	205		49.20	0.08 – 0.18	539.33

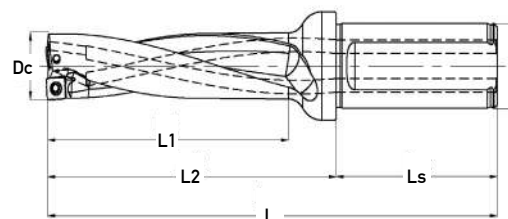
WPB 3xD

3xD



Manu-
facturer
standard

Insert Drill Body, 3xD with Internal coolant



Product family 822

Reference	ØDc	Ød	ØD	Ls	L1	L2	L	Insert	ØDmax	Feed	Price
									mm	mm/U	€/pc.
Insert Drill Body											
WPB-140-3D-S20-X04	14.00	20	25	50	45	58	108	XPMG04	14.70	0.04 – 0.12	304.81
WPB-145-3D-S20-X04	14.50	20	25	50	47	60	110		15.10	0.04 – 0.12	304.81
WPB-150-3D-S20-X04	15.00	20	25	50	50	62	112		15.50	0.04 – 0.12	304.81
WPB-155-3D-S20-X04	15.50	20	25	50	52	64	114		15.90	0.04 – 0.12	304.81
WPB-160-3D-S20-X05	16.00	20	25	50	51	66	116	XPMG05	17.10	0.04 – 0.12	304.81
WPB-165-3D-S20-X05	16.50	20	25	50	53	68	118		17.50	0.04 – 0.12	304.81
WPB-170-3D-S25-X05	17.00	25	32	56	54	69	119		17.90	0.04 – 0.12	304.81
WPB-175-3D-S25-X05	17.50	25	32	56	56	72	128		18.30	0.04 – 0.12	304.81
WPB-180-3D-S25-X05	18.00	25	32	56	58	73	129		18.70	0.04 – 0.12	304.81
WPB-185-3D-S25-X05	18.50	25	32	56	60	75	131		19.10	0.04 – 0.12	304.81
WPB-190-3D-S25-X06	19.00	25	32	56	60	76	132	XPMG06	20.20	0.04 – 0.12	304.81
WPB-195-3D-S25-X06	19.50	25	32	56	62	79	135		20.60	0.04 – 0.12	304.81
WPB-200-3D-S25-X06	20.00	25	32	56	64	81	137		21.00	0.04 – 0.12	304.81
WPB-210-3D-S25-X06	21.00	25	32	56	67	84	140		21.80	0.04 – 0.12	321.17
WPB-220-3D-S25-X06	22.00	25	32	56	69	87	143	XPMG07	22.60	0.04 – 0.12	321.17
WPB-230-3D-S25-X07	23.00	25	32	56	72	91	147		24.40	0.06 – 0.14	321.17
WPB-240-3D-S25-X07	24.00	25	32	56	76	95	151		25.20	0.06 – 0.14	321.17
WPB-250-3D-S25-X07	25.00	25	32	56	79	99	155		26.00	0.06 – 0.14	321.17
WPB-260-3D-S32-X07	26.00	32	40	60	81	102	162	XPMG09	26.80	0.06 – 0.14	339.35
WPB-270-3D-S32-X07	27.00	32	40	60	85	105	165		27.60	0.06 – 0.14	339.35
WPB-280-3D-S32-X09	28.00	32	40	60	87	109	169		29.60	0.06 – 0.16	339.35
WPB-290-3D-S32-X09	29.00	32	40	60	91	112	172		30.40	0.06 – 0.16	339.35
WPB-300-3D-S32-X09	30.00	32	40	60	95	117	177	XPMG11	31.20	0.06 – 0.16	339.35
WPB-310-3D-S40-X09	31.00	40	48	70	98	121	191		32.00	0.06 – 0.16	339.35
WPB-320-3D-S40-X09	32.00	40	48	70	101	124	194		32.80	0.06 – 0.16	339.35
WPB-330-3D-S40-X09	33.00	40	48	70	104	128	198		33.60	0.06 – 0.16	345.41
WPB-340-3D-S40-X11	34.00	40	48	70	108	131	201	XPMG11	35.80	0.08 – 0.18	345.41
WPB-350-3D-S40-X11	35.00	40	48	70	112	135	205		36.60	0.08 – 0.18	345.41
WPB-360-3D-S40-X11	36.00	40	48	70	113	139	209		37.40	0.08 – 0.18	345.41
WPB-370-3D-S40-X11	37.00	40	48	70	117	142	212		38.20	0.08 – 0.18	345.41
WPB-380-3D-S40-X11	38.00	40	48	70	122	146	216		39.00	0.08 – 0.18	345.41
WPB-390-3D-S40-X11	39.00	40	48	70	125	149	219		39.80	0.08 – 0.18	345.41
WPB-400-3D-S40-X11	40.00	40	48	70	126	153	223		40.60	0.08 – 0.18	345.41

Reference	ØDc	Ød	ØD	Ls	L1	L2	L	Insert	ØDmax	Feed	Price
	mm	mm	mm	mm	mm	mm	mm		mm	mm/U	€/pc.
NEW WPB-410-3D-S40-X13	41.00	40	48	70	129	157	227	XPMG13	42.80	0.08 – 0.18	502.97
NEW WPB-420-3D-S40-X13	42.00	40	48	70	133	160	230		43.60	0.08 – 0.18	502.97
NEW WPB-430-3D-S40-X13	43.00	40	48	70	135	164	234		44.20	0.08 – 0.18	502.97
NEW WPB-440-3D-S40-X13	44.00	40	48	70	137	167	237		44.90	0.08 – 0.18	502.97
NEW WPB-450-3D-S40-X13	45.00	40	48	70	142	172	242		45.70	0.08 – 0.18	502.97
NEW WPB-460-3D-S40-X15	46.00	40	48	70	146	176	246	XPMG15	47.80	0.08 – 0.18	589.02
NEW WPB-470-3D-S40-X15	47.00	40	48	70	152	179	249		48.50	0.08 – 0.18	589.02
NEW WPB-480-3D-S40-X15	48.00	40	48	70	159	183	253		49.20	0.08 – 0.18	589.02

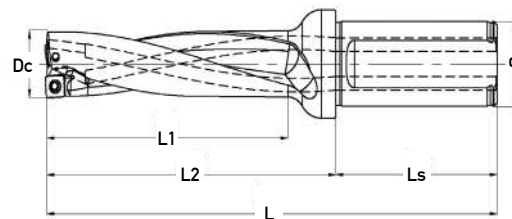
WPB 4xD

4xD



Manufacturer standard

Insert Drill Body, 4xD with Internal coolant



Product family 822

Reference	ØDc	Ød	ØD	Ls	L1	L2	L	Insert	ØDmax	Feed	Price
									mm	mm/U	€/pc.
Insert Drill Body											
WPB-140-4D-S20-X04	14.00	20	25	50	59	72	122	XPMG04	14.70	0.04 – 0.12	435.09
WPB-145-4D-S20-X04	14.50	20	25	50	63	75	125		15.10	0.04 – 0.12	435.09
WPB-150-4D-S20-X04	15.00	20	25	50	64	77	127		15.50	0.04 – 0.12	435.09
WPB-155-4D-S20-X04	15.50	20	25	50	66	79	129		15.90	0.04 – 0.12	435.09
WPB-160-4D-S20-X05	16.00	20	25	50	67	82	132	XPMG05	17.10	0.04 – 0.12	435.09
WPB-165-4D-S20-X05	16.50	20	25	50	70	84	134		17.50	0.04 – 0.12	435.09
WPB-170-4D-S25-X05	17.00	25	32	56	71	86	136		17.90	0.04 – 0.12	435.09
WPB-175-4D-S25-X05	17.50	25	32	56	74	89	145		18.30	0.04 – 0.12	435.09
WPB-180-4D-S25-X05	18.00	25	32	56	76	91	147		18.70	0.04 – 0.12	435.09
WPB-185-4D-S25-X05	18.50	25	32	56	78	93	149	XPMG06	19.10	0.04 – 0.12	435.09
WPB-190-4D-S25-X06	19.00	25	32	56	79	95	151		20.20	0.04 – 0.12	435.09
WPB-195-4D-S25-X06	19.50	25	32	56	83	99	155		20.60	0.04 – 0.12	435.09
WPB-200-4D-S25-X06	20.00	25	32	56	84	101	157	XPMG07	21.00	0.04 – 0.12	478.72
WPB-210-4D-S25-X06	21.00	25	32	56	88	105	161		21.80	0.04 – 0.12	478.72
WPB-220-4D-S25-X06	22.00	25	32	56	92	109	165		22.60	0.04 – 0.12	478.72
WPB-230-4D-S25-X07	23.00	25	32	56	99	114	170	XPMG09	24.40	0.06 – 0.14	478.72
WPB-240-4D-S25-X07	24.00	25	32	56	101	119	175		25.20	0.06 – 0.14	478.72
WPB-250-4D-S25-X07	25.00	25	32	56	104	124	180		26.00	0.06 – 0.14	478.72
WPB-260-4D-S32-X07	26.00	32	40	60	108	128	188	XPMG11	26.80	0.06 – 0.14	544.17
WPB-270-4D-S32-X07	27.00	32	40	60	112	132	192		27.60	0.06 – 0.14	544.17
WPB-280-4D-S32-X09	28.00	32	40	60	115	137	197		29.60	0.06 – 0.16	544.17
WPB-290-4D-S32-X09	29.00	32	40	60	120	141	201	XPMG13	30.40	0.06 – 0.16	544.17
WPB-300-4D-S32-X09	30.00	32	40	60	125	147	207		31.20	0.06 – 0.16	544.17
WPB-310-4D-S40-X09	31.00	40	48	70	129	152	222		32.00	0.06 – 0.16	544.17
WPB-320-4D-S40-X09	32.00	40	48	70	134	156	226	XPMG11	32.80	0.06 – 0.16	544.17
WPB-330-4D-S40-X09	33.00	40	48	70	138	161	231		33.60	0.06 – 0.16	563.56
WPB-340-4D-S40-X11	34.00	40	48	70	142	165	235		35.80	0.08 – 0.18	563.56
WPB-350-4D-S40-X11	35.00	40	48	70	146	170	240	XPMG11	36.60	0.08 – 0.18	563.56
WPB-360-4D-S40-X11	36.00	40	48	70	150	175	245		37.40	0.08 – 0.18	563.56
WPB-370-4D-S40-X11	37.00	40	48	70	154	179	249		38.20	0.08 – 0.18	563.56
WPB-380-4D-S40-X11	38.00	40	48	70	157	184	254	XPMG11	39.00	0.08 – 0.18	563.56
WPB-390-4D-S40-X11	39.00	40	48	70	165	188	258		39.80	0.08 – 0.18	563.56
WPB-400-4D-S40-X11	40.00	40	48	70	164	193	263		40.60	0.08 – 0.18	563.56
NEW WPB-410-4D-S40-X13	41.00	40	48	70	169	198	268	XPMG13	42.80	0.08 – 0.18	704.14
NEW WPB-420-4D-S40-X13	42.00	40	48	70	174	202	272		43.60	0.08 – 0.18	704.14
NEW WPB-430-4D-S40-X13	43.00	40	48	70	177	207	277		44.20	0.08 – 0.18	704.14
NEW WPB-440-4D-S40-X13	44.00	40	48	70	181	211	281		44.90	0.08 – 0.18	704.14

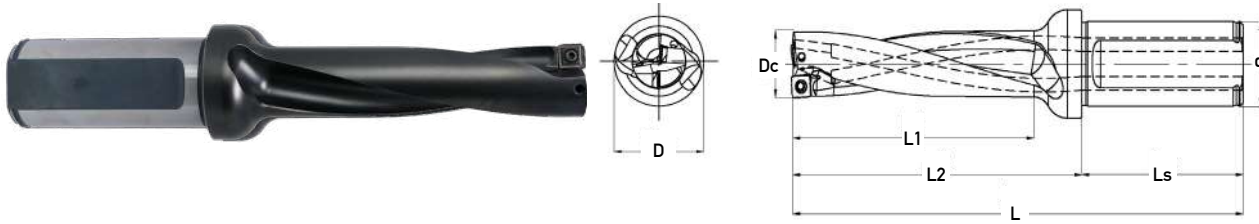
WPB 5xD

5xD





Manu-
facturer
standard

Insert Drill Body, 5xD with Internal coolant



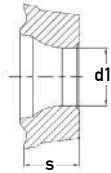
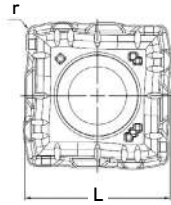
Product family 822

Reference	ØDc	Ød	ØD	Ls	L1	L2	L	Insert	Product family 822		
									ØDmax	Feed	Price
	mm	mm	mm	mm	mm	mm	mm		mm	mm/U	€/pc.
Insert Drill Body											
WPB-140-5D-S20-X04	14.00	20	25	50	73	86	136	XPMG04	14.70	0.04 – 0.12	471.77
WPB-145-5D-S20-X04	14.50	20	25	50	77	90	140		15.10	0.04 – 0.12	471.77
WPB-150-5D-S20-X04	15.00	20	25	50	79	92	142		15.50	0.04 – 0.12	471.77
WPB-155-5D-S20-X04	15.50	20	25	50	81	95	145		15.90	0.04 – 0.12	471.77
WPB-160-5D-S20-X05	16.00	20	25	50	67	82	132	XPMG05	17.10	0.04 – 0.12	471.77
WPB-165-5D-S20-X05	16.50	20	25	50	83	98	148		17.50	0.04 – 0.12	471.77
WPB-170-5D-S25-X05	17.00	25	32	56	90	104	160		17.90	0.04 – 0.12	471.77
WPB-175-5D-S25-X05	17.50	25	32	56	93	107	163		18.30	0.04 – 0.12	471.77
WPB-180-5D-S25-X05	18.00	25	32	56	94	109	165		18.70	0.04 – 0.12	471.77
WPB-185-5D-S25-X05	18.50	25	32	56	97	112	168	19.10	0.04 – 0.12	471.77	
WPB-190-5D-S25-X06	19.00	25	32	56	99	114	170	XPMG06	20.20	0.04 – 0.12	471.77
WPB-195-5D-S25-X06	19.50	25	32	56	103	118	174		20.60	0.04 – 0.12	471.77
WPB-200-5D-S25-X06	20.00	25	32	56	104	121	177		21.00	0.04 – 0.12	518.01
WPB-210-5D-S25-X06	21.00	25	32	56	109	126	182		21.80	0.04 – 0.12	518.01
WPB-220-5D-S25-X06	22.00	25	32	56	113	131	187	XPMG07	22.60	0.04 – 0.12	518.01
WPB-230-5D-S32-X07	23.00	32	40	60	120	138	198		24.40	0.06 – 0.14	518.01
WPB-240-5D-S32-X07	24.00	32	40	60	124	143	203		25.20	0.06 – 0.14	518.12
WPB-250-5D-S32-X07	25.00	32	40	60	129	149	209		26.00	0.06 – 0.14	518.12
WPB-260-5D-S32-X07	26.00	32	40	60	137	157	217	XPMG09	26.80	0.06 – 0.14	588.95
WPB-270-5D-S32-X07	27.00	32	40	60	139	159	219		27.60	0.06 – 0.14	588.95
WPB-280-5D-S32-X09	28.00	32	40	60	143	165	225		29.60	0.06 – 0.16	588.95
WPB-290-5D-S32-X09	29.00	32	40	60	150	171	231		30.40	0.06 – 0.16	588.95
WPB-300-5D-S32-X09	30.00	32	40	60	155	177	237	XPMG11	31.20	0.06 – 0.16	592.73
WPB-310-5D-S40-X09	31.00	40	48	70	160	183	253		32.00	0.06 – 0.16	592.73
WPB-320-5D-S40-X09	32.00	40	48	70	166	188	258		32.80	0.06 – 0.16	592.73
WPB-330-5D-S40-X09	33.00	40	48	70	171	194	264		33.60	0.08 – 0.18	592.73
NEW WPB-340-5D-S40-X11	34.00	40	48	70	176	199	269	XPMG11	35.80	0.08 – 0.18	592.73
NEW WPB-350-5D-S40-X11	35.00	40	48	70	181	205	275		36.60	0.08 – 0.18	592.73
NEW WPB-360-5D-S40-X11	36.00	40	48	70	186	211	281		37.40	0.08 – 0.18	592.73
NEW WPB-370-5D-S40-X11	37.00	40	48	70	191	216	286		38.20	0.08 – 0.18	592.73
NEW WPB-380-5D-S40-X11	38.00	40	48	70	195	222	292		39.00	0.08 – 0.18	592.73
NEW WPB-390-5D-S40-X11	39.00	40	48	70	204	227	297		39.80	0.08 – 0.18	592.73
NEW WPB-400-5D-S40-X11	40.00	40	48	70	204	233	303		40.60	0.08 – 0.18	592.73

Drill body accessories	Insert	Ø range	Spare part screw			Wrench for screw		
								
			Reference	Part No.	Price €/pc.	Reference	Part No.	Price €/pc.
WPB	XPMG04	14.00 – 15.50	M2x5	E100089 836	2.56	Torx Plus 5	E100090 836	6.04
	XPMG05	16.00 – 18.50	M2.2x5.5	E100077 835	2.56	Torx Plus 6	E100091 836	6.04
	XPMG06	19.00 – 22.50	M2.2x5.5	E100077 835	2.56	Torx Plus 6	E100091 836	6.04
	XPMG07	23.00 – 27.00	M2.5x7	E100079 835	2.56	Torx Plus 7	E100092 836	6.04
	XPMG09	27.50 – 33.00	M3x8	E100080 835	2.56	Torx Plus 9	E100093 836	6.04
	XPMG11	33.50 – 40.00	M4x10	E100082 835	2.56	Torx Plus 15	E100094 836	6.04
	NEW XPMG13	40.50 – 45.00	M4x10	E100082 835	2.56	Torx Plus 15	E100094 836	6.04
	NEW XPMG15	45.50 – 48.00	M5x11	E100095 835	2.56	Torx Plus 20	E100096 836	6.04

Torx size	Screw	Tightening torque of insert screw
Torx Plus 5	M2	0.5 Nm
Torx Plus 6	M2.2	0.6 Nm
Torx Plus 7	M2.5	0.9 Nm
Torx Plus 9	M3	1.4 Nm
Torx Plus 15	M4	3.0 Nm
NEW Torx Plus 20	M5	5.0 Nm

Inserts XPMG



Product family 712

Reference	Grade	L	s	r	d1	ØDc Solid drill	Price*
		mm	mm	mm	mm	mm	€/pc.
XPMG 040204-VB TF PU61 30	<div style="background-color: #008080; color: white; padding: 2px; font-weight: bold;">TF</div> <div style="background-color: #FF0000; color: white; padding: 2px; font-weight: bold;">PU61 30</div>	4.7	2.3	0.4	2.2	14.00 – 15.50	16.60
XPMG 050204-VB TF PU61 30		5.7	2.5	0.4	2.6	16.00 – 18.50	16.60
XPMG 060204-VB TF PU61 30		6.5	2.5	0.4	2.6	19.00 – 22.50	17.03
XPMG 07T306-VB TF PU61 30		7.94	3.2	0.6	2.85	23.00 – 27.00	18.25
XPMG 09T308-VB TF PU61 30		9.7	3.5	0.8	3.5	27.50 – 33.00	19.82
XPMG 110408-VB TF PU61 30		11.5	4.76	0.8	4.4	33.50 – 40.00	20.24
XPMG 130408-VB TF PU61 30		13.2	4.76	0.8	4.4	40.50 – 45.00	20.73
XPMG 150512-VB TF PU61 30		15.2	5.2	1.2	5.5	45.50 – 48.00	23.40

NEW
NEW

*PU 10 pcs.

Cutting parameters

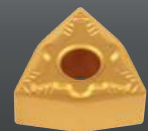
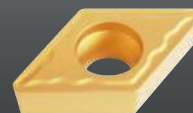
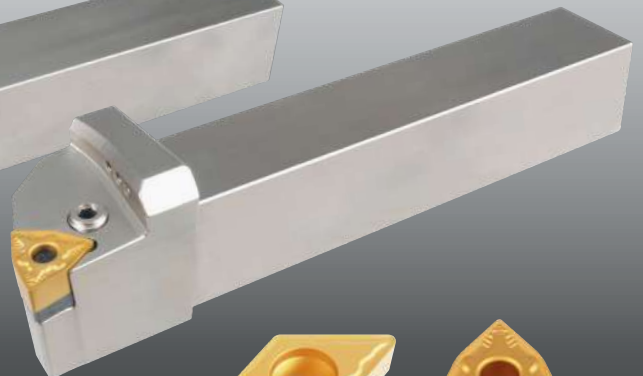
			P	M	K
ISO			St52, C45, 16MnCr5, 42CrMo4, 100Cr6	1.4305, 1.4301, 1.4571, 1.4034, 1.4435	GG20, GG40, GTW-45-07, GGG40, GGG60
Tensile strength N/mm ²			≤ 850	≤ 750	≤ 650
Cutting speed Vc (m/min)	TF PU61 30	VB	140 – 180 – 250	110 – 140 – 200	120 – 160 – 220

Flexible Line

Indexable Inserts And Tool Holders Internal And External Turning



Flexible
Line





Indexable Inserts – Turning

Product family 711



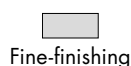
CNMG0903...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _n Feed*		Price			
					mm		mm/U		€/pc.			
					min	Start	max	min	Start	max	PU 10 pcs.	
0.40		TF CB41 15	CNMG 090304-DL TF CB41 15	PCLNR/L 1616 H09 PCLNR/L 2020 K09 PCLNR/L 2525 M09 see p. 82 A20R PCLNR/L 09 see p. 89	0.30	0.40	1.50	0.07	0.15	0.30	10.10	
		TF CB91 25	CNMG 090304-DL TF CB91 25		0.30	0.40	1.50	0.07	0.15	0.30	10.10	
		TF CB41 15	CNMG 090304-DM TF CB41 15		0.40	2.00	3.50	0.10	0.20	0.30	10.10	
		TF CB91 25	CNMG 090304-DM TF CB91 25		0.40	2.00	3.50	0.10	0.20	0.30	10.10	
0.80		TF CB41 15	CNMG 090308-DL TF CB41 15		A20R PCLNR/L 09 see p. 89	0.30	0.80	1.50	0.10	0.20	0.40	10.10
		TF CB91 25	CNMG 090308-DL TF CB91 25			0.30	0.80	1.50	0.10	0.20	0.40	10.10
		TF CB41 15	CNMG 090308-DM TF CB41 15			0.50	2.00	3.50	0.15	0.30	0.50	10.10
		TF CB91 25	CNMG 090308-DM TF CB91 25			0.50	2.00	3.50	0.15	0.30	0.50	10.10

The CNMG in use

On YouTube you can see our CNMG indexable insert in use in the machining of C45E.

<https://www.youtube.com/watch?v=S4qEI-onSLc&t=158s>



* Cutting speed v_c: p. 80

Indexable Inserts – Turning



CNMG 1204...

Product family **711**

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					min	Start	max	min	Start	max	€/pc.
											PU 10 pcs.
0.40		TF CB31 05	CNMG 120404-DL TF CB31 05	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12 DCLNR/L2020.12 DCLNR/L2525.12 DCLNR/L3232.12 see p. 83 A20RPCLNR/L12 A25SPCLNR/L12 A32TPCLNR/L12 A40TPCLNR/L12 see p. 89	0.30	0.40	1.50	0.07	0.15	0.30	12.11
		TF CB22 10	CNMG 120404-DL TF CB22 10		0.30	0.40	1.50	0.07	0.15	0.30	12.11
		TF CB41 15	CNMG 120404-DL TF CB41 15		0.30	0.40	1.50	0.07	0.15	0.30	12.11
		TF CB32 20	CNMG 120404-DL TF CB32 20		0.30	0.40	1.50	0.07	0.15	0.30	12.11
		TF CB91 25	CNMG 120404-DL TF CB91 25		0.30	0.40	1.50	0.07	0.15	0.30	12.11
		TF UC81 10	CNMG 120404-DL TF UC81 10		0.30	0.40	1.50	0.07	0.15	0.30	12.11
		TF PY81 15	CNMG 120404-DL TF PY81 15		0.10	0.40	1.50	0.05	0.15	0.30	12.11
		TF PO41 15	CNMG 120404-DL TF PO41 15**		0.20	0.50	1.50	0.08	0.11	0.15	12.11
		TF CB31 05	CNMG 120404-DM TF CB31 05		0.40	3.00	5.50	0.10	0.20	0.30	12.11
		TF CB22 10	CNMG 120404-DM TF CB22 10		0.40	3.00	5.50	0.10	0.20	0.30	12.11
		TF CB41 15	CNMG 120404-DM TF CB41 15		0.40	3.00	5.50	0.10	0.20	0.30	12.11
		TF CB32 20	CNMG 120404-DM TF CB32 20		0.40	3.00	5.50	0.10	0.20	0.30	12.11
		TF CB91 25	CNMG 120404-DM TF CB91 25		0.40	3.00	5.50	0.10	0.20	0.30	12.11
		TF CB12 30	CNMG 120404-DM TF CB12 30		0.40	3.00	5.50	0.10	0.20	0.30	12.11
		TF UC81 10	CNMG 120404-DM TF UC81 10		0.40	3.00	2.50	0.10	0.20	0.30	12.11
		TF CY22 15	CNMG 120404-DM TF CY22 15		0.40	2.50	5.50	0.15	0.25	0.35	12.11
		TF CY22 15	CNMG 120404-DMM TF CY22 15		0.60	2.00	4.50	0.15	0.30	0.60	12.11
		TF PO41 15	CNMG 120404-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	12.11
		TF CR31 15	CNMG 120404-DGM TF CR31 15		0.30	3.00	5.50	0.10	0.20	0.30	12.11
		TF CR11 25	CNMG 120404-DGM TF CR11 25		0.30	3.00	5.50	0.10	0.20	0.30	12.11
		0.80			TF CB22 10	CNMG 120408-DL TF CB22 10	0.30	0.80	1.50	0.10	0.20
TF CB41 15	CNMG 120408-DL TF CB41 15			0.30	0.80	1.50	0.10	0.20	0.40	12.11	
TF CB32 20	CNMG 120408-DL TF CB32 20			0.30	0.80	1.50	0.10	0.20	0.40	12.11	
TF CB91 25	CNMG 120408-DL TF CB91 25			0.30	0.80	1.50	0.10	0.20	0.40	12.11	
TF UC81 10	CNMG 120408-DL TF UC81 10			0.30	0.80	1.50	0.10	0.20	0.40	12.11	
TF PY81 15	CNMG 120408-DL TF PY81 15			0.30	0.80	1.50	0.10	0.20	0.40	12.11	
TF PO41 15	CNMG 120408-DL TF PO41 15**			0.20	0.50	1.50	0.08	0.11	0.15	12.11	

* Cutting speed v_c: p. 80



** The specified cutting parameters refer to the machining of high-temperature steels.



Indexable Inserts – Turning

Product family 711



CNMG 1204...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.80		TF CB31 05	CNMG 120408-DM TF CB31 05	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12 DCLNR/L2020.12 DCLNR/L2525.12 DCLNR/L3232.12 see p. 83	0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF CB22 10	CNMG 120408-DM TF CB22 10		0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF CB41 15	CNMG 120408-DM TF CB41 15		0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF CB32 20	CNMG 120408-DM TF CB32 20		0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF CB91 25	CNMG 120408-DM TF CB91 25		0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF CB91 25	CNMG 120408-DCM TF CB91 25		0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF CB12 30	CNMG 120408-DM TF CB12 30		0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF UC81 10	CNMG 120408-DM TF UC81 10		0.50	2.00	2.50	0.15	0.30	0.50	12.11
		TF CY22 15	CNMG 120408-DM TF CY22 15		0.50	2.50	5.50	0.15	0.30	0.50	12.11
		TF CY22 15	CNMG 120408-DMM TF CY22 15		0.50	2.00	4.50	0.10	0.25	0.60	12.11
		TF CY71 25	CNMG 120408-DM TF CY71 25		0.50	2.50	5.50	0.10	0.25	0.45	12.11
		TF PO41 15	CNMG 120408-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	12.11
		TF CR31 15	CNMG 120408-DGM TF CR31 15		0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF CR11 25	CNMG 120408-DGM TF CR11 25		0.50	3.00	5.50	0.15	0.30	0.50	12.11
		TF CB22 10	CNMG 120408-DS TF CB22 10	A20RPCLNR/L12 A25SPCLNR/L12 A32TPCLNR/L12 A40TPCLNR/L12 see p. 89	0.70	4.00	7.00	0.20	0.35	0.50	12.11
		TF CB41 15	CNMG 120408-DS TF CB41 15		0.70	4.00	7.00	0.20	0.35	0.50	12.11
		TF CB32 20	CNMG 120408-DS TF CB32 20		0.70	4.00	7.00	0.20	0.35	0.50	12.11
		TF CB91 25	CNMG 120408-DS TF CB91 25		0.70	4.00	7.00	0.20	0.35	0.50	12.11
		TF CB12 30	CNMG 120408-DS TF CB12 30		0.70	4.00	7.00	0.20	0.35	0.50	12.11
		TF CB71 35	CNMG 120408-DS TF CB71 35		0.70	4.00	7.00	0.20	0.35	0.50	12.11
		TF CY22 15	CNMG 120408-DS TF CY22 15		1.00	4.00	7.00	0.20	0.35	0.55	12.11
		TF CY71 25	CNMG 120408-DS TF CY71 25		1.00	4.00	7.00	0.15	0.30	0.50	12.11
		TF CR31 15	CNMG 120408-DGS TF CR31 15		0.50	3.50	6.50	0.20	0.35	0.50	12.11
		TF CR11 25	CNMG 120408-DGS TF CR11 25		0.50	3.50	6.50	0.20	0.35	0.50	12.11
		TF CB41 15	CNMG 120408-DSS TF CB41 15		1.00	4.00	7.00	0.25	0.35	0.55	12.11
		TF CB91 25	CNMG 120408-DSS TF CB91 25		1.00	4.00	7.00	0.25	0.35	0.55	12.11

** The specified cutting parameters refer to the machining of high-temperature steels.



* Cutting speed v_c: p. 80

Indexable Inserts – Turning



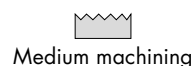
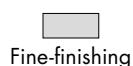
CNMG 1204...

Product family **711**

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
1.20		TF PO41 15	CNMG 120412-DL TF PO41 15**	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12 DCLNR/L2020.12 DCLNR/L2525.12 see p. 83 A20RPCLNR/L12 A25SPCLNR/L12 A32TPCLNR/L12 A40TPCLNR/L12 see p. 89	0.20	0.50	1.50	0.08	0.11	0.15	12.11
		TF CB31 05	CNMG 120412-DM TF CB31 05		0.80	3.00	5.50	0.18	0.35	0.60	12.11
		TF CB22 10	CNMG 120412-DM TF CB22 10		0.80	3.00	5.50	0.18	0.35	0.60	12.11
		TF CB41 15	CNMG 120412-DM TF CB41 15		0.80	3.00	5.50	0.18	0.35	0.60	12.11
		TF CB32 20	CNMG 120412-DM TF CB32 20		0.80	3.00	5.50	0.18	0.35	0.60	12.11
		TF CB91 25	CNMG 120412-DM TF CB91 25		0.80	3.00	5.50	0.18	0.35	0.60	12.11
		TF CB12 30	CNMG 120412-DM TF CB12 30		0.80	3.00	5.50	0.18	0.35	0.60	12.11
		TF CY22 15	CNMG 120412-DM TF CY22 15		0.80	3.00	5.50	0.20	0.35	0.65	12.11
		TF CY71 25	CNMG 120412-DM TF CY71 25		0.80	3.00	5.50	0.15	0.30	0.60	12.11
		TF PO41 15	CNMG 120412-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	12.11
		TF CR31 15	CNMG 120412-DGM TF CR31 15		0.80	3.00	5.50	0.18	0.35	0.60	12.11
		TF CR11 25	CNMG 120412-DGM TF CR11 25		0.80	3.00	5.50	0.18	0.35	0.60	12.11
		TF CB31 05	CNMG 120412-DS TF CB31 05		1.00	4.00	7.00	0.25	0.40	0.70	12.11
		TF CB22 10	CNMG 120412-DS TF CB22 10		1.00	4.00	7.00	0.25	0.40	0.70	12.11
		TF CB41 15	CNMG 120412-DS TF CB41 15		1.00	4.00	7.00	0.25	0.40	0.70	12.11
		TF CB32 20	CNMG 120412-DS TF CB32 20		1.00	4.00	7.00	0.25	0.40	0.70	12.11
		TF CB91 25	CNMG 120412-DS TF CB91 25		1.00	4.00	7.00	0.25	0.40	0.70	12.11
		TF CB12 30	CNMG 120412-DS TF CB12 30		1.00	4.00	7.00	0.25	0.40	0.70	12.11
		TF CY22 15	CNMG 120412-DS TF CY22 15		1.00	4.00	7.00	0.20	0.35	0.55	12.11
		TF CY71 25	CNMG 120412-DS TF CY71 25		1.00	4.00	7.00	0.15	0.35	0.60	12.11
		TF CR31 15	CNMG 120412-DGS TF CR31 15		0.80	3.50	6.50	0.20	0.40	0.65	12.11
		TF CR11 25	CNMG 120412-DGS TF CR11 25		0.80	3.50	6.50	0.20	0.40	0.65	12.11

** The specified cutting parameters refer to the machining of high-temperature steels.

* Cutting speed v_c: p. 80





Negative

Indexable Inserts – Turning



CNMG 1204...

Product family 711

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
1.60		TF CR31 15	CNMG 120416-DGM TF CR31 15	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12 DCLNR/L2020.12 DCLNR/L2525.12 see p. 83 A20RPLNR/L12 A25SPCLNR/L12 A32TPCLNR/L12 A40TPCLNR/L12 see p. 89	1.00	3.00	5.50	0.20	0.40	0.70	12.11
		TF CR11 25	CNMG 120416-DGM TF CR11 25		1.00	3.00	5.50	0.20	0.40	0.70	12.11
	TF CB22 10	CNMG 120416-DS TF CB22 10	1.20		4.00	7.00	0.25	0.45	0.80	12.11	
	TF CR31 15	CNMG 120416-DGS TF CR31 15	1.00		3.50	6.50	0.25	0.45	0.80	12.11	
	TF CR11 25	CNMG 120416-DGS TF CR11 25	1.00		3.50	6.50	0.25	0.45	0.80	12.11	


 CNMG 1204...
Wiper-Geometryn

Product family 711

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.80		TF CB91 25	CNMG 120408-DFS TF CB91 25	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12 DCLNR/L2020.12 DCLNR/L2525.12 see p. 83	0.50	3.00	5.00	0.15	0.30	0.60	12.11
		TF UC81 10	CNMG 120408-DFS TF UC81 10		0.50	1.50	2.50	0.15	0.30	0.50	12.11
1.20		TF UC81 10	CNMG 120412-DFS TF UC81 10	A20RPLNR/L12 A25SPCLNR/L12 A32TPCLNR/L12 A40TPCLNR/L12 see p. 89	0.80	1.50	2.50	0.25	0.50	0.90	12.11

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

 * Cutting speed v_c : p. 80

Indexable Inserts – Turning



Product family **711**



CNMG 1606...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.80		TF PO41 15	CNMG 160608-DL TF PO41 15**	-	0.50	3.00	5.50	0.15	0.25	0.40	22.07
		TF CB31 05	CNMG 160608-DM TF CB31 05		0.50	4.00	7.00	0.15	0.30	0.50	22.07
		TF CB22 10	CNMG 160608-DM TF CB22 10		0.50	4.00	7.00	0.15	0.30	0.50	22.07
		TF CB32 20	CNMG 160608-DM TF CB32 20		0.50	4.00	7.00	0.15	0.30	0.50	22.07
		TF CB91 25	CNMG 160608-DM TF CB91 25		0.50	4.00	7.00	0.15	0.30	0.50	22.07
		TF CB12 30	CNMG 160608-DM TF CB12 30		0.50	4.00	7.00	0.15	0.30	0.50	22.07
		TF PO41 15	CNMG 160608-DM TF PO41 15**		0.60	3.50	6.50	0.15	0.25	0.40	22.07
		TF CR31 15	CNMG 160608-DGM TF CR31 15		0.50	4.00	7.50	0.15	0.30	0.50	22.07
		TF CR11 25	CNMG 160608-DGM TF CR11 25		0.50	4.00	7.50	0.15	0.30	0.50	22.07
		TF CB91 25	CNMG 160608-DS TF CB91 25		0.70	5.00	8.00	0.20	0.35	0.50	22.07
1.20		TF PO41 15	CNMG 160612-DL TF PO41 15**	-	1.00	3.00	5.50	0.15	0.28	0.50	22.07
		TF CB31 05	CNMG 160612-DM TF CB31 05		0.80	4.00	7.00	0.20	0.35	0.60	22.07
		TF CB22 10	CNMG 160612-DM TF CB22 10		0.80	4.00	7.00	0.20	0.35	0.60	22.07
		TF CB41 15	CNMG 160612-DM TF CB41 15		0.80	4.00	7.00	0.20	0.35	0.60	22.07
		TF CB32 20	CNMG 160612-DM TF CB32 20		0.80	4.00	7.00	0.20	0.35	0.60	22.07
		TF CB91 25	CNMG 160612-DM TF CB91 25		0.80	4.00	7.00	0.20	0.35	0.60	22.07
		TF CB12 30	CNMG 160612-DM TF CB12 30		0.80	4.00	7.00	0.20	0.35	0.60	22.07
		TF PO41 15	CNMG 160612-DM TF PO41 15**		1.00	3.50	6.50	0.20	0.30	0.50	22.07
		TF CY71 25	CNMG 160612-DM TF CY71 25		0.80	3.50	6.50	0.15	0.30	0.55	22.07
		TF CR31 15	CNMG 160612-DGM TF CR31 15		0.80	4.00	7.50	0.15	0.35	0.60	22.07
		TF CR11 25	CNMG 160612-DGM TF CR11 25		0.80	4.00	7.50	0.15	0.35	0.60	22.07

** The specified cutting parameters refer to the machining of high-temperature steels.

* Cutting speed v_c: p. 80





Negative

Indexable Inserts – Turning

Product family 711



CNMG 1606...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
1.20		TF CB31 05	CNMG 160612-DS TF CB31 05		1.00	5.00	8.00	0.25	0.40	0.70	22.07
		TF CB22 10	CNMG 160612-DS TF CB22 10		1.00	5.00	8.00	0.25	0.40	0.70	22.07
		TF CB41 15	CNMG 160612-DS TF CB41 15		1.00	5.00	8.00	0.25	0.40	0.70	22.07
		TF CB32 20	CNMG 160612-DS TF CB32 20		1.00	5.00	8.00	0.25	0.40	0.70	22.07
		TF CB91 25	CNMG 160612-DS TF CB91 25		1.00	5.00	8.00	0.25	0.40	0.70	22.07
		TF CB12 30	CNMG 160612-DS TF CB12 30		1.00	5.00	8.00	0.25	0.40	0.70	22.07
		TF CR31 15	CNMG 160612-DGS TF CR31 15		1.00	5.00	8.00	0.20	0.40	0.65	22.07
		TF CR11 25	CNMG 160612-DGS TF CR11 25		1.00	5.00	8.00	0.20	0.40	0.65	22.07
		TF CB41 15	CNMG 160612-DSS TF CB41 15		1.50	5.00	8.00	0.25	0.40	0.70	22.07
	1.60		TF CB91 25		CNMG 160616-DM TF CB91 25		1.00	4.00	7.00	0.25	0.40
TF CR31 15			CNMG 160616-DGM TF CR31 15	1.00	4.00		7.50	0.20	0.40	0.70	22.07
TF CR11 25			CNMG 160616-DGM TF CR11 25	1.00	4.00		7.50	0.20	0.40	0.70	22.07
		TF CB31 05	CNMG 160616-DS TF CB31 05	1.00	5.00		8.00	0.30	0.50	0.80	22.07
		TF CB22 10	CNMG 160616-DS TF CB22 10	1.00	5.00		8.00	0.30	0.50	0.80	22.07
		TF CB41 15	CNMG 160616-DS TF CB41 15	1.00	5.00		8.00	0.30	0.50	0.80	22.07
		TF CB32 20	CNMG 160616-DS TF CB32 20	1.00	5.00		8.00	0.30	0.50	0.80	22.07
		TF CB91 25	CNMG 160616-DS TF CB91 25	1.00	5.00		8.00	0.30	0.50	0.80	22.07
		TF CB12 30	CNMG 160616-DS TF CB12 30	1.00	5.00		8.00	0.30	0.50	0.80	22.07
		TF CR31 15	CNMG 160616-DGS TF CR31 15	1.00	4.50		8.50	0.25	0.45	0.80	22.07
		TF CR11 25	CNMG 160616-DGS TF CR11 25	1.00	4.50		8.50	0.25	0.45	0.80	22.07

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

* Cutting speed v_c: p. 80

Indexable Inserts – Turning



Radius		Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
mm	mm					mm	mm/U	€ / pc.				
						min	Start	max	min	Start	max	PU 10 pcs.
0.80			TF CB41 15	CNMG 190608-DM TF CB41 15	-	0.50	4.00	8.50	0.15	0.30	0.50	27.98
			TF CB91 25	CNMG 190608-DM TF CB91 25		0.50	4.00	8.50	0.15	0.30	0.50	27.98
		TF PO41 15	CNMG 190608-DL TF PO41 15**	0.60		3.50	6.00	0.15	0.25	0.40	27.98	
TF PO41 15		CNMG 190612-DL TF PO41 15**	1.00	3.50		6.00	0.15	0.28	0.50	27.98		
1.20			TF CR31 15	CNMG 190612-DGM TF CR31 15		0.80	4.50	9.50	0.15	0.35	0.60	27.98
			TF CR11 25	CNMG 190612-DGM TF CR11 25		0.80	4.50	9.50	0.15	0.35	0.60	27.98
		TF CB91 25	CNMG 190612-DS TF CB91 25	1.00		5.00	10.00	0.25	0.40	0.70	27.98	
		TF CR31 15	CNMG 190612-DGS TF CR31 15	0.80		6.00	12.00	0.20	0.40	0.65	27.98	
		TF CR11 25	CNMG 190612-DGS TF CR11 25	0.80		6.00	12.00	0.20	0.40	0.65	27.98	
		TF CR31 15	CNMG 190616-DGM TF CR31 15	1.00		4.50	9.50	0.20	0.40	0.70	27.98	
1.60			TF CR11 25	CNMG 190616-DGM TF CR11 25		1.00	4.50	9.50	0.20	0.40	0.70	27.98
			TF CB41 15	CNMG 190616-DS TF CB41 15		1.50	5.00	10.00	0.30	0.50	0.80	27.98
		TF CB91 25	CNMG 190616-DS TF CB91 25	1.00	5.00	10.00	0.30	0.50	0.80	27.98		
		TF CR31 15	CNMG 190616-DGS TF CR31 15	1.00	6.00	12.00	0.25	0.45	0.80	27.98		
		TF CR11 25	CNMG 190616-DGS TF CR11 25	1.00	6.00	12.00	0.25	0.45	0.80	27.98		
		TF CR31 15	CNMG 190616-DSS TF CB91 25	2.00	5.00	10.00	0.30	0.50	0.80	27.98		
		TF CB91 25	CNMG 190616-DSS TF CB91 25	2.00	5.00	10.00	0.30	0.50	0.80	27.98		

** The specified cutting parameters refer to the machining of high-temperature steels.

Radius		Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
mm	mm					mm	mm/U	€ / pc.				
						min	Start	max	min	Start	max	PU 10 pcs.
1.20			TF PY42 25	CNMG 190612-DS TF PY42 25	-	1.00	6.00	11.00	0.25	0.50	0.90	27.98
1.60			TF PY42 25	CNMG 190616-DS TF PY42 25		1.00	6.00	11.00	0.40	0.60	1.10	27.98

* Cutting speed v_c : p. 80





Negative

Indexable Inserts – Turning

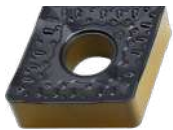
Einseitige Inserts CNMM



CNMM 1204...

Product family 711

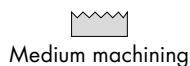
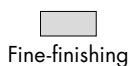
Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.80		TF CB72 15	CNMM 120408-DSS TF CB72 15	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12 DCLNR/L2020.12 DCLNR/L2525.12 see p. 83	0.70	5.00	7.00	0.25	0.45	0.55	12.38
		TF CB52 25	CNMM 120408-DSS TF CB52 25		0.70	5.00	7.00	0.25	0.45	0.55	12.38
		TF CB01 35	CNMM 120408-DSS TF CB01 35		0.70	5.00	7.00	0.25	0.45	0.55	12.38
1.20		TF CB52 25	CNMM 120412-DSS TF CB52 25		A20R PCLNR/L12 A25SPCLNR/L12 A32TPCLNR/L12 A40TPCLNR/L12 see p. 89	1.00	5.00	7.00	0.30	0.55	0.70
		TF CB01 35	CNMM 120412-DSS TF CB01 35	1.00		5.00	7.00	0.30	0.55	0.70	12.38



CNMM 1606...

Product family 711

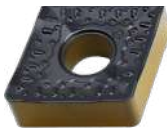




Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
1.20		TF CB72 15	CNMM 160612-DSS TF CB72 15	-	1.00	6.00	9.00	0.20	0.40	0.60	22.20
		TF CB52 25	CNMM 160612-DSS TF CB52 25		1.00	6.00	9.00	0.20	0.40	0.60	22.20
		TF CB01 35	CNMM 160612-DSS TF CB01 35		1.00	6.00	9.00	0.20	0.40	0.60	22.20
1.60		TF CB72 15	CNMM 160616-DSS TF CB72 15		1.50	6.00	9.00	0.30	0.45	0.75	22.20
		TF CB52 25	CNMM 160616-DSS TF CB52 25		1.50	6.00	9.00	0.30	0.45	0.75	22.20
		TF CB01 35	CNMM 160616-DSS TF CB01 35		1.50	6.00	9.00	0.30	0.45	0.75	22.20
2.40		TF CB72 15	CNMM 160624-DSS TF CB72 15		1.50	6.00	9.00	0.30	0.45	0.75	22.20
		TF CB52 25	CNMM 160624-DSS TF CB52 25		2.00	6.00	9.00	0.35	0.55	1.05	22.20
		TF CB01 35	CNMM 160624-DSS TF CB01 35		2.00	6.00	9.00	0.35	0.55	1.05	22.20





* Cutting speed v_c: p. 80

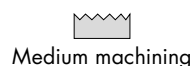
Indexable Inserts – Turning



						Product family 711					
<h2 style="text-align: center;">CNMM 1906...</h2>											
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	– Start –	max	min	– Start –	max	PU 10 pcs.
1.20		TF CB72 15	CNMM 190612-DSS TF CB72 15	-	1.00	– 6.00 –	11.00	0.20	– 0.45 –	0.60	31.28
		TF CB52 25	CNMM 190612-DSS TF CB52 25		1.00	– 6.00 –	11.00	0.20	– 0.45 –	0.60	31.28
		TF CB01 35	CNMM 190612-DSS TF CB01 35		1.00	– 6.00 –	11.00	0.20	– 0.45 –	0.60	31.28
1.60		TF CB72 15	CNMM 190616-DSS TF CB72 15		1.50	– 6.00 –	11.00	0.30	– 0.45 –	0.85	31.28
		TF CB52 25	CNMM 190616-DSS TF CB52 25		1.50	– 6.00 –	11.00	0.30	– 0.45 –	0.85	31.28
		TF CB01 35	CNMM 190616-DSS TF CB01 35		1.50	– 6.00 –	11.00	0.30	– 0.45 –	0.85	31.28
2.40		TF CB72 15	CNMM 190624-DSS TF CB72 15		2.00	– 6.00 –	11.00	0.35	– 0.55 –	1.05	31.28
		TF CB52 25	CNMM 190624-DSS TF CB52 25		2.00	– 6.00 –	11.00	0.35	– 0.55 –	1.05	31.28
		TF CB01 35	CNMM 190624-DSS TF CB01 35		2.00	– 6.00 –	11.00	0.35	– 0.55 –	1.05	31.28

						Product family 711					
<h2 style="text-align: center;">CNMM 2507...</h2>											
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	– Start –	max	min	– Start –	max	PU 10 pcs.
2.40		TF CB72 15	CNMM 250724-DSS TF CB72 15	-	2.00	– 7.50 –	12.50	0.40	– 0.60 –	1.20	61.67
		TF CB52 25	CNMM 250724-DSS TF CB52 25		2.00	– 7.50 –	12.50	0.40	– 0.60 –	1.20	61.67
		TF CB01 35	CNMM 250724-DSS TF CB01 35		2.00	– 7.50 –	12.50	0.40	– 0.60 –	1.20	61.67

* Cutting speed v_c : p. 80





Negative

Indexable Inserts – Turning



CNMM 2509...

Product family 711

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
2.40		TF CB72 15	CNMM 250924-DSS TF CB72 15	-	2.00	7.50	12.50	0.40	0.60	1.20	61.67
		TF CB52 25	CNMM 250924-DSS TF CB52 25		2.00	7.50	12.50	0.40	0.60	1.20	61.67
		TF CB01 35	CNMM 250924-DSS TF CB01 35		2.00	7.50	12.50	0.40	0.60	1.20	61.67

Turning – Negative

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

* Cutting speed v_c: p. 80

Indexable Inserts – Turning



Product family **711**



DNMG 1104...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					min	Start	max	min	Start	max	€/pc.
											PU 10 pcs.
0.40		TF CB22 10	DNMG 110404-DL TF CB22 10	PDJNR/L 1616.11 PDJNR/L 2020.11 PDJNR/L 2525.11 see p. 83 A20R PDUNR/L 11 see p. 90	0.30	0.40	1.50	0.07	0.15	0.30	11.86
		TF CB41 15	DNMG 110404-DL TF CB41 15		0.30	0.40	1.50	0.07	0.15	0.30	11.86
		TF CB32 20	DNMG 110404-DL TF CB32 20		0.30	0.40	1.50	0.07	0.15	0.30	11.86
		TF CB91 25	DNMG 110404-DL TF CB91 25		0.30	0.40	1.50	0.07	0.15	0.30	11.86
		TF PY81 15	DNMG 110404-DL TF PY81 15		0.10	0.40	1.50	0.05	0.15	0.30	11.86
		TF PO41 15	DNMG 110404-DL TF PO41 15**		0.30	0.50	2.50	0.10	0.15	0.30	11.86
0.40		TF CB41 15	DNMG 110404-DM TF CB41 15		0.40	2.00	4.00	0.10	0.20	0.30	11.86
		TF CB91 25	DNMG 110404-DM TF CB91 25		0.40	2.00	4.00	0.10	0.20	0.30	11.86
		TF PO41 15	DNMG 110404-DM TF PO41 15**		0.30	1.00	3.00	0.12	0.18	0.30	11.86
		TF CB31 05	DNMG 110408-DL TF CB31 05		0.30	0.80	1.50	0.10	0.20	0.40	11.86
		TF CB41 15	DNMG 110408-DL TF CB41 15		0.30	0.80	1.50	0.10	0.20	0.40	11.86
		TF CB91 25	DNMG 110408-DL TF CB91 25		0.30	0.80	1.50	0.10	0.20	0.40	11.86
0.80		TF UC81 10	DNMG 110408-DL TF UC81 10		0.40	0.80	2.00	0.10	0.20	0.35	11.86
		TF PO41 15	DNMG 110408-DL TF PO41 15**		0.60	1.00	2.50	0.15	0.25	0.40	11.86
		TF CB22 10	DNMG 110408-DM TF CB22 10		0.50	2.00	4.00	0.15	0.30	0.50	11.86
		TF CB41 15	DNMG 110408-DM TF CB41 15		0.50	2.00	4.00	0.15	0.30	0.50	11.86
		TF CB32 20	DNMG 110408-DM TF CB32 20		0.50	2.00	4.00	0.15	0.30	0.50	11.86
		TF CB91 25	DNMG 110408-DM TF CB91 25		0.50	2.00	4.00	0.15	0.30	0.50	11.86
	0.80		TF UC81 10	DNMG 110408-DM TF UC81 10	0.80	1.20	3.00	0.10	0.25	0.30	11.86
			TF PO41 15	DNMG 110408-DM TF PO41 15**	0.60	1.00	3.00	0.15	0.25	0.40	11.86

** The specified cutting parameters refer to the machining of high-temperature steels.

* Cutting speed v_c: p. 80





Negative

Indexable Inserts – Turning

Product family 711



DNMG 1504...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _n Feed*		Price		
					mm		mm/U		€/pc.		
					min	Start – max	min	Start – max	PU 10 pcs.		
0.40		TF CB22 10	DNMG 150404-DL TF CB22 10	PDJNR/L2020.15 PDJNR/L2525.15 DDJNR/L2020.15 DDJNR/L2525.15 DDJNR/L3225.15 see p. 84 A25SPDUNR/L15 A32TPDUNR/L15 A40TPDUNR/L15 see p. 90	0.30	0.40	1.50	0.07	0.15	0.30	14.39
		TF CB32 20	DNMG 150404-DL TF CB32 20		0.30	0.40	1.50	0.07	0.15	0.30	14.39
		TF PO41 15	DNMG 150404-DL TF PO41 15**		0.30	0.50	2.50	0.10	0.15	0.30	14.39
0.80		TF CB22 10	DNMG 150408-DL TF CB22 10		0.30	0.80	1.50	0.10	0.20	0.40	14.39
		TF CB32 20	DNMG 150408-DL TF CB32 20		0.30	0.80	1.50	0.10	0.20	0.40	14.39
		TF PO41 15	DNMG 150408-DL TF PO41 15**		0.60	1.00	2.50	0.15	0.25	0.40	14.39
		TF CB22 10	DNMG 150408-DM TF CB22 10		0.50	2.50	4.00	0.15	0.30	0.50	14.39
		TF CB12 30	DNMG 150408-DM TF CB12 30		0.50	2.50	4.00	0.15	0.30	0.50	14.39
		TF PO41 15	DNMG 150408-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	14.39
1.20		TF PO41 15	DNMG 150412-DL TF PO41 15**		0.80	1.50	2.50	0.15	0.28	0.50	14.39
		TF CB22 10	DNMG 150412-DM TF CB22 10		0.80	2.50	4.00	0.20	0.35	0.60	14.39
		TF CB32 20	DNMG 150412-DM TF CB32 20		0.80	2.50	4.00	0.20	0.35	0.60	14.39
		TF CB12 30	DNMG 150412-DM TF CB12 30		0.80	2.50	4.00	0.20	0.35	0.60	14.39
		TF PO41 15	DNMG 150412-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	14.39

** The specified cutting parameters refer to the machining of high-temperature steels.

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

* Cutting speed v_c: p. 80

Indexable Inserts – Turning



DNMG 1506...

Product family **711**

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					min	Start	max	min	Start	max	€/pc.
											PU 10 pcs.
0.40		TF CB22 10	DNMG 150604-DL TF CB22 10	PDJNR/L2020.15 PDJNR/L2525.15 DDJNR/L2020.15 DDJNR/L2525.15 DDJNR/L3225.15 see p. 84 A25SPDUNR/L15 A32TPDUNR/L15 A40TPDUNR/L15 see p. 90	0.30	0.40	1.50	0.07	0.15	0.30	14.39
		TF CB41 15	DNMG 150604-DL TF CB41 15		0.30	0.40	1.50	0.07	0.15	0.30	14.39
		TF CB32 20	DNMG 150604-DL TF CB32 20		0.30	0.40	1.50	0.07	0.15	0.30	14.39
		TF CB91 25	DNMG 150604-DL TF CB91 25		0.30	0.40	1.50	0.07	0.15	0.30	14.39
		TF UC81 10	DNMG 150604-DL TF UC81 10		0.30	0.40	1.50	0.07	0.15	0.30	14.39
		TF PO41 15	DNMG 150604-DL TF PO41 15**		0.30	0.50	2.50	0.10	0.15	0.30	14.39
		TF PY81 15	DNMG 150604-DL TF PY81 15		0.10	0.40	1.50	0.05	0.15	0.30	14.39
		TF CB22 10	DNMG 150604-DM TF CB22 10		0.40	3.00	6.00	0.10	0.20	0.30	14.39
		TF CB41 15	DNMG 150604-DM TF CB41 15		0.40	3.00	6.00	0.10	0.20	0.30	14.39
		TF CB32 20	DNMG 150604-DM TF CB32 20		0.40	3.00	6.00	0.10	0.20	0.30	14.39
		TF CB91 25	DNMG 150604-DM TF CB91 25		0.40	3.00	6.00	0.10	0.20	0.30	14.39
		TF CB12 30	DNMG 150604-DM TF CB12 30		0.40	3.00	6.00	0.10	0.20	0.30	14.39
		TF UC81 10	DNMG 150604-DM TF UC81 10		0.40	3.00	2.50	0.10	0.20	0.30	14.39
		TF CY22 15	DNMG 150604-DM TF CY22 15		0.40	2.50	5.50	0.15	0.25	0.35	14.39
		TF CY71 25	DNMG 150604-DM TF CY71 25		0.40	2.50	5.50	0.10	0.20	0.30	14.39
		TF CR31 15	DNMG 150604-DGM TF CR31 15		0.30	2.50	5.00	0.10	0.20	0.30	14.39
		TF CR11 25	DNMG 150604-DGM TF CR11 25		0.30	2.50	5.00	0.10	0.20	0.30	14.39
		0.80			TF CB31 05	DNMG 150608-DL TF CB31 05	0.30	0.80	1.50	0.10	0.20
TF CB22 10	DNMG 150608-DL TF CB22 10			0.30	0.80	1.50	0.10	0.20	0.40	14.39	
TF CB41 15	DNMG 150608-DL TF CB41 15			0.30	0.80	1.50	0.10	0.20	0.40	14.39	
TF CB32 20	DNMG 150608-DL TF CB32 20			0.30	0.80	1.50	0.10	0.20	0.40	14.39	
TF CB91 25	DNMG 150608-DL TF CB91 25			0.30	0.80	1.50	0.10	0.20	0.40	14.39	
TF PY81 15	DNMG 150608-DL TF PY81 15			0.30	0.80	1.50	0.10	0.20	0.40	14.39	
TF PO41 15	DNMG 150608-DL TF PO41 15**			0.20	0.50	1.50	0.08	0.11	0.15	14.39	
	TF CB31 05		DNMG 150608-DM TF CB31 05	0.50	3.00	6.00	0.15	0.30	0.50	14.39	
	TF CB22 10		DNMG 150608-DM TF CB22 10	0.50	3.00	6.00	0.15	0.30	0.50	14.39	
	TF CB41 15		DNMG 150608-DM TF CB41 15	0.50	3.00	6.00	0.15	0.30	0.50	14.39	

* Cutting speed v_c: p. 80



** The specified cutting parameters refer to the machining of high-temperature steels.



Indexable Inserts – Turning

Product family 711



DNMG 1506...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price	
					mm			mm/U			€/pc.	
					min	Start	max	min	Start	max	PU 10 pcs.	
0.80		TF CB32 20	DNMG 150608-DM TF CB32 20	PDJNR/L2020.15 PDJNR/L2525.15 DDJNR/L2020.15 DDJNR/L2525.15 DDJNR/L3225.15 see p. 84 A25SPDUNR/L15 A32TPDUNR/L15 A40TPDUNR/L15 see p. 90	0.50	3.00	6.00	0.15	0.30	0.50	14.39	
		TF CB91 25	DNMG 150608-DM TF CB91 25		0.50	3.00	6.00	0.15	0.30	0.50	14.39	
		TF CB12 30	DNMG 150608-DM TF CB12 30		0.50	3.00	6.00	0.15	0.30	0.50	14.39	
		TF CY22 15	DNMG 150608-DM TF CY22 15		0.50	2.50	5.50	0.15	0.30	0.45	14.39	
		TF CY71 25	DNMG 150608-DM TF CY71 25		0.50	2.50	5.50	0.10	0.25	0.45	14.39	
		TF PO41 15	DNMG 150608-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	14.39	
		TF CR31 15	DNMG 150608-DGM TF CR31 15		0.50	2.50	5.00	0.20	0.30	0.50	14.39	
		TF CR11 25	DNMG 150608-DGM TF CR11 25		0.50	2.50	5.00	0.20	0.30	0.50	14.39	
		TF CB22 10	DNMG 150608-DS TF CB22 10		0.50	3.00	6.00	0.20	0.35	0.50	14.39	
	TF CB41 15	DNMG 150608-DS TF CB41 15	0.50		3.00	6.00	0.20	0.35	0.50	14.39		
	TF CB32 20	DNMG 150608-DS TF CB32 20	0.50		3.00	6.00	0.20	0.35	0.50	14.39		
	TF CB91 25	DNMG 150608-DS TF CB91 25	0.50		3.00	6.00	0.20	0.35	0.50	14.39		
	TF CB12 30	DNMG 150608-DS TF CB12 30	0.50		3.00	6.00	0.20	0.35	0.50	14.39		
	TF CY71 25	DNMG 150608-DS TF CY71 25	1.00		3.00	5.00	0.15	0.30	0.55	14.39		
	TF CR31 15	DNMG 150608-DGS TF CR31 15	0.50		3.50	6.50	0.20	0.35	0.50	14.39		
	TF CR11 25	DNMG 150608-DGS TF CR11 25	0.50		3.50	6.50	0.20	0.35	0.50	14.39		
	1.20		TF PO41 15		DNMG 150612-DL TF PO41 15**	0.80	1.50	2.50	0.15	0.28	0.50	14.39
			TF CB31 05		DNMG 150612-DM TF CB31 05	0.80	3.00	6.00	0.20	0.35	0.60	14.39
TF CB22 10			DNMG 150612-DM TF CB22 10	0.80	3.00	6.00	0.20	0.35	0.60	14.39		
TF CB41 15			DNMG 150612-DM TF CB41 15	0.80	3.00	6.00	0.20	0.35	0.60	14.39		
TF CB32 20			DNMG 150612-DM TF CB32 20	0.80	3.00	6.00	0.20	0.35	0.60	14.39		
TF CB91 25			DNMG 150612-DM TF CB91 25	0.80	3.00	6.00	0.20	0.35	0.60	14.39		
TF CB12 30			DNMG 150612-DM TF CB12 30	0.80	3.00	6.00	0.20	0.35	0.60	14.39		
TF CY71 25			DNMG 150612-DM TF CY71 25	0.80	2.50	5.50	0.20	0.35	0.60	14.39		

** The specified cutting parameters refer to the machining of high-temperature steels.



* Cutting speed v_c: p. 80

Indexable Inserts – Turning

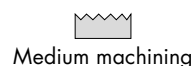
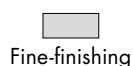


						Product family		711			
		DNMG 1506...									
Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price €/pc. PU 10 pcs.
					mm			mm/U			
					min	Start	max	min	Start	max	
1.20		TF PO41 15	DNMG 150612-DM TF PO41 15**	PDJNR/L2020.15 PDJNR/L2525.15 DDJNR/L2020.15 DDJNR/L2525.15 DDJNR/L3225.15 see p. 84 A25SPDUNR/L15 A32TPDUNR/L15 A40TPDUNR/L15 see p. 90	0.35	1.00	2.50	0.10	0.18	0.25	14.39
		TF CR31 15	DNMG 150612-DGM TF CR31 15		0.80	2.50	5.00	0.15	0.35	0.60	14.39
		TF CR11 25	DNMG 150612-DGM TF CR11 25		0.80	2.50	5.00	0.15	0.35	0.60	14.39
		TF CB31 05	DNMG 150612-DS TF CB31 05		1.00	4.00	6.00	0.25	0.40	0.70	14.39
		TF CB22 10	DNMG 150612-DS TF CB22 10		1.00	4.00	6.00	0.25	0.40	0.70	14.39
		TF CB41 15	DNMG 150612-DS TF CB41 15		1.00	4.00	6.00	0.25	0.40	0.70	14.39
		TF CB32 20	DNMG 150612-DS TF CB32 20		1.00	4.00	6.00	0.25	0.40	0.70	14.39
		TF CB91 25	DNMG 150612-DS TF CB91 25		1.00	4.00	6.00	0.25	0.40	0.70	14.39
		TF CB12 30	DNMG 150612-DS TF CB12 30		1.00	4.00	6.00	0.25	0.40	0.70	14.39
		TF CR31 15	DNMG 150612-DGS TF CR31 15		0.80	3.50	6.50	0.20	0.40	0.65	14.39
1.60		TF CR31 15	DNMG 150616-DGM TF CR31 15	1.00	2.50	5.00	0.20	0.40	0.70	14.39	
		TF CR11 25	DNMG 150616-DGM TF CR11 25	1.00	2.50	5.00	0.20	0.40	0.70	14.39	

** The specified cutting parameters refer to the machining of high-temperature steels.

						Product family		711			
		DNMG 1506...									
Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price €/pc. PU 10 pcs.
					mm			mm/U			
					min	Start	max	min	Start	max	
0.40		TF CB91 25	DNMG 150604L-DSM TF CB91 25	PDJNR/L2020.15 PDJNR/L2525.15 DDJNR/L2020.15 DDJNR/L2525.15 DDJNR/L3225.15 see p. 84	0.50	2.50	5.00	0.15	0.20	0.25	14.39
			DNMG 150604R-DSM TF CB91 25		0.50	2.50	5.00	0.15	0.20	0.25	14.39
0.80		TF CB91 25	DNMG 150608L-DSM TF CB91 25	A25SPDUNR/L15 A32TPDUNR/L15 A40TPDUNR/L15 see p. 90	0.80	3.00	5.00	0.15	0.25	0.40	14.39
			DNMG 150608R-DSM TF CB91 25		0.80	3.00	5.00	0.15	0.25	0.40	14.39

* Cutting speed v_c: p. 80





Indexable Inserts – Turning



SNMG 1204...

Product family **711**

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _s Feed*		Price	
					mm		mm/U		€/pc.	
					min	Start – max	min	Start – max	PU 10 pcs.	
0.40		TF CB41 15	SNMG 120404-DM TF CB41 15	PSSNR/L 1616.12 PSSNR/L 2020.12 PSSNR/L 2525.12 see p. 85	0.40	3.00 – 5.50	0.12	0.18 – 0.30	12.11	
		TF CB91 25	SNMG 120404-DM TF CB91 25		0.40	3.00 – 5.50	0.12	0.18 – 0.30	12.11	
		TF PO41 15	SNMG 120404-DM TF PO41 15**		0.40	2.50 – 4.50	0.12	0.18 – 0.30	12.11	
0.80		TF CB22 10	SNMG 120408-DM TF CB22 10		0.50	3.00 – 5.50	0.15	0.30 – 0.50	12.11	
		TF CB41 15	SNMG 120408-DM TF CB41 15		0.50	3.00 – 5.50	0.15	0.30 – 0.50	12.11	
		TF CB32 20	SNMG 120408-DM TF CB32 20		0.50	3.00 – 5.50	0.15	0.30 – 0.50	12.11	
		TF CB91 25	SNMG 120408-DM TF CB91 25		0.50	3.00 – 5.50	0.15	0.30 – 0.50	12.11	
		TF CB12 30	SNMG 120408-DM TF CB12 30		0.50	3.00 – 5.50	0.15	0.30 – 0.50	12.11	
		TF PO41 15	SNMG 120408-DM TF PO41 15**		0.60	2.50 – 4.50	0.15	0.25 – 0.40	12.11	
		TF CR31 15	SNMG 120408-DGM TF CR31 15		0.50	3.00 – 5.50	0.15	0.30 – 0.50	11.15	
	TF CR11 25	SNMG 120408-DGM TF CR11 25	0.50		3.00 – 5.50	0.15	0.30 – 0.50	11.15		
			TF CR31 15		SNMG 120408-DGS TF CR31 15	0.50	3.50 – 6.50	0.20	0.35 – 0.50	11.15
			TF CR11 25		SNMG 120408-DGS TF CR11 25	0.50	3.50 – 6.50	0.20	0.35 – 0.50	11.15
TF CB22 10			SNMG 120412-DM TF CB22 10		0.80	4300 – 5.50	0.15	0.35 – 0.60	12.11	
1.20		TF CB41 15	SNMG 120412-DM TF CB41 15		0.80	4.00 – 7.50	0.15	0.35 – 0.60	12.11	
		TF CB91 25	SNMG 120412-DM TF CB91 25	0.80	4.00 – 7.50	0.15	0.35 – 0.60	12.11		
		TF CB12 30	SNMG 120412-DM TF CB12 30	0.80	3.00 – 5.50	0.15	0.35 – 0.60	12.11		
		TF PO41 15	SNMG 120412-DM TF PO41 15**	1.00	2.50 – 4.50	0.20	0.30 – 0.50	12.11		
		TF CR31 15	SNMG 120412-DGM TF CR31 15	0.80	3.00 – 5.50	0.15	0.35 – 0.60	11.15		
		TF CR11 25	SNMG 120412-DGM TF CR11 25	0.80	3.00 – 5.50	0.15	0.35 – 0.60	11.15		
		TF CR31 15	SNMG 120412-DGS TF CR31 15	0.80	3.50 – 6.50	0.20	0.40 – 0.65	11.15		
	TF CR11 25	SNMG 120412-DGS TF CR11 25	0.80	3.50 – 6.50	0.20	0.40 – 0.65	11.15			
	1.60		TF CB22 10	SNMG 120416-DM TF CB22 10	1.00	3.00 – 5.50	0.15	0.35 – 0.60	12.11	
			TF CB12 30	SNMG 120416-DM TF CB12 30	1.00	3.00 – 5.50	0.15	0.35 – 0.60	12.11	
		TF CR31 15	SNMG 120416-DGS TF CR31 15	1.00	3.50 – 6.50	0.25	0.45 – 0.80	11.15		
		TF CR11 25	SNMG 120416-DGS TF CR11 25	1.00	3.50 – 6.50	0.25	0.45 – 0.80	11.15		

** The specified cutting parameters refer to the machining of high-temperature steels.



* Cutting speed v_c: p. 80

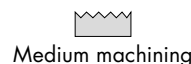
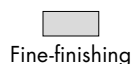
Indexable Inserts – Turning



					Product family		711					
		SNMG 1506...										
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price	
					mm			mm/U			€/pc.	
					min	Start	max	min	Start	max	PU 10 pcs.	
1.20		TF CR31 15	SNMG 150612-DGM TF CR31 15	-	0.80	4.00	7.50	0.15	0.35	0.60	21.75	
		TF CR11 25	SNMG 150612-DGM TF CR11 25		0.80	4.00	7.50	0.15	0.35	0.60	21.75	
		TF CR31 15	SNMG 150612-DGS TF CR31 15		0.80	4.50	8.50	0.20	0.40	0.65	21.75	
		TF CR11 25	SNMG 150612-DGS TF CR11 25		0.80	4.50	8.50	0.20	0.40	0.65	21.75	
1.60		TF CR31 15	SNMG 150616-DGM TF CR31 15		-	1.00	4.00	7.50	0.20	0.40	0.70	21.75
		TF CR11 25	SNMG 150616-DGM TF CR11 25			1.00	4.00	7.50	0.20	0.40	0.70	21.75
		TF CR31 15	SNMG 150616-DGS TF CR31 15			1.00	4.50	8.50	0.25	0.45	0.80	21.75
		TF CR11 25	SNMG 150616-DGS TF CR11 25			1.00	4.50	8.50	0.25	0.45	0.80	21.75

					Product family		711					
		SNMG 1906...										
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price	
					mm			mm/U			€/pc.	
					min	Start	max	min	Start	max	PU 10 pcs.	
1.20		TF CR31 15	SNMG 190612-DGM TF CR31 15	-	0.80	4.50	9.50	0.15	0.35	0.60	24.34	
		TF CR11 25	SNMG 190612-DGM TF CR11 25		0.80	4.50	9.50	0.15	0.35	0.60	24.34	
		TF CR31 15	SNMG 190612-DGS TF CR31 15		0.80	6.00	12.00	0.20	0.40	0.65	24.34	
		TF CR11 25	SNMG 190612-DGS TF CR11 25		0.80	6.00	12.00	0.20	0.40	0.65	24.34	
1.60		TF CR31 15	SNMG 190616-DGM TF CR31 15		-	1.00	4.50	9.50	0.20	0.40	0.65	24.34
		TF CR11 25	SNMG 190616-DGM TF CR11 25			1.00	4.50	9.50	0.20	0.40	0.65	24.34
		TF CB71 35	SNMG 190616-DS TF CB71 35			1.50	5.00	10.0	0.30	0.50	0.80	24.34
		TF CR31 15	SNMG 190616-DGS TF CR31 15			1.00	6.00	12.00	0.25	0.45	0.80	24.34
		TF CR11 25	SNMG 190616-DGS TF CR11 25			1.00	6.00	12.00	0.25	0.45	0.80	24.34

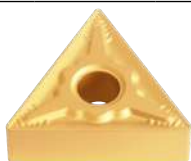
* Cutting speed v_c : p. 80





Indexable Inserts – Turning

Product family 711



TNMG 1604...



Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.40		TF CB22 10	TNMG 160404-DL TF CB22 10	-	0.30	0.40	1.50	0.08	0.15	0.30	11.15
		TF CB32 20	TNMG 160404-DL TF CB32 20		0.30	0.40	1.50	0.08	0.15	0.30	11.15
		TF CB22 10	TNMG 160404-DM TF CB22 10		0.40	2.50	5.00	0.10	0.20	0.30	11.15
		TF CB91 25	TNMG 160404-DM TF CB91 25		0.40	2.50	5.00	0.10	0.20	0.30	11.15
		TF CB12 30	TNMG 160404-DM TF CB12 30		0.40	2.50	5.00	0.10	0.20	0.30	11.15
		TF CR31 15	TNMG 160404-DGM TF CR31 15		0.30	2.50	5.00	0.10	0.20	0.30	11.15
		TF CR11 25	TNMG 160404-DGM TF CR11 25		0.30	2.50	5.00	0.10	0.20	0.30	11.15
0.80		TF CB22 10	TNMG 160408-DL TF CB22 10		0.30	0.80	1.50	0.10	0.20	0.40	11.15
		TF CB32 20	TNMG 160408-DL TF CB32 20		0.30	0.80	1.50	0.10	0.20	0.40	11.15
		TF CB22 10	TNMG 160408-DM TF CB22 10		0.50	3.00	5.00	0.15	0.30	0.40	11.15
		TF CB32 20	TNMG 160408-DM TF CB32 20		0.50	2.50	5.00	0.15	0.30	0.50	11.15
		TF CB91 25	TNMG 160408-DM TF CB91 25		0.50	3.00	5.00	0.15	0.30	0.40	11.15
		TF CB12 30	TNMG 160408-DM TF CB12 30		0.50	3.00	5.00	0.15	0.30	0.40	11.15
		TF CR31 15	TNMG 160408-DGM TF CR31 15		0.50	2.50	5.00	0.15	0.30	0.50	11.15
		TF CR11 25	TNMG 160408-DGM TF CR11 25	0.50	2.50	5.00	0.15	0.30	0.50	11.15	
		TF CR31 15	TNMG 160408-DGS TF CR31 15	0.50	3.50	6.50	0.20	0.35	0.50	11.15	
		TF CR11 25	TNMG 160408-DGS TF CR11 25	0.50	3.50	6.50	0.20	0.35	0.50	11.15	
1.20		TF CB22 10	TNMG 160412-DM TF CB22 10	0.80	3.00	5.00	0.20	0.35	0.60	11.15	
		TF CB32 20	TNMG 160412-DM TF CB32 20	0.80	3.00	5.00	0.20	0.35	0.60	11.15	
		TF CB91 25	TNMG 160412-DM TF CB91 25	0.80	3.00	5.00	0.20	0.35	0.60	11.15	
		TF CB12 30	TNMG 160412-DM TF CB12 30	0.80	3.00	5.00	0.20	0.35	0.60	11.15	
		TF CR31 15	TNMG 160412-DGM TF CR31 15	0.80	2.50	5.00	0.15	0.35	0.60	11.15	
		TF CR11 25	TNMG 160412-DGM TF CR11 25	0.80	2.50	5.00	0.15	0.35	0.60	11.15	
		TF CR31 15	TNMG 160412-DGS TF CR31 15	0.80	3.50	6.50	0.20	0.40	0.65	11.15	
		TF CR11 25	TNMG 160412-DGS TF CR11 25	0.80	3.50	6.50	0.20	0.40	0.65	11.15	





* Cutting speed v_c: p. 80

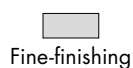
Indexable Inserts – Turning



 <p>TNMG 1604...</p>						Product family		711	
						Radius mm		Machining	Grade
							min – Start – max	min – Start – max	PU 10 pcs.
1.60		TF CR31 15	TNMG 160416-DGM TF CR31 15	-	-	1.00 – 2.50 – 5.00	0.20 – 0.40 – 0.70	11.15	
		TF CR11 25	TNMG 160416-DGM TF CR11 25			1.00 – 2.50 – 5.00	0.20 – 0.40 – 0.70	11.15	

 <p>TNMG 1604...</p>						Product family		711	
						Radius mm		Machining	Grade
							min – Start – max	min – Start – max	PU 10 pcs.
0.40		TF CB91 25	TNMG 160404L-DSM TF CB91 25	-	-	0.50 – 2.50 – 5.00	0.15 – 0.20 – 0.25	11.59	
			TNMG 160404R-DSM TF CB91 25			0.50 – 2.50 – 5.00	0.15 – 0.20 – 0.25	11.59	

* Cutting speed v_c : p. 80

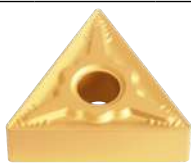




Negative

Indexable Inserts – Turning

Product family 711



TNMG 2204...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.80		TF CB91 25	TNMG 220408-DM TF CB91 25	-	0.80	3.00	5.00	0.20	0.35	0.60	14.72
		TF CR31 15	TNMG 220408-DGM TF CR31 15		0.50	4.00	7.50	0.15	0.30	0.50	14.21
		TF CR11 25	TNMG 220408-DGM TF CR11 25		0.50	4.00	7.50	0.15	0.30	0.50	14.21
		TF CB12 30	TNMG 220408-DS TF CB12 30		0.50	4.00	6.00	0.20	0.35	0.50	14.72
		TF CR31 15	TNMG 220408-DGS TF CR31 15		0.50	4.50	8.50	0.20	0.35	0.50	14.21
		TF CR11 25	TNMG 220408-DGS TF CR11 25		0.50	4.50	8.50	0.20	0.35	0.50	14.21
1.20		TF CB41 15	TNMG 220412-DM TF CB41 15		0.80	3.00	5.00	0.20	0.35	0.60	14.72
		TF CB91 25	TNMG 220412-DM TF CB91 25		0.80	3.00	5.00	0.20	0.35	0.60	14.72
		TF CR31 15	TNMG 220412-DGM TF CR31 15		0.80	4.00	7.50	0.15	0.35	0.60	14.21
		TF CR11 25	TNMG 220412-DGM TF CR11 25		0.80	4.00	7.50	0.15	0.35	0.60	14.21
		TF CB91 25	TNMG 220412-DS TF CB91 25		1.00	4.00	6.00	0.25	0.40	0.70	14.72
		TF CB12 30	TNMG 220412-DS TF CB12 30		1.00	4.00	6.00	0.25	0.40	0.70	14.72
		TF CR31 15	TNMG 220412-DGS TF CR31 15		0.80	4.50	8.50	0.20	0.40	0.65	14.21
		TF CR11 25	TNMG 220412-DGS TF CR11 25		0.80	4.50	8.50	0.20	0.40	0.65	14.21
1.60		TF CR31 15	TNMG 220416-DGM TF CR31 15		1.00	4.00	7.50	0.20	0.40	0.70	14.21
		TF CR11 25	TNMG 220416-DGM TF CR11 25		1.00	4.00	7.50	0.20	0.40	0.70	14.21
		TF CR31 15	TNMG 220416-DGS TF CR31 15		1.00	4.50	8.50	0.25	0.45	0.80	14.21
		TF CR11 25	TNMG 220416-DGS TF CR11 25		1.00	4.50	8.50	0.25	0.45	0.80	14.21

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

* Cutting speed v_c: p. 80

Indexable Inserts – Turning



Product family **711**

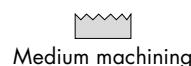
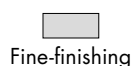


VNMG 1604...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.20		TF CB91 25	VNMG 160402-DL TF CB91 25	DVJNR/L2020.16 DVJNR/L2525.16 see p. 87	0.15	0.30	1.50	0.08	0.12	0.20	21.39
		TF PO41 15	VNMG 160404-DL TF PO41 15**		0.30	0.50	2.50	0.10	0.15	0.30	21.39
		TF CB31 05	VNMG 160404-DL TF CB31 05		0.30	0.40	1.50	0.07	0.15	0.30	21.39
		TF CB22 10	VNMG 160404-DL TF CB22 10		0.30	0.40	1.50	0.07	0.15	0.30	17.21
		TF CB41 15	VNMG 160404-DL TF CB41 15		0.30	0.40	1.50	0.07	0.15	0.30	21.39
		TF CB32 20	VNMG 160404-DL TF CB32 20		0.30	0.40	1.50	0.07	0.15	0.30	17.21
		TF CB91 25	VNMG 160404-DL TF CB91 25		0.30	0.40	1.50	0.07	0.15	0.30	21.39
		TF UC81 10	VNMG 160404-DL TF UC81 10		0.30	0.40	1.50	0.07	0.15	0.30	21.39
		TF PY81 15	VNMG 160404-DL TF PY81 15		0.10	0.40	1.50	0.05	0.15	0.30	21.39
		TF CB41 15	VNMG 160404-DM TF CB41 15		0.40	2.00	4.00	0.10	0.18	0.40	21.39
		TF CB32 20	VNMG 160404-DM TF CB32 20		0.40	2.00	4.00	0.10	0.18	0.40	17.21
		TF CY22 15	VNMG 160404-DM TF CY22 15		0.40	1.50	3.00	0.15	0.20	0.30	21.39
		TF CB91 25	VNMG 160404-DM TF CB91 25		0.40	2.00	4.00	0.10	0.18	0.40	21.39
		TF CR31 15	VNMG 160404-DGM TF CR31 15		0.80	2.50	4.00	0.20	0.40	0.65	21.39
0.40		TF CB31 05	VNMG 160408-DL TF CB31 05	DVJNR/L2020.16 DVJNR/L2525.16 see p. 87	0.30	0.80	1.50	0.10	0.20	0.40	21.39
		TF CB22 10	VNMG 160408-DL TF CB22 10		0.30	0.80	1.50	0.10	0.20	0.40	17.21
		TF CB41 15	VNMG 160408-DL TF CB41 15		0.30	0.80	1.50	0.10	0.20	0.40	21.39
		TF CB32 20	VNMG 160408-DL TF CB32 20		0.30	0.80	1.50	0.10	0.20	0.40	17.21
		TF CB91 25	VNMG 160408-DL TF CB91 25		0.30	0.80	1.50	0.10	0.20	0.40	21.39
		TF UC81 10	VNMG 160408-DL TF UC81 10		0.30	0.80	1.50	0.10	0.20	0.40	21.39
		TF PY81 15	VNMG 160408-DL TF PY81 15		0.30	0.80	2.50	0.08	0.15	0.30	21.39
		TF PO41 15	VNMG 160408-DL TF PO41 15**		0.60	1.00	2.50	0.15	0.25	0.40	21.39
		0.80			TF CB31 05	VNMG 160408-DL TF CB31 05	DVJNR/L2020.16 DVJNR/L2525.16 see p. 87	0.30	0.80	1.50	0.10
TF CB22 10	VNMG 160408-DL TF CB22 10			0.30	0.80	1.50		0.10	0.20	0.40	17.21
TF CB41 15	VNMG 160408-DL TF CB41 15			0.30	0.80	1.50		0.10	0.20	0.40	21.39
TF CB32 20	VNMG 160408-DL TF CB32 20			0.30	0.80	1.50		0.10	0.20	0.40	17.21
TF CB91 25	VNMG 160408-DL TF CB91 25			0.30	0.80	1.50		0.10	0.20	0.40	21.39
TF UC81 10	VNMG 160408-DL TF UC81 10			0.30	0.80	1.50		0.10	0.20	0.40	21.39
TF PY81 15	VNMG 160408-DL TF PY81 15			0.30	0.80	2.50		0.08	0.15	0.30	21.39
TF PO41 15	VNMG 160408-DL TF PO41 15**			0.60	1.00	2.50		0.15	0.25	0.40	21.39

** The specified cutting parameters refer to the machining of high-temperature steels.

* Cutting speed v_c: p. 80





Negative

Indexable Inserts – Turning

Product family 711



VNMG 1604...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.80		TF CB22 10	VNMG 160408-DM TF CB22 10	DVJNR/L2020.16 DVJNR/L2525.16 see p. 87	0.50	2.00	4.00	0.15	0.30	0.50	17.21
		TF CB41 15	VNMG 160408-DM TF CB41 15		0.50	2.00	4.00	0.15	0.30	0.50	21.39
		TF CB32 20	VNMG 160408-DM TF CB32 20		0.50	2.00	4.00	0.15	0.30	0.50	17.21
		TF CB91 25	VNMG 160408-DM TF CB91 25		0.50	2.00	4.00	0.15	0.30	0.50	21.39
		TF CY22 15	VNMG 160408-DM TF CY22 15		0.50	1.50	3.00	0.15	0.30	0.35	21.39
		TF PO41 15	VNMG 160408-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	21.39
1.20		TF CR31 15	VNMG 160408-DGS TF CR31 15		0.50	2.50	4.00	0.20	0.35	0.50	21.39
		TF PO41 15	VNMG 160412-DL TF PO41 15**		0.80	1.50	2.50	0.15	0.25	0.40	21.39
		TF CB22 10	VNMG 160412-DM TF CB22 10		0.80	2.00	4.00	0.20	0.35	0.50	17.21
		TF CB41 15	VNMG 160412-DM TF CB41 15		0.80	2.50	4.00	0.20	0.40	0.65	21.39
		TF CB32 20	VNMG 160412-DM TF CB32 20		0.80	2.00	4.00	0.20	0.35	0.50	17.21
		TF PO41 15	VNMG 160412-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	21.39
		TF CR31 15	VNMG 160412-DGM TF CR31 15	0.80	2.50	4.00	0.20	0.40	0.65	21.39	
		TF CR31 15	VNMG 160412-DGS TF CR31 15	0.80	2.50	4.00	0.20	0.40	0.65	21.39	

** The specified cutting parameters refer to the machining of high-temperature steels.



* Cutting speed v_c: p. 80

Indexable Inserts – Turning



Product family 711



WNMG 0604...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price	
					min	Start	max	min	Start	max	€/pc.	
											PU 10 pcs.	
0.40	[Smooth]	NEW TF CB22 10	WNMG 060404-DL TF CB22 10	PWLNR/L1616.06 PWLNR/L2020.06 PWLNR/L2525.06 see p. 87 A16RPWLNR/L06 A20RPWLNR/L06 see p. 91	0.30	0.40	1.50	0.07	0.15	0.30	11.77	
		TF CB41 15	WNMG 060404-DL TF CB41 15		0.30	0.40	1.50	0.07	0.15	0.30	11.77	
		NEW TF CB32 20	WNMG 060404-DL TF CB32 20		0.30	0.40	1.50	0.07	0.15	0.30	11.77	
		TF CB91 25	WNMG 060404-DL TF CB91 25		0.30	0.40	1.50	0.07	0.15	0.30	11.77	
		TF CB12 30	WNMG 060404-DL TF CB12 30		0.30	0.40	1.50	0.07	0.15	0.30	11.77	
		TF UC81 10	WNMG 060404-DL TF UC81 10		0.30	0.40	1.50	0.07	0.15	0.30	11.77	
		TF PY81 15	WNMG 060404-DL TF PY81 15		0.10	0.40	1.50	0.05	0.15	0.30	11.77	
	[Wavy]	NEW TF CB22 10	WNMG 060404-DM TF CB22 10			0.40	1.50	3.00	0.10	0.20	0.25	11.77
		TF CB41 15	WNMG 060404-DM TF CB41 15			0.40	1.50	3.00	0.10	0.20	0.25	11.77
		NEW TF CB32 20	WNMG 060404-DM TF CB32 20			0.40	1.50	3.00	0.10	0.20	0.25	11.77
		TF CB91 25	WNMG 060404-DM TF CB91 25			0.40	1.50	3.00	0.10	0.20	0.30	11.77
		NEW TF CB12 30	WNMG 060404-DM TF CB12 30			0.40	1.50	3.00	0.10	0.20	0.25	11.77
		TF CY22 15	WNMG 060404-DM TF CY22 15			0.40	1.50	2.50	0.15	0.20	0.30	11.77
		0.80	[Smooth]		NEW TF CB22 10	WNMG 060408-DL TF CB22 10		0.30	0.80	1.50	0.10	0.20
TF CB41 15	WNMG 060408-DL TF CB41 15				0.30	0.80	1.50	0.10	0.20	0.40	11.77	
NEW TF CB32 20	WNMG 060408-DL TF CB32 20				0.30	0.80	1.50	0.10	0.20	0.40	11.77	
TF CB91 25	WNMG 060408-DL TF CB91 25				0.30	0.80	1.50	0.10	0.20	0.40	11.77	
TF CB12 30	WNMG 060408-DL TF CB12 30				0.30	0.80	1.50	0.10	0.20	0.40	11.77	
TF UC81 10	WNMG 060408-DL TF UC81 10				0.30	0.80	1.50	0.10	0.20	0.40	11.77	
TF PY81 15	WNMG 060408-DL TF PY81 15				0.30	0.80	1.50	0.10	0.20	0.40	11.77	
[Wavy]	NEW TF CB22 10		WNMG 060408-DM TF CB22 10		0.50	2.00	3.00	0.15	0.25	0.35	11.77	
	TF CB41 15		WNMG 060408-DM TF CB41 15		0.50	2.00	3.00	0.15	0.30	0.50	11.77	
	NEW TF CB32 20		WNMG 060408-DM TF CB32 20		0.50	2.00	3.00	0.15	0.25	0.35	11.77	
	TF CB91 25		WNMG 060408-DM TF CB91 25		0.50	2.00	3.00	0.15	0.30	0.50	11.77	
	NEW TF CB12 30		WNMG 060408-DM TF CB12 30		0.50	2.00	3.00	0.15	0.25	0.35	11.77	
	TF CY22 15		WNMG 060408-DM TF CY22 15		0.50	1.50	2.50	0.15	0.30	0.35	11.77	

* Cutting speed v_c: p. 80





Indexable Inserts – Turning

Product family 711



WNUMG 0604...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.80		NEW TF CR31 15	WNUMG 060408-DGS TF CR31 15	PWLNR/L1616.06 PWLNR/L2020.06 PWLNR/L2525.06 see p. 87	0.50	2.50	4.00	0.20	0.35	0.50	11.77
		NEW TF CR11 25	WNUMG 060408-DGS TF CR11 25		0.50	2.50	4.00	0.20	0.35	0.50	11.77
1.20		NEW TF CB22 10	WNUMG 060412-DM TF CB22 10	A16RPWLNR/L06 A20RPWLNR/L06 see p. 91	1.00	2.00	3.00	0.20	0.30	0.45	11.77
		TF CB32 20	WNUMG 060412-DM TF CB32 20		1.00	2.00	3.00	0.20	0.30	0.45	11.77
		TF CB12 30	WNUMG 060412-DM TF CB12 30		1.00	2.00	3.00	0.20	0.30	0.45	11.77

Turning – Negative



* Cutting speed v_c: p. 80

Indexable Inserts – Turning



WNUMG 0804...

Product family 711

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.40		TF CB31 05	WNMG 080404-DL TF CB31 05	PWLNR/L2020.08 PWLNR/L2525.08 DWLNR/L2020.08 DWLNR/L2525.08 see p. 88 A25SPWLNR/L08 A32TPWLNR/L08 A40TPWLNR/L08 see p. 91	0.30	0.40	1.50	0.07	0.15	0.30	13.67
		TF CB22 10	WNMG 080404-DL TF CB22 10		0.30	0.40	1.50	0.07	0.15	0.30	13.67
		TF CB41 15	WNMG 080404-DL TF CB41 15		0.30	0.40	1.50	0.07	0.15	0.30	13.67
		TF CB32 20	WNMG 080404-DL TF CB32 20		0.30	0.40	1.50	0.07	0.15	0.30	13.67
		TF CB91 25	WNMG 080404-DL TF CB91 25		0.30	0.40	1.50	0.07	0.15	0.30	13.67
		TF UC81 10	WNMG 080404-DL TF UC81 10		0.30	0.40	1.50	0.07	0.15	0.30	13.67
		TF PY81 15	WNMG 080404-DL TF PY81 15		0.10	0.40	1.50	0.05	0.15	0.30	13.67
		TF PO41 15	WNMG 080404-DL TF PO41 15**		0.30	0.50	2.50	0.10	0.15	0.30	13.67
		TF CB31 05	WNMG 080404-DM TF CB31 05		0.40	1.50	3.50	0.10	0.15	0.35	13.67
		TF CB22 10	WNMG 080404-DM TF CB22 10		0.40	1.50	3.50	0.10	0.15	0.35	13.67
		TF CB41 15	WNMG 080404-DM TF CB41 15		0.40	1.50	3.50	0.10	0.15	0.35	13.67
		TF CB32 20	WNMG 080404-DM TF CB32 20		0.40	1.50	3.50	0.10	0.15	0.35	13.67
		TF CB91 25	WNMG 080404-DM TF CB91 25		0.40	1.50	3.50	0.10	0.15	0.35	13.67
		TF CY22 15	WNMG 080404-DM TF CY22 15		0.40	2.50	3.00	0.15	0.25	0.35	13.67
	TF CR31 15	WNMG 080404-DGM TF CR31 15	0.30	3.00	4.50	0.10	0.20	0.35	13.67		
	TF CR11 25	WNMG 080404-DGM TF CR11 25	0.30	3.00	4.50	0.10	0.20	0.35	13.67		
0.80		TF CB31 05	WNMG 080408-DL TF CB31 05	0.30	0.80	1.50	0.10	0.20	0.40	13.67	
		TF CB22 10	WNMG 080408-DL TF CB22 10	0.30	0.80	1.50	0.10	0.20	0.40	13.67	
		TF CB91 25	WNMG 080408-DL TF CB91 25	0.30	0.80	1.50	0.10	0.20	0.40	13.67	
		TF CB32 20	WNMG 080408-DL TF CB32 20	0.30	0.80	1.50	0.10	0.20	0.40	13.67	
		TF UC81 10	WNMG 080408-DL TF UC81 10	0.30	0.80	1.50	0.10	0.20	0.40	13.67	
		TF PY81 15	WNMG 080408-DL TF PY81 15	0.30	0.80	1.50	0.10	0.20	0.40	13.67	
		TF PO41 15	WNMG 080408-DL TF PO41 15**	0.20	0.50	1.50	0.08	0.11	0.15	13.67	

** The specified cutting parameters refer to the machining of high-temperature steels.

* Cutting speed v_c: p. 80





Negative

Indexable Inserts – Turning

Product family 711



WNMG 0804...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _s Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.80		TF CB31 05	WNMG 080408-DM TF CB31 05	PWLNR/L2020.08 PWLNR/L2525.08 DWLNR/L2020.08 DWLNR/L2525.08 see p. 88	0.50	2.50	4.00	0.10	0.25	0.45	13.67
		TF CB22 10	WNMG 080408-DM TF CB22 10		0.50	2.50	4.00	0.10	0.25	0.45	13.67
		TF CB41 15	WNMG 080408-DM TF CB41 15		0.50	2.50	4.00	0.10	0.25	0.45	13.67
		TF CB32 20	WNMG 080408-DM TF CB32 20		0.50	2.50	4.00	0.10	0.25	0.45	13.67
		TF CB91 25	WNMG 080408-DM TF CB91 25		0.50	2.50	4.00	0.10	0.25	0.45	13.67
		TF CB12 30	WNMG 080408-DM TF CB12 30		0.50	2.50	4.00	0.10	0.25	0.45	13.67
		TF CY22 15	WNMG 080408-DM TF CY22 15		0.50	2.50	4.00	0.15	0.30	0.50	13.67
		TF CY22 15	WNMG 080408-DMM TF CY22 15		0.50	2.50	4.00	0.15	0.30	0.50	13.67
		TF CY71 25	WNMG 080408-DM TF CY71 25		0.50	2.50	4.00	0.10	0.25	0.45	13.67
	TF PO41 15	WNMG 080408-DM TF PO41 15**	0.35	1.00	2.50	0.10	0.18	0.25	13.67		
	TF CR31 15	WNMG 080408-DGM TF CR31 15	0.50	3.00	4.50	0.15	0.30	0.50	13.67		
	TF CR11 25	WNMG 080408-DGM TF CR11 25									
		TF CB22 10	WNMG 080408-DS TF CB22 10	A25SPWLN/L08 A32TPWLN/L08 A40TPWLN/L08 see p. 91	0.70	4.00	5.00	0.20	0.35	0.50	13.67
		TF CB41 15	WNMG 080408-DS TF CB41 15		0.70	4.00	5.00	0.20	0.35	0.50	13.67
		TF CB32 20	WNMG 080408-DS TF CB32 20		0.70	4.00	5.00	0.20	0.35	0.50	13.67
		TF CB91 25	WNMG 080408-DS TF CB91 25		0.70	4.00	5.00	0.20	0.35	0.55	13.67
		TF CB12 30	WNMG 080408-DS TF CB12 30		0.70	4.00	5.00	0.20	0.35	0.50	13.67
		TF CR31 15	WNMG 080408-DGS TF CR31 15		0.30	3.50	5.50	0.20	0.35	0.50	13.67
TF CR11 25		WNMG 080408-DGS TF CR11 25	0.30		3.50	5.50	0.20	0.35	0.50	13.67	



* Cutting speed v_c: p. 80

Turning – Negative

Indexable Inserts – Turning



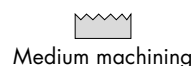
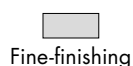
WNMG 0804...

Product family **711**

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
1.20		TF PO41 15	WNMG 080412-DL TF PO41 15**	PWLNR/L2020.08 PWLNR/L2525.08 DWLNR/L2020.08 DWLNR/L2525.08 see p. 88 A25SPWLNR/L08 A32TPWLNR/L08 A40TPWLNR/L08 see p. 91	0.80	1.50	2.50	0.15	0.28	0.50	13.67
		TF CB31 05	WNMG 080412-DM TF CB31 05		1.00	2.50	4.00	0.20	0.35	0.60	13.67
		TF CB22 10	WNMG 080412-DM TF CB22 10		1.00	2.50	4.00	0.20	0.35	0.60	13.67
		TF CB41 15	WNMG 080412-DM TF CB41 15		1.00	2.50	4.00	0.20	0.35	0.60	13.67
		TF CB32 20	WNMG 080412-DM TF CB32 20		1.00	2.50	4.00	0.20	0.35	0.60	13.67
		TF CB91 25	WNMG 080412-DM TF CB91 25		1.00	2.50	4.00	0.20	0.35	0.60	13.67
		TF CB12 30	WNMG 080412-DM TF CB12 30		1.00	2.50	4.00	0.20	0.35	0.60	13.67
		TF CY22 15	WNMG 080412-DM TF CY22 15		0.80	2.50	4.00	0.20	0.40	0.65	13.67
		TF PO41 15	WNMG 080412-DM TF PO41 15**		0.35	1.00	2.50	0.10	0.18	0.25	13.67
		TF CR31 15	WNMG 080412-DGM TF CR31 15		0.80	3.00	4.50	0.15	0.35	0.60	13.67
	TF CR11 25	WNMG 080412-DGM TF CR11 25	0.80		3.00	4.50	0.15	0.35	0.60	13.67	
	TF CB31 05	WNMG 080412-DS TF CB31 05	1.00		4.00	5.00	0.25	0.40	0.70	13.67	
	TF CB22 10	WNMG 080412-DS TF CB22 10	1.00		4.00	5.00	0.25	0.40	0.70	13.67	
	TF CB41 15	WNMG 080412-DS TF CB41 15	1.00		4.00	5.00	0.25	0.40	0.70	13.67	
	TF CB32 20	WNMG 080412-DS TF CB32 20	1.00		4.00	5.00	0.25	0.40	0.70	13.67	
	TF CB91 25	WNMG 080412-DS TF CB91 25	1.00		4.00	5.00	0.25	0.40	0.70	13.67	
	TF CB12 30	WNMG 080412-DS TF CB12 30	1.00		4.00	5.00	0.25	0.40	0.70	13.67	
	TF CR31 15	WNMG 080412-DGS TF CR31 15	0.80		3.50	5.50	0.20	0.40	0.65	13.67	
	TF CR11 25	WNMG 080412-DGS TF CR11 25	0.80		3.50	5.50	0.20	0.40	0.65	13.67	
	1.60		TF CB31 05		WNMG 080416-DM TF CB31 05	1.50	2.50	4.00	0.25	0.40	0.70
TF CB22 10			WNMG 080416-DM TF CB22 10	1.00	3.00	4.00	0.25	0.40	0.60	13.67	
TF CB41 15			WNMG 080416-DM TF CB41 15	1.00	3.00	4.00	0.25	0.40	0.60	13.67	
TF CB91 25			WNMG 080416-DM TF CB91 25	1.00	3.00	4.00	0.25	0.40	0.60	13.67	
TF CB12 30			WNMG 080416-DM TF CB12 30	1.00	3.00	4.00	0.25	0.40	0.60	13.67	

** The specified cutting parameters refer to the machining of high-temperature steels.

* Cutting speed v_c: p. 80





Negative

Indexable Inserts – Turning

Product family 711



WNMG 0804...
Wiper-Geometry

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0,80		TF CB41 15	WNMG 080408-DFS TF CB41 15	PWLNRL/L2020.08 PWLNR/L2525.08 DWLNRL/L2020.08 DWLNRL/L2525.08 see p. 88	0,50	3,00	5,00	0,15	0,30	0,60	13.67
		TF CB91 25	WNMG 080408-DFS TF CB91 25	see p. 88	0,50	3,00	5,00	0,15	0,30	0,60	13.67
		TF UC81 10	WNMG 080408-DFS TF UC81 10	A25SPWLNRL/L08 A32TPWLNRL/L08 A40TPWLNRL/L08 see p. 91	0,50	1,50	2,50	0,15	0,30	0,50	13.67

Turning – Negative

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

* Cutting speed v_c: p. 80





Negative

Indexable Inserts – Turning

VC for Negative Indexable Inserts

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)				
			TF UC81 10	TF CB31 05	TF CB22 10	TF CB41 15	TF CB72 15
P	St52, C45, 16MnCr5	≤ 750	220 – 280 – 360	250 – 320 – 410	240 – 300 – 380	220 – 270 – 360	220 – 280 – 360
	42CrMo4, 1.2080, 1.2312, 1.2343, 1.2379	≤ 1200	140 – 180 – 280	180 – 220 – 310	160 – 200 – 280	140 – 180 – 280	140 – 180 – 280
	Werkzeugstähle vergütet	≤ 1700 50 HRC	70 – 90 – 160	50 – 100 – 260	70 – 90 – 160	70 – 90 – 160	70 – 90 – 160

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)			
			TF CB32 20	TF CB91 25	TF CB52 25	TF CB12 30
P	St52, C45, 16MnCr5	≤ 750	190 – 270 – 330	180 – 250 – 320	180 – 250 – 320	250 – 320 – 410
	42CrMo4, 1.2080, 1.2312, 1.2343, 1.2379	≤ 1200	140 – 180 – 240	120 – 160 – 220	120 – 160 – 220	180 – 220 – 310
	Werkzeugstähle vergütet	≤ 1700 50 HRC	60 – 80 – 140	60 – 80 – 140	60 – 80 – 140	50 – 100 – 260

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)	
			TF CB71 35	TF CB01 35
P	St52, C45, 16MnCr5	≤ 750	120 – 180 – 250	120 – 180 – 250
	42CrMo4, 1.2080, 1.2312, 1.2343, 1.2379	≤ 1200	80 – 120 – 160	80 – 120 – 160
	Werkzeugstähle vergütet	≤ 1700 50 HRC	45 – 60 – 100	45 – 60 – 100

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)			
			TF PY81 15	TF PY42 25	TF CY22 15	TF CY71 25
M	1.4000, 1.4021, 1.4034, 1.4510, 1.4301, 1.4305, 1.4310, 1.4541	≤ 750	100 – 160 – 240	90 – 180 – 270	100 – 200 – 300	80 – 140 – 200
	1.4401, 1.4435, 1.4571, 1.4583	≤ 850	100 – 150 – 200	90 – 150 – 210	100 – 170 – 240	70 – 120 – 160
	1.4362, 1.4460, 1.4462	≤ 850	80 – 120 – 160	70 – 110 – 160	80 – 130 – 180	50 – 100 – 150

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)	
			TF CR31 15	TF CR11 25
K	GG15, GG25, GG40	≤ 500	200 – 300 – 420	180 – 280 – 380
	GGG40, GGG60, GTW-35-04, GTW-45-07	≤ 650	180 – 250 – 340	150 – 220 – 300

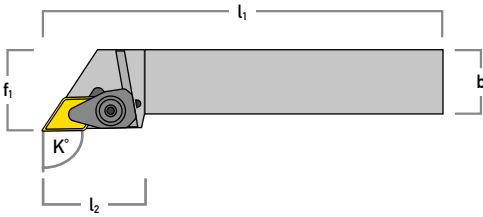
Indexable Inserts – Turning



Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)		
			TF PO41 15		
P	St52, C45, 16MnCr5	≤ 750	200	– 240	– 330
	42CrMo4, 1.2080, 1.2312, 1.2343, 1.2379	≤ 1200	130	– 160	– 250
	Tool steel, Q & T	≤ 1700 50 HRC	60	– 80	– 140
M	1.4000, 1.4021, 1.4034, 1.4510, 1.4301, 1.4305, 1.4310, 1.4541	≤ 750	100	– 200	– 300
	1.4401, 1.4435, 1.4571, 1.4583	≤ 850	100	– 170	– 240
	1.4362, 1.4460, 1.4462	≤ 850	80	– 130	– 180
S	Titanium	≤ 850	35	– 45	– 70
	Inconel	≤ 1300	20	– 40	– 55



External Turning Tool Holder For Negative Inserts



Product family 810

Holder Type	Insert / size	Holder Design	Standard No.	Height	Width	Length	Length	Unit	Setting angle	Price
				h	b	l ₁	l ₂	f ₁	K°	€/pc.
	CN... 0903...	RH	PCLNR 1616 H09	16	16	100	20	20	95	92.07
		LH	PCLNL 1616 H09	16	16	100	20	20	95	92.07
		RH	PCLNR 2020 K09	20	20	125	22	25	95	92.07
		LH	PCLNL 2020 K09	20	20	125	22	25	95	92.07
		RH	PCLNR 2525 M09	25	25	150	22	32	95	95.95
		LH	PCLNL 2525 M09	25	25	150	22	32	95	95.95

Product family 8..

Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
PCLN...09	CN... 0903...					
Price for spare parts €/pc.		9.79	1.89	10.18	3.98	1.99

Product family 810

Holder Type	Insert / size	Holder Design	Standard No.	Height	Width	Length	Length	Unit	Setting angle	Price
				h	b	l ₁	l ₂	f ₁	K°	€/pc.
	CN... 1204...	RH	DCLNR 2020 K12	20	20	125	30	25	95	92.07
		LH	DCLNL 2020 K12	20	20	125	30	25	95	92.07
		RH	DCLNR 2525 M12	25	25	150	32	32	95	95.95
		LH	DCLNL 2525 M12	25	25	150	32	32	95	95.95
		RH	DCLNR 3225 P12	32	25	170	32	32	95	114.11
		LH	DCLNL 3225 P12	32	25	170	32	32	95	114.11

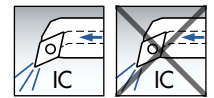
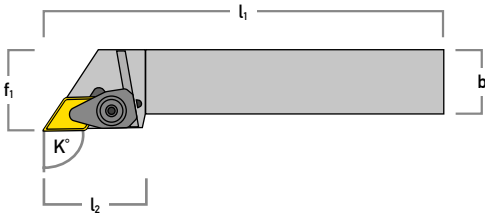
Product family 8..

Holder – Accessories	Insert	Insert shim	Screw/ Insert shim	Wrench/ Insert shim	Top clamp	Screw/ Top clamp
DCLN...12	CN... 1204...					
Price for spare parts €/pc.		7.14	1.99	6.63	17.16	1.76

Product family 835

Holder – Accessories	Insert	Wrench/ Top clamp	Spring for Top clamp	Washer/Top clamp
DCLN...12	CN... 1204...			
Price for spare parts €/pc.		1.76	1.76	1.76

External Turning Tool Holder For Negative Inserts



Product family 810

Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
	CN... 1204...	RH	PCLNR 1616 H12		16	16	100	27.2	20	95	92.07
		LH	PCLNL 1616 H12		16	16	100	27.2	20	95	92.07
		RH	PCLNR 1616 H12 IC	•	16	16	100	27.5	20	95	138.09
		LH	PCLNL 1616 H12 IC	•	16	16	100	27.5	20	95	138.09
		RH	PCLNR 2020 K12		20	20	125	30	25	95	92.07
		LH	PCLNL 2020 K12		20	20	125	30	25	95	92.07
		RH	PCLNR 2020 K12 IC	•	20	20	125	28	25	95	138.09
		LH	PCLNL 2020 K12 IC	•	20	20	125	28	25	95	138.09
		RH	PCLNR 2525 M12		25	25	150	30	32	95	95.95
		LH	PCLNL 2525 M12		25	25	150	30	32	95	95.95
		RH	PCLNR 2525 M12 IC	•	25	25	150	30	32	95	143.95
		LH	PCLNL 2525 M12 IC	•	25	25	150	30	32	95	143.95

Product family 835

Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
PCLN...12	CN... 1204...	E100030	E100026	E100020	E100003	E100047
Price for spare parts €/pc.		7.14	1.89	10.18	3.98	1.99

Product family 810

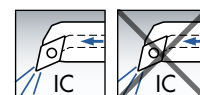
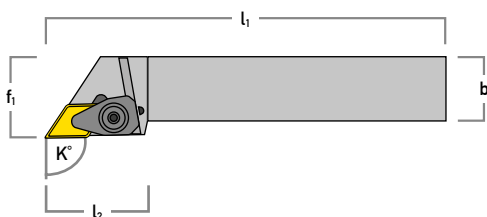
Holder Type	Insert / size	Holder Design	Standard No.	Height	Width	Length	Length	Unit	Setting angle	Price
				h	b	l ₁	l ₂	f ₁	K°	€/pc.
	DN... 1104...	RH	PDJNR 1616 H11	16	16	100	25	20	93	92.07
		LH	PDJNL 1616 H11	16	16	100	25	20	93	92.07
		RH	PDJNR 2020 K11	20	20	125	30	25	93	92.07
		LH	PDJNL 2020 K11	20	20	125	30	25	93	92.07
		RH	PDJNR 2525 M11	25	25	150	30	32	93	95.95
		LH	PDJNL 2525 M11	25	25	150	30	32	93	95.95

Product family 835

Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
PDJN...11	DN... 1104...	E100083	E100027	E100023	E100004	E100045
Price for spare parts €/pc.		9.79	1.89	10.18	3.98	1.99



External Turning Tool Holder For Negative Inserts



Holder Type	Insert / size	Holder Design	Standard No.	Height	Width	Length	Length	Unit	Setting angle	Price
				h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	DDJNR 2020 K15	20	20	125	38	25	93	92.07
		LH	DDJNL 2020 K15	20	20	125	38	25	93	92.07
		RH	DDJNR 2525 M15	25	25	150	38	32	93	95.95
		LH	DDJNL 2525 M15	25	25	150	38	32	93	95.95
		RH	DDJNR 3225 P15	32	25	170	38	32	93	114.11
		LH	DDJNL 3225 P15	32	25	170	38	32	93	114.11

Product family 810

Holder – Accessories	Insert	Insert shim	Screw/ Insert shim	Wrench/ Insert shim	Top clamp	Screw/ Top clamp
DDJN...15	DN... 1506...	E100031 835	E100016 835	E100029 834	E100025 835	E100009 835
Price for spare parts €/pc.		7.14	1.99	6.63	17.16	1.76

Product family 8...

Holder – Accessories	Insert	Wrench/ Top clamp	Spring for Top clamp	Washer/Top clamp
DDJN...15	DN... 1506...	E100048	E100038	E100039
Price for spare parts €/pc.		1.76	1.76	1.76

Product family 835

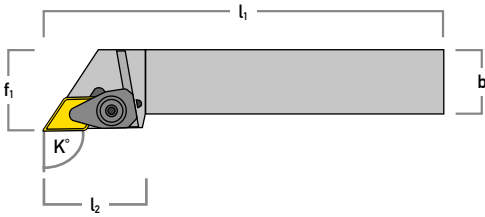
Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	PDJNR 2020 K15		20	20	125	35	25	93	92.07
		LH	PDJNL 2020 K15		20	20	125	35	25	93	92.07
		RH	PDJNR 2020 K15 IC	•	20	20	125	40	25	93	138.09
		LH	PDJNL 2020 K15 IC	•	20	20	125	40	25	93	138.09
		RH	PDJNR 2525 M15		25	25	150	38	32	93	95.95
		LH	PDJNL 2525 M15		25	25	150	38	32	93	95.95
		RH	PDJNR 2525 M15 IC	•	25	25	150	38	32	93	143.95
		LH	PDJNL 2525 M15 IC	•	25	25	150	38	32	93	143.95

Product family 810

Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
PDJN...15	DN... 1506...	E100031	E100026	E100022	E100005	E100047
Price for spare parts €/pc.		7.14	1.89	10.18	3.98	1.99

Product family 835

External Turning Tool Holder For Negative Inserts



Product family **810**

Holder Type	Insert / size	Holder Design	Standard No.	Height	Width	Length	Length	Unit	Setting angle	Price
				h	b	l ₁	l ₂	f ₁	K°	€/pc.
Lever	SN... 1204...	RH	PSSNR 1616 H12	16	16	100	30	20	45	92.07
		LH	PSSNL 1616 H12	16	16	100	30	20	45	92.07
		RH	PSSNR 2020 K12	20	20	125	30	25	45	92.07
		LH	PSSNL 2020 K12	20	20	125	30	25	45	92.07
		RH	PSSNR 2525 M12	25	25	150	30	32	45	95.95
		LH	PSSNL 2525 M12	25	25	150	30	32	45	95.95

Product family **835**

Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
PSSN...12	SN... 1204...	E100084	E100026	E100020	E100003	E100047
Price for spare parts €/pc.		9.79	1.89	10.18	3.98	1.99

Triple connection option for targeted for targeted cooling

Turning – Negative

Better surface quality and dimensional accuracy of the components

Better surface quality and dimensional accuracy of the components

Targeted cooling for higher process reliability as a result of 70% longer service life

Connection possibility via hose connection at the ball-shaped spray nozzle

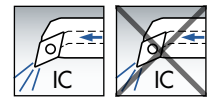
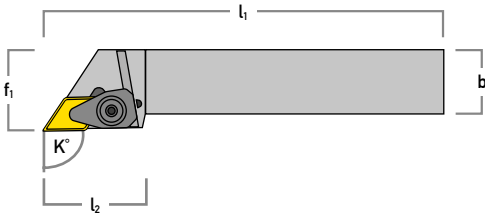
Connection possibility for direct transfer via VDI holder with coolant transfer

Reduction of tool and processing costs

Suitable for all common VDI holders with coolant transfer

Connection possibility via hose connection at the rear

External Turning Tool Holder For Negative Inserts



Product family **810**

Holder Type	Insert / size	Holder Design	Standard No.	Height	Width	Length	Length	Unit	Setting angle	Price
				h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	DVJNR 2020 K16	20	20	125	45	27	93	92.07
		LH	DVJNL 2020 K16	20	20	125	45	27	93	92.07
		RH	DVJNR 2525 M16	25	25	150	45	32	93	95.95
		LH	DVJNL 2525 M16	25	25	150	45	32	93	95.95

Product family **8..**

Holder – Accessories	Insert	Insert shim	Screw/ Insert shim	Wrench/ Insert shim	Top clamp	Screw/ Top clamp
DVJN...16	VN... 1604...	E100042 835	E100041 835	E100029 834	E100043 835	E100040 835
Price for spare parts €/pc.		9.79	1.99	6.63	19.46	1.76

Product family **835**

Holder – Accessories	Insert	Wrench/ Top clamp	Spring for Top clamp	Washer/Top clamp
DVJN...16	VN... 1604...			
Price for spare parts €/pc.		E100047	E100044	E100050
		1.99	1.76	1.76

Product family **810**

Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	PWLNR 1616 H06		16	16	100	25	20	95	92.07
		LH	PWLNL 1616 H06		16	16	100	25	20	95	92.07
		RH	PWLNR 1616 H06 IC	•	16	16	100	25	20	95	138.09
		LH	PWLNL 1616 H06 IC	•	16	16	100	25	20	95	138.09
		RH	PWLNR 2020 K06		20	20	125	30	25	95	92.07
		LH	PWLNL 2020 K06		20	20	125	30	25	95	92.07
		RH	PWLNR 2020 K06 IC	•	20	20	125	28	25	95	138.09
		LH	PWLNL 2020 K06 IC	•	20	20	125	28	25	95	138.09
		RH	PWLNR 2525 M06		25	25	150	30	32	95	95.95
		LH	PWLNL 2525 M06		25	25	150	30	32	95	95.95
		RH	PWLNR 2525 M06 IC	•	25	25	150	30	32	95	143.95
		LH	PWLNL 2525 M06 IC	•	25	25	150	30	32	95	143.95

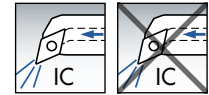
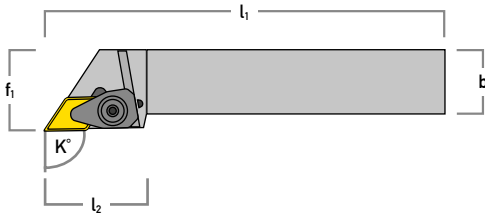
Product family **835**

Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
PWLN...06	WN... 0604...	E100032	E100027	E100023	E100004	E100045
Price for spare parts €/pc.		7.14	1.89	10.18	3.98	1.99



Negative

External Turning Tool Holder For Negative Inserts






Product family 810

Holder Type	Insert / size	Holder Design	Standard No.	Height	Width	Length	Length	Unit	Setting angle	Price
				h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	DWLNLR 2020 K08	20	20	125	38	25	95	92.07
		LH	DWLNLR 2020 K08	20	20	125	38	25	95	92.07
		RH	DWLNLR 2525 M08	25	25	150	38	32	95	95.95
		LH	DWLNLR 2525 M08	25	25	150	38	32	95	95.95



Product family 835

Holder – Accessories	Insert	Insert shim	Screw/ Insert shim	Wrench/ Insert shim	Top clamp	Screw/ Top clamp
						
DWLN...08	WN... 0804...	E100035	E100017	E100049	E100025	E100009
Price for spare parts €/pc.		9.79	1.99	9.80	17.16	1.76




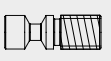

Product family 835

Holder – Accessories	Insert	Wrench/ Top clamp	Spring for Top clamp	Washer/Top clamp
				
DWLN...08	WN... 0804...	E100048	E100038	E100039
Price for spare parts €/pc.		1.76	1.76	1.76

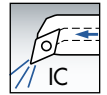
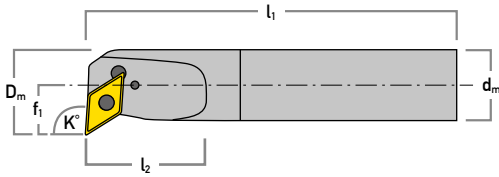
Product family 810



Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	PWLNLR 2020 K08		20	20	125	30	25	95	92.07
		LH	PWLNLR 2020 K08		20	20	125	30	25	95	92.07
		RH	PWLNLR 2020 K08 IC	•	20	20	125	38	25	95	138.09
		LH	PWLNLR 2020 K08 IC	•	20	20	125	38	25	95	138.09
		RH	PWLNLR 2525 M08		25	25	150	38	32	95	95.95
		LH	PWLNLR 2525 M08		25	25	150	38	32	95	95.95
		RH	PWLNLR 2525 M08 IC	•	25	25	150	38	32	95	143.95
		LH	PWLNLR 2525 M08 IC	•	25	25	150	38	32	95	143.95




Product family 835



Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
						
PWLN...08	WN... 0804...	E100035	E100026	E100020	E100003	E100047
Price for spare parts €/pc.		9.79	1.89	10.18	3.98	1.99

Internal Turning Tool Holder For Negative Inserts



										Product family	820
Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Length	Unit	Setting angle	Price	
						l ₁	l ₂				f ₁
		RH	A20R PCLNR 09	25	20	200	40	13	95	229.52	
		LH	A20R PCLNL 09	25	20	200	40	13	95	229.52	

		Product family			835
Holder – Accessories	Insert	Lever	Screw/ Lever	Wrench/ Lever	
					
A20R...09	CN... 0903...	E100024	E100008	E100045	
Price for spare parts €/pc.		12.31	3.98	1.99	

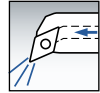
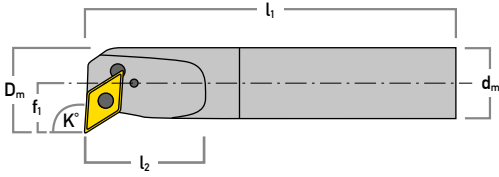
										Product family	820
Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Length	Unit	Setting angle	Price	
						l ₁	l ₂				f ₁
		RH	A20R PCLNR 12	25	20	200	40	13	95	229.52	
		LH	A20R PCLNL 12	25	20	200	40	13	95	229.52	
		RH	A25S PCLNR 12	32	25	250	51	17	95	248.98	
		LH	A25S PCLNL 12	32	25	250	51	17	95	248.98	
		RH	A32T PCLNR 12	40	32	300	51	22	95	261.94	
		LH	A32T PCLNL 12	40	32	300	51	22	95	261.94	
		RH	A40T PCLNR 12	50	40	300	55	27	95	294.36	
		LH	A40T PCLNL 12	50	40	300	55	27	95	294.36	

		Product family					835
Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever	
							
A20R...12	CN... 1204...	-	-	E100021	E100004	E100046	
A25S...12	CN... 1204...	-	-				
A32T...12	CN... 1204...	E100030	E100026	E100020	E100003	E100047	
A40T...12	CN... 1204...						
Price for spare parts €/pc.		7.14	1.89	10.18	3.98	1.99	



Negative


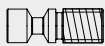

External Turning Tool Holder For Negative Inserts





Product family 820

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
		RH	A20R PDUNR 11	25	20	200	40	13	93	229.52
		LH	A20R PDUNL 11	25	20	200	40	13	93	229.52

Product family 835

Holder – Accessories	Insert	Lever	Screw/ Lever	Wrench/ Lever
				
A20R...11	DN... 1104...	E100024	E100008	E100045
Price for spare parts €/pc.		12.31	3.98	1.99

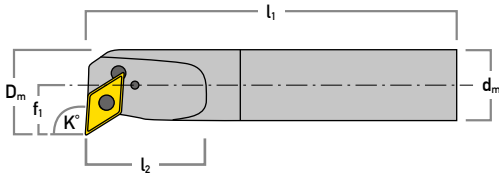
Product family 820



Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
		RH	A25S PDUNR 15	32	25	250	50	17	93	248.98
		LH	A25S PDUNL 15	32	25	250	50	17	93	248.98
		RH	A32T PDUNR 15	40	32	300	55	22	93	261.94
		LH	A32T PDUNL 15	40	32	300	55	22	93	261.94
		RH	A40T PDUNR 15	50	40	300	55	27	93	294.36
		LH	A40T PDUNL 15	50	40	300	55	27	93	294.36


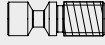

Product family 835



Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
						
A25S...15	DN... 1506...	-	-	E100021	E100004	E100046
A32T...15	DN... 1506...	E100031	E100026	E100022	E100005	E100047
A40T...15	DN... 1506...					
Price for spare parts €/pc.		7.14	1.89	10.18	3.98	1.99

External Turning Tool Holder For Negative Inserts



Product family 820										
Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Length	Unit	Setting angle	Price
						l ₁	l ₂	f ₁	K°	€/pc.
		RH	A16R PWLNR 06	21	16	200	40	11	95	212,65
		LH	A16R PWLNL 06	21	16	200	40	11	95	212,65
		RH	A20R PWLNR 06	25	20	200	40	13	95	229,52
		LH	A20R PWLNL 06	25	20	200	40	13	95	229,52

Product family 835				
Holder – Accessories	Insert	Lever	Screw/ Lever	Wrench/ Lever
				
A16R...06	WN... 0604...	E100024	E100008	E100045
Price for spare parts €/pc.		12,31	3,98	1,99

Product family 820										
Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Length	Unit	Setting angle	Price
						l ₁	l ₂	f ₁	K°	€/pc.
		RH	A25S PWLNR 08	32	25	250	50	17	95	248,98
		LH	A25S PWLNL 08	32	25	250	50	17	95	248,98
		RH	A32T PWLNR 08	40	32	300	60	22	95	261,94
		LH	A32T PWLNL 08	40	32	300	60	22	95	261,94
		RH	A40T PWLNR 08	50	40	300	60	27	95	294,36
		LH	A40T PWLNL 08	50	40	300	60	27	95	294,36

Product family 835						
Holder – Accessories	Insert	Insert shim	Shim sleeve	Lever	Screw/ Lever	Wrench/ Lever
						
A25S...08	WN... 0804...	-	-	E100021	E100004	E100046
A32T...08	WN... 0804...	E100035	E100026	E100020	E100003	E100047
A40T...08	WN... 0804...					
Price for spare parts €/pc.		9,79	1,89	10,18	3,98	1,99

Accessories for negative inserts




Product family		835											834	
Holder – Accessories	Insert	Top clamp	Screw/ Top clamp	Wrench/ Top clamp	Feder/ Top clamp	Washer/ Top clamp	Lever	Screw/ Lever	Wrench/ Lever	Shim sleeve	Insert shim	Screw/ Insert shim	Wrench/ Insert shim	
CN...09...														
PCLN...09	CN... 0903...	-	-	-	-	-	E100023 10.18 €	E100007 3.98 €	E100046 1.99 €	E100027 1.89 €	E100085 9.79 €	-	-	
A20R...09		-	-	-	-	-	E100024 12.31 €	E100008 3.98 €	E100045 1.99 €	-	-	-	-	
CN...12...														
DCLN...12	CN... 1204...	E100025 17.16 €	E100009 1.76 €	E100048 1.76 €	E100038 1.76 €	E100039 1.76 €	-	-	-	-	E100030 7.14 €	E100016 1.99 €	E100029 6.63 €	
PCLN...12		-	-	-	-	-	E100020 10.18 €	E100003 3.98 €	E100047 1.99 €	E100026 1.89 €	E100030 7.14 €	-	-	
A20R...12		-	-	-	-	-	E100021 10.18 €	E100004 3.98 €	E100046 1.99 €	-	-	-	-	
A25S...12		-	-	-	-	-	E100021 10.18 €	E100004 3.98 €	E100046 1.99 €	-	-	-	-	
A32T...12		-	-	-	-	-	E100020 10.18 €	E100003 3.98 €	E100047 1.99 €	E100026 1.89 €	E100030 7.14 €	-	-	
A40T...12		-	-	-	-	-	E100020 10.18 €	E100003 3.98 €	E100047 1.99 €	E100026 1.89 €	E100030 7.14 €	-	-	
DN...11...														
PDJN...11	DN... 1104...	-	-	-	-	-	E100023 10.18 €	E100004 3.98 €	E100045 1.99 €	E100027 1.89 €	E100083 9.79 €	-	-	
A20R...11		-	-	-	-	-	E100024 12.31 €	E100008 3.98 €	E100045 1.99 €	-	-	-	-	
DN...15...														
DDJN...15	DN... 1506...	E100025 17.16 €	E100009 1.76 €	E100048 1.76 €	E100038 1.76 €	E100039 1.76 €	-	-	-	-	E100031 7.14 €	E100016 1.99 €	E100029 6.63 €	
PDJN...15		-	-	-	-	-	E100022 10.18 €	E100005 3.98 €	E100047 1.99 €	E100026 1.89 €	E100031 7.14 €	-	-	
A25S...15		-	-	-	-	-	E100021 10.18 €	E100004 3.98 €	E100046 1.99 €	-	-	-	-	
A32T...15		-	-	-	-	-	E100022 10.18 €	E100005 3.98 €	E100047 1.99 €	E100026 1.89 €	E100031 7.14 €	-	-	
A40T...15		-	-	-	-	-	E100022 10.18 €	E100005 3.98 €	E100047 1.99 €	E100026 1.89 €	E100031 7.14 €	-	-	
SN...12...														


Product family		835											834	
Holder – Accessories	Insert	Top clamp	Screw/ Top clamp	Wrench/ Top clamp	Feder/ Top clamp	Washer/ Top clamp	Lever	Screw/ Lever	Wrench/ Lever	Shim sleeve	Insert shim	Screw/ Insert shim	Wrench/ Insert shim	
PSSN...12	SN... 1204...	-	-	-	-	-	E100020 10.18 €	E100003 3.98 €	E100047 1.99 €	E100026 1.89 €	E100084 9.79 €	-	-	
VN...16...														
DVJN...16	VN... 1604...	E100043 19.46 €	E100040 1.76 €	E100047 1.99 €	E100044 1.76 €	E100050 1.76 €	-	-	-	-	E100042 9.79 €	E100041 1.99 €	E100029 6.63 €	
WN...06...														
PWLN...06	WN... 0604...	-	-	-	-	-	E100023 10.18 €	E100008 3.98 €	E100045 1.99 €	E100027 1.89 €	E100032 7.14 €	-	-	
A16R...06		-	-	-	-	-	E100024 12.31 €	E100008 3.98 €	E100045 1.99 €	-	-	-	-	
A20R...06		-	-	-	-	-	E100024 12.31 €	E100008 3.98 €	E100045 1.99 €	-	-	-	-	
WN...08...													835	
DWLN...08	WN... 0804...	E100025 17.16 €	E100009 1.76 €	E100048 1.76 €	E100038 1.76 €	E100039 1.76 €	-	-	-	-	E100035 9.79 €	E100017 1.99 €	E100049 9.47 €	
PWLN...08		-	-	-	-	-	E100020 10.18 €	E100003 3.98 €	E100047 1.99 €	E100026 1.89 €	E100035 9.79 €	-	-	
A25S...08		-	-	-	-	-	E100021 10.18 €	E100004 3.98 €	E100046 1.99 €	-	-	-	-	
A32T...08		-	-	-	-	-	E100020 10.18 €	E100003 3.98 €	E100047 1.99 €	E100026 1.89 €	E100035 9.79 €	-	-	
A40T...08		-	-	-	-	-	E100020 10.18 €	E100003 3.98 €	E100047 1.99 €	E100026 1.89 €	E100035 9.79 €	-	-	




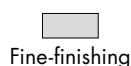
Positive

Indexable Inserts – Turning

 <h3>CCGT 0602...</h3>							Product family	710		
							Radius mm		Machining	Grade
								min – Start – max	min – Start – max	PU 10 pcs.
0.20			TF PZ51 25	CCGT 060202-DM TF PZ51 25	A08H SCLCR/L06 A10J SCLCR/L06 A12K SCLCR/L06 see p. 123	0.20 – 0.40 – 1.50		0.06 – 0.08 – 0.12		12.62
0.40				CCGT 060204-DM TF PZ51 25		0.20 – 0.60 – 1.50		0.10 – 0.12 – 0.17		12.62

 <h3>CCGT 09T3...</h3>							Product family	710		
							Radius mm		Machining	Grade
								min – Start – max	min – Start – max	PU 10 pcs.
0.20			TF PZ51 25	CCGT 09T302-DM TF PZ51 25	SCLCR/L1616.09 SCLCR/L2020.09 see p. 116	0.20 – 0.60 – 2.40		0.08 – 0.10 – 0.15		14.95
			TF PY81 15	CCGT 09T302-DM TF PY81 15		0.20 – 0.60 – 2.40		0.08 – 0.12 – 0.15		14.95
			TF PY91 30	CCGT 09T302-DM TF PY91 30		0.20 – 0.60 – 2.40		0.08 – 0.12 – 0.15		14.95
0.40			TF PZ51 25	CCGT 09T304-DM TF PZ51 25	A14-16QSCLCR/L09 A16QSCLCR/L09 A20QSCLCR/L09 A25RSCLCR/L09 see p. 123	0.30 – 1.20 – 3.00		0.10 – 0.12 – 0.17		14.95
0.80			TF PZ51 25	CCGT 09T308-DM TF PZ51 25		0.50 – 1.20 – 2.40		0.10 – 0.20 – 0.30		14.95
			TF PY91 30	CCGT 09T308-DM TF PY91 30		0.50 – 1.20 – 2.40		0.10 – 0.20 – 0.30		14.95

 <h3>CCGT 1204...</h3>							Product family	710		
							Radius mm		Machining	Grade
								min – Start – max	min – Start – max	PU 10 pcs.
0.80			TF PZ51 25	CCGT 120408-DM TF PZ51 25	SCLCR/L 2020.12 SCLCR/L 2525.12 see p. 116	0.50 – 1.50 – 4.00		0.10 – 0.25 – 0.40		15.22



* Cutting speed v_c : p. 115

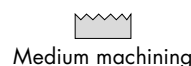
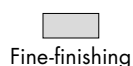
Indexable Inserts – Turning



					Product family		710				
		CCGX 0602...									
Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		Price				
					mm						
					min	Start	max				
					min	Start	max				
							PU 10 pcs.				
0.20	Alu	NEW TF UG31 25	CCGX 060202-AL TF UG31 25	A08H SCLCR/L 06 A10J SCLCR/L 06 A12K SCLCR/L 06 see p. 123	0.20	1.00	3.00	0.05	0.10	0.15	12.62
		NEW TF PG63 25	CCGX 060202-AL TF PG63 25		0.20	1.00	3.00	0.05	0.10	0.15	16.69
0.40	Alu	NEW TF UG31 25	CCGX 060204-AL TF UG31 25		0.30	1.00	3.00	0.10	0.20	0.30	12.62
		NEW TF PG63 25	CCGX 060204-AL TF PG63 25		0.40	1.00	3.00	0.10	0.12	0.15	16.69
0.80	Alu	NEW TF UG31 25	CCGX 060208-AL TF UG31 25		0.40	1.20	2.80	0.10	0.20	0.30	12.62
		NEW TF PG63 25	CCGX 060208-AL TF PG63 25		0.50	1.00	3.00	0.12	0.18	0.25	16.69

					Product family		710				
		CCGX 09T3...									
Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		Price				
					mm						
					min	Start	max				
					min	Start	max				
							PU 10 pcs.				
0.20	Alu	NEW TF UG31 25	CCGX 09T302-AL TF UG31 25	SCLCR/L1616.09 SCLCR/L2020.09 see p. 116 A14-16QSCLCR/L09 A16QSCLCR/L09 A20QSCLCR/L09 A25RSCLCR/L09 see p. 123	0.20	1.20	3.50	0.05	0.10	0.15	14.03
		NEW TF PG63 25	CCGX 09T302-AL TF PG63 25		0.20	1.20	3.50	0.05	0.10	0.15	17.93
0.40	Alu	NEW TF UG31 25	CCGX 09T304-AL TF UG31 25		0.40	1.20	3.50	0.10	0.20	0.30	14.03
		NEW TF PG63 25	CCGX 09T304-AL TF PG63 25		0.40	1.20	3.50	0.10	0.20	0.30	17.93
0.80	Alu	NEW TF UG31 25	CCGX 09T308-AL TF UG31 25		0.50	1.20	3.50	0.15	0.30	0.60	14.03
		NEW TF PG63 25	CCGX 09T308-AL TF PG63 25		0.50	1.20	3.50	0.15	0.30	0.60	17.93

* Cutting speed v_c: p. 115





Positive

Indexable Inserts – Turning



CCGX 1204...

Product family **710**

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price €/pc. PU 10 pcs.
					mm			mm/U			
					min	Start	max	min	Start	max	
0.20	Alu	NEW TF PG63 25	CCGX 120402-AL TF PG63 25	SCLCR/L2020.12 SCLCR/L2525.12 see p. 116	0.20	2.50	4.90	0.10	0.10	0.15	18.29
0.40		TF UG31 25	CCGX 120404-AL TF UG31 25		0.40	2.50	4.90	0.10	0.20	0.30	15.22
		NEW TF PG63 25	CCGX 120404-AL TF PG63 25		0.40	2.50	4.90	0.10	0.20	0.30	18.29
0.80		TF UG31 25	CCGX 120408-AL TF UG31 25		0.50	2.50	4.90	0.15	0.30	0.60	15.22
		NEW TF PG63 25	CCGX 120408-AL TF PG63 25		0.50	2.50	4.90	0.15	0.30	0.60	18.29



CCMT 0602...

Product family **710**

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price €/pc. PU 10 pcs.
					mm			mm/U			
					min	Start	max	min	Start	max	
0.20	Fine-finishing	TF CB41 15	CCMT 060202-DL TF CB41 15	A08HSCLCR/L06 A12KSCLCR/L06 A10JSCLCR/L06 see p. 123	0.20	0.30	1.20	0.05	0.08	0.10	8.61
		TF CB91 25	CCMT 060202-DL TF CB91 25		0.20	0.30	1.20	0.05	0.08	0.10	8.61
		TF UC81 10	CCMT 060202-DL TF UC81 10		0.20	0.30	1.00	0.05	0.08	0.10	8.61
		TF PZ51 25	CCMT 060202-DL TF PZ51 25		0.20	0.30	1.00	0.05	0.08	0.12	8.61
		TF PY81 15	CCMT 060202-DL TF PY81 15		0.20	0.30	1.00	0.05	0.08	0.12	8.61
		TF CY71 25	CCMT 060202-DL TF CY71 25		0.20	0.30	1.00	0.05	0.08	0.12	8.61
	Finishing	TF PY91 30	CCMT 060202-DL TF PY91 30		0.20	0.30	1.00	0.05	0.08	0.12	8.61
		TF CB41 15	CCMT 060202-DM TF CB41 15		0.20	0.40	1.50	0.06	0.08	0.12	8.61
		TF CB91 25	CCMT 060202-DM TF CB91 25		0.20	0.40	1.50	0.06	0.08	0.12	8.61
		TF CY71 25	CCMT 060202-DM TF CY71 25		0.20	0.40	1.50	0.08	0.10	0.15	8.61
0.40	Medium machining	TF CB31 05	CCMT 060204-DL TF CB31 05	0.20	0.50	1.20	0.08	0.10	0.15	8.61	
		TF CB22 10	CCMT 060204-DL TF CB22 10	0.20	0.50	1.20	0.08	0.10	0.15	8.61	
		TF CB41 15	CCMT 060204-DL TF CB41 15	0.20	0.50	1.20	0.08	0.10	0.15	8.61	
		TF CB32 20	CCMT 060204-DL TF CB32 20	0.20	0.50	1.20	0.08	0.10	0.15	8.61	

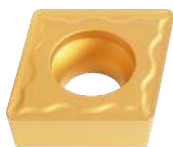


* Cutting speed v_c: p. 115

Indexable Inserts – Turning



Positive



CCMT 0602...

Product family 710

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	– Start	– max	min	– Start	– max	PU 10 pcs.
0.40		TF CB91 25	CCMT 060204-DL TF CB91 25	A08HSCLCR/L06 A12KSCLCR/L06 A10JSCLCR/L06 see p. 123	0.20	– 0.50	– 1.20	0.08	– 0.10	– 0.15	8.61
		TF CB12 30	CCMT 060204-DL TF CB12 30		0.20	– 0.50	– 1.20	0.08	– 0.10	– 0.15	8.61
		TF UC81 10	CCMT 060204-DL TF UC81 10		0.20	– 0.50	– 1.20	0.08	– 0.10	– 0.15	8.61
		TF PZ51 25	CCMT 060204-DL TF PZ51 25		0.20	– 0.40	– 1.20	0.08	– 0.12	– 0.15	8.61
		TF PY81 15	CCMT 060204-DL TF PY81 15		0.20	– 0.40	– 1.20	0.08	– 0.12	– 0.15	8.61
		TF CY71 25	CCMT 060204-DL TF CY71 25		0.20	– 0.40	– 1.20	0.08	– 0.12	– 0.15	8.61
		TF CB41 15	CCMT 060204-DM TF CB41 15		0.20	– 0.60	– 1.50	0.10	– 0.12	– 0.17	8.61
		TF CB91 25	CCMT 060204-DM TF CB91 25		0.20	– 0.60	– 1.50	0.10	– 0.12	– 0.17	8.61
		TF CY71 25	CCMT 060204-DM TF CY71 25		0.20	– 0.40	– 1.50	0.10	– 0.12	– 0.17	8.61
		TF PY91 30	CCMT 060204-DM TF PY91 30		0.20	– 0.40	– 1.50	0.10	– 0.12	– 0.17	8.61
0.80		TF CB32 20	CCMT 060208-DL TF CB32 20	0.40	– 0.80	– 1.50	0.10	– 0.15	– 0.25	8.61	
		TF CB91 25	CCMT 060208-DM TF CB91 25	0.80	– 1.00	– 1.50	0.10	– 0.12	– 0.17	8.61	
		TF CY71 25	CCMT 060208-DM TF CY71 25	0.80	– 1.00	– 1.50	0.10	– 0.12	– 0.17	8.61	
		TF PY91 30	CCMT 060208-DM TF PY91 30	0.50	– 1.00	– 1.50	0.10	– 0.12	– 0.17	8.61	

Turning – Positive

* Cutting speed v_c : p. 115





Indexable Inserts – Turning

Product family 710



CCMT 09T3,000

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc,
					min	Start	max	min	Start	max	PU 10 pcs,
0,20		TF CB41 15	CCMT 09T302-DL TF CB41 15	SCLCR/L1616,09 SCLCR/L2020,09 see p, 116 A14-16QSCLCR/L09 A16QSCLCR/L09 A20QSCLCR/L09 A25RSCLCR/L09 see p, 123	0,20	0,30	1,20	0,05	0,08	0,10	10,65
		TF CB32 20	CCMT 09T302-DL TF CB32 20		0,20	0,30	1,20	0,05	0,08	0,10	10,65
		TF CB91 25	CCMT 09T302-DL TF CB91 25		0,20	0,30	1,20	0,05	0,08	0,10	10,65
		TF UC81 10	CCMT 09T302-DL TF UC81 10		0,20	0,30	1,20	0,05	0,08	0,10	10,65
		TF PY81 15	CCMT 09T302-DL TF PY81 15		0,20	0,30	1,20	0,05	0,08	0,10	10,65
		TF CY71 25	CCMT 09T302-DL TF CY71 25		0,20	0,30	1,50	0,05	0,08	0,12	10,65
	TF PY91 30	CCMT 09T302-DL TF PY91 30	0,20		0,30	1,20	0,05	0,08	0,10	10,65	
		TF CB41 15	CCMT 09T302-DM TF CB41 15		0,20	0,60	2,40	0,08	0,10	0,15	10,65
		TF CB91 25	CCMT 09T302-DM TF CB91 25		0,20	0,60	2,40	0,08	0,10	0,15	10,65
		TF UC81 10	CCMT 09T302-DM TF UC81 10		0,20	0,60	2,00	0,08	0,10	0,15	10,65
TF CY71 25		CCMT 09T302-DM TF CY71 25	0,20	1,00	2,40	0,06	0,08	0,12	10,65		
0,40		TF CB31 05	CCMT 09T304-DL TF CB31 05	SCLCR/L1616,09 SCLCR/L2020,09 see p, 116 A14-16QSCLCR/L09 A16QSCLCR/L09 A20QSCLCR/L09 A25RSCLCR/L09 see p, 123	0,30	0,50	1,50	0,08	0,12	0,15	10,65
		TF CB22 10	CCMT 09T304-DL TF CB22 10		0,30	0,50	1,50	0,08	0,12	0,15	10,65
		TF CB41 15	CCMT 09T304-DL TF CB41 15		0,30	0,50	1,50	0,08	0,12	0,15	10,65
		TF CB32 20	CCMT 09T304-DL TF CB32 20		0,30	0,50	1,50	0,08	0,12	0,15	10,65
		TF CB91 25	CCMT 09T304-DL TF CB91 25		0,30	0,50	1,50	0,08	0,12	0,15	10,65
		TF CB12 30	CCMT 09T304-DL TF CB12 30		0,30	0,50	1,50	0,08	0,12	0,15	10,65
		TF UC81 10	CCMT 09T304-DL TF UC81 10		0,30	0,50	1,50	0,08	0,12	0,15	10,65
		TF PZ51 25	CCMT 09T304-DL TF PZ51 25		0,30	0,50	1,50	0,08	0,12	0,15	10,65
		TF PY81 15	CCMT 09T304-DL TF PY81 15		0,30	0,50	1,50	0,08	0,12	0,15	10,65
	TF CY71 25	CCMT 09T304-DL TF CY71 25	0,30		0,50	1,50	0,08	0,12	0,15	10,65	
		TF CB41 15	CCMT 09T304-DM TF CB41 15		0,30	1,20	3,00	0,08	0,15	0,23	10,65
		TF CB91 25	CCMT 09T304-DM TF CB91 25		0,30	1,20	3,00	0,08	0,15	0,23	10,65
		TF UC81 10	CCMT 09T304-DM TF UC81 10		0,30	1,00	2,00	0,10	0,15	0,20	10,65
		TF PZ51 25	CCMT 09T304-DM TF PZ51 25		0,30	1,00	2,40	0,10	0,15	0,20	10,65
		TF CY71 25	CCMT 09T304-DM TF CY71 25		0,30	1,00	2,40	0,10	0,15	0,20	10,65



* Cutting speed v_c: p. 115

Indexable Inserts – Turning



Positive

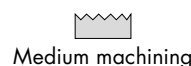
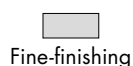
Product family **710**



CCMT 09T3,000

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price €/pc, PU 10 pcs,
					min	Start	max	min	Start	max	
0,40		TF PY91 30	CCMT 09T304-DM TF PY91 30	SCLCR/L1616,09 SCLCR/L2020,09 see p. 116 A14-16QSCLCR/L09 A16QSCLCR/L09 A20QSCLCR/L09 A25RSCLCR/L09 see p. 123	0,30	1,00	2,40	0,10	0,15	0,20	10,65
		TF CR31 15	CCMT 09T304-DS TF CR31 15		0,30	1,00	3,00	0,10	0,15	0,25	10,65
	TF CB91 25	CCMT 09T304-DS TF CB91 25	0,80		1,50	4,00	0,10	0,20	0,25	10,65	
0,80		TF CB22 10	CCMT 09T308-DL TF CB22 10		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF CB32 20	CCMT 09T308-DL TF CB32 20		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF CB91 25	CCMT 09T308-DL TF CB91 25		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF UC81 10	CCMT 09T308-DL TF UC81 10		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF PZ51 25	CCMT 09T308-DL TF PZ51 25		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF PY81 15	CCMT 09T308-DL TF PY81 15		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF CB41 15	CCMT 09T308-DL TF CB41 15		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF CY71 25	CCMT 09T308-DL TF CY71 25		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF PY91 30	CCMT 09T308-DL TF PY91 30		0,40	0,80	1,50	0,10	0,15	0,25	10,65
		TF CB41 15	CCMT 09T308-DM TF CB41 15		0,50	1,20	3,00	0,10	0,20	0,30	10,65
		TF CB91 25	CCMT 09T308-DM TF CB91 25		0,50	1,20	3,00	0,10	0,20	0,30	10,65
		TF UC81 10	CCMT 09T308-DM TF UC81 10		0,50	1,20	2,00	0,10	0,20	0,30	10,65
TF PZ51 25		CCMT 09T308-DM TF PZ51 25	0,50	1,20	3,00	0,10	0,20	0,30	10,65		
TF CY71 25		CCMT 09T308-DM TF CY71 25	0,50	1,20	2,40	0,10	0,20	0,30	10,65		
TF CR31 15		CCMT 09T308-DS TF CR31 15	0,60	1,50	3,00	0,12	0,22	0,35	10,65		
	TF CB91 25	CCMT 09T308-DS TF CB91 25	1,00	2,00	4,00	0,12	0,25	0,35	10,65		

* Cutting speed v_c: p. 115





Positive

Indexable Inserts – Turning

Product family 710



CCMT 1204...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.40		TF CB41 15	CCMT 120404-DM TF CB41 15	SCLCR/L2020.12 SCLCR/L2525.12 see p. 116	0.30	1.50	3.60	0.09	0.18	0.27	14.44
		TF CB91 25	CCMT 120404-DM TF CB91 25		0.30	1.50	3.60	0.09	0.18	0.27	14.44
		TF UC81 10	CCMT 120404-DM TF UC81 10		0.30	1.50	3.60	0.09	0.18	0.27	14.44
TF CY71 25	CCMT 120404-DM TF CY71 25	0.30	1.50		3.60	0.09	0.18	0.27	14.44		
0.80		TF CB41 15	CCMT 120408-DM TF CB41 15		0.60	2.00	3.60	0.12	0.24	0.36	14.44
		TF CB91 25	CCMT 120408-DM TF CB91 25		0.60	2.00	3.60	0.12	0.24	0.36	14.44
		TF CY71 25	CCMT 120408-DM TF CY71 25		0.60	1.50	3.00	0.12	0.24	0.36	14.44
		TF CB91 25	CCMT 120408-DS TF CB91 25		1.20	2.50	4.50	0.12	0.25	0.35	14.44
TF CR31 15		CCMT 120408-DS TF CR31 15	0.60		1.50	4.00	0.12	0.22	0.35	14.44	
1.20		TF CB91 25	CCMT 120412-DS TF CB91 25		1.50	2.50	4.50	0.18	0.30	0.45	14.44
		TF CR31 15	CCMT 120412-DS TF CR31 15	1.00	1.50	4.00	0.15	0.25	0.50	14.44	

Turning – Positive

Fine-finishing

Finishing

Medium machining




Roughing




Heavy roughing

* Cutting speed v_c: p. 115

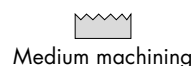
Indexable Inserts – Turning



 <h3>DCGT 0702...</h3>						Product family 710					
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	– Start –	max	min	– Start –	max	PU 10 pcs.
0.20		TF PZ51 25	DCGT 070202-DM TF PZ51 25	SDJCR/L1212.07 SDJCR/L1616.07 SDJCR/L2020.07 see p. 117	0.30	– 0.60 –	1.50	0.05	– 0.10 –	0.15	13.03
0.40		TF PZ51 25	DCGT 070204-DM TF PZ51 25		A10JSDUCR/L07 A12KSDUCR/L07 A14-16QSDUCR/L07 see p. 124	0.30	– 1.00 –	2.30	0.06	– 0.11 –	0.17
		TF PY91 30	DCGT 070204-DM TF PY91 30	0.30		– 1.00 –	2.30	0.06	– 0.11 –	0.17	13.03
0.80		TF PZ51 25	DCGT 070208-DM TF PZ51 25		0.50	– 1.20 –	2.30	0.10	– 0.20 –	0.30	13.03

 <h3>DCGT 11T3...</h3>						Product family 710					
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	– Start –	max	min	– Start –	max	PU 10 pcs.
0.20		TF PZ51 25	DCGT 11T302-DM TF PZ51 25	SDJCR/L1212.11 SDJCR/L1616.11 SDJCR/L2020.11 SDJCR/L2525.11 see p. 118	0.30	– 0.60 –	1.50	0.08	– 0.10 –	0.15	15.34
0.40		TF PZ51 25	DCGT 11T304-DM TF PZ51 25		A16QSDUCR/L11 A16QSDQCR/L11 A20QSDUCR/L11 A20QSDQCR/L11	0.30	– 1.20 –	3.00	0.08	– 0.15 –	0.23
0.80		TF PZ51 25	DCGT 11T308-DM TF PZ51 25	A25RSDUCR/L11 A32TSDUCR/L11 see p. 124		0.50	– 1.20 –	3.00	0.10	– 0.20 –	0.30

* Cutting speed v_c : p. 115





Positive

Indexable Inserts – Turning



DCGX 0702...

Product family 710

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _n Feed*		Price
					mm		mm/U		€/pc.
					min	Start – max	min	Start – max	PU 10 pcs.
0.20	Alu	TF UG31 25	DCGX 070202-AL TF UG31 25	SDJCR/L1212.07 SDJCR/L1616.07 SDJCR/L2020.07 see p. 117 A10JSDUCR/L07 A12KSDUCR/L07 A14-16QSDUCR/L07 see p. 124	0.20	1.00 – 2.80	0.05	0.10 – 0.15	13.03
		NEW TF PG63 25	DCGX 070202-AL TF PG63 25		0.20	1.00 – 2.80	0.05	0.10 – 0.15	15.63
0.40	Alu	TF UG31 25	DCGX 070204-AL TF UG31 25		0.40	1.20 – 2.80	0.10	0.20 – 0.30	13.03
		NEW TF PG63 25	DCGX 070204-AL TF PG63 25		0.40	1.20 – 2.80	0.10	0.20 – 0.30	15.63
0.80	Alu	TF UG31 25	DCGX 070208-AL TF UG31 25		0.40	1.20 – 2.80	0.10	0.20 – 0.30	13.03
		NEW TF PG63 25	DCGX 070208-AL TF PG63 25		0.50	2.00 – 2.80	0.15	0.30 – 0.60	15.63



DCGX 11T3...

Product family 710

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _n Feed*		Price
					mm		mm/U		€/pc.
					min	Start – max	min	Start – max	PU 10 pcs.
0.20	Alu	TF UG31 25	DCGX 11T302-AL TF UG31 25	SDJCR/L1212-11 SDJCR/L1616.11 SDJCR/L2020.11 SDJCR/L2525.11 see p. 118 A16QSDUCR/L11 A16QSDGCR/L11 A20QSDUCR/L11 A20QSDGCR/L11 A25RSDUCR/L11 A32TSDUCR/L11 see p. 124	0.20	1.00 – 3.90	0.05	0.10 – 0.15	15.34
		NEW TF PG63 25	DCGX 11T302-AL TF PG63 25		0.20	1.00 – 3.90	0.05	0.10 – 0.15	18.38
0.40	Alu	TF UG31 25	DCGX 11T304-AL TF UG31 25		0.40	1.20 – 3.90	0.10	0.20 – 0.30	15.34
		NEW TF PG63 25	DCGX 11T304-AL TF PG63 25		0.40	1.20 – 3.90	0.10	0.20 – 0.30	18.38
0.80	Alu	TF UG31 25	DCGX 11T308-AL TF UG31 25		0.50	2.50 – 3.90	0.15	0.30 – 0.60	15.34
		NEW TF PG63 25	DCGX 11T308-AL TF PG63 25		0.50	2.50 – 3.90	0.15	0.30 – 0.60	18.38



Fine-finishing



Finishing



Medium machining



Roughing



Heavy roughing

 * Cutting speed v_c: p. 115

Indexable Inserts – Turning



DCMT 0702...

Product family **710**

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price €/pc. PU 10 pcs.
					min	Start	max	min	Start	max	
0.20		TF CB41 15	DCMT 070202-DL TF CB41 15	SDJCR/L1212.07 SDJCR/L1616.07 SDJCR/L2020.07 see p. 117 A10JSDUCR/L07 A12KSDUCR/L07 A14-16QSDUCR/L07 see p. 124	0.20	0.30	1.00	0.05	0.08	0.12	10.22
		TF CB32 20	DCMT 070202-DL TF CB32 20		0.20	0.30	1.00	0.05	0.08	0.12	10.22
		TF CB91 25	DCMT 070202-DL TF CB91 25		0.20	0.30	1.20	0.05	0.08	0.10	10.22
		TF UC81 10	DCMT 070202-DL TF UC81 10		0.20	0.30	1.00	0.05	0.08	0.12	10.22
		TF PZ51 25	DCMT 070202-DL TF PZ51 25		0.20	0.30	1.50	0.05	0.08	0.12	10.22
		TF PY81 15	DCMT 070202-DL TF PY81 15		0.20	0.30	1.00	0.05	0.08	0.12	10.22
		TF CY71 25	DCMT 070202-DL TF CY71 25		0.20	0.30	1.00	0.05	0.08	0.12	10.22
		TF PY91 30	DCMT 070202-DL TF PY91 30		0.20	0.30	1.50	0.05	0.08	0.12	10.22
		TF CB41 15	DCMT 070202-DM TF CB41 15		0.30	0.60	1.50	0.05	0.10	0.15	10.22
		TF CB91 25	DCMT 070202-DM TF CB91 25		0.30	0.60	1.50	0.05	0.10	0.15	10.22
		TF CY71 25	DCMT 070202-DM TF CY71 25		0.20	0.40	1.50	0.08	0.10	0.15	10.22
		TF CB41 15	DCMT 070204-DL TF CB41 15		0.20	0.30	1.50	0.08	0.12	0.15	10.22
		TF CB32 20	DCMT 070204-DL TF CB32 20		0.20	0.30	1.50	0.08	0.12	0.15	10.22
		TF CB91 25	DCMT 070204-DL TF CB91 25		0.20	0.30	1.50	0.08	0.12	0.15	10.22
0.40		TF UC81 10	DCMT 070204-DL TF UC81 10	0.20	0.50	1.50	0.05	0.10	0.15	10.22	
		TF PZ51 25	DCMT 070204-DL TF PZ51 25	0.20	0.40	1.50	0.08	0.12	0.20	10.22	
		TF PY81 15	DCMT 070204-DL TF PY81 15	0.20	0.40	1.50	0.08	0.12	0.20	10.22	
		TF CY71 25	DCMT 070204-DL TF CY71 25	0.30	0.50	1.50	0.08	0.12	0.15	10.22	
		TF PY91 30	DCMT 070204-DL TF PY91 30	0.20	0.40	1.50	0.08	0.12	0.20	10.22	
		TF CB41 15	DCMT 070204-DM TF CB41 15	0.30	1.00	2.30	0.06	0.11	0.17	10.22	
		TF CB91 25	DCMT 070204-DM TF CB91 25	0.30	1.00	2.30	0.06	0.11	0.17	10.22	
		TF UC81 10	DCMT 070204-DM TF UC81 10	0.30	1.00	1.50	0.06	0.11	0.17	10.22	
		TF PZ51 25	DCMT 070204-DM TF PZ51 25	0.30	1.00	2.30	0.06	0.11	0.17	10.22	
		TF CY71 25	DCMT 070204-DM TF CY71 25	0.30	0.80	2.00	0.10	0.12	0.17	10.22	
		0.80	TF CY71 25	DCMT 070208-DM TF CY71 25	0.50	1.20	2.30	0.10	0.20	0.30	10.22

* Cutting speed v_c : p. 115



Turning – Positive



Positive

Indexable Inserts – Turning

Product family 710



DCMT 11T3...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.20		TF CB41 15	DCMT 11T302-DL TF CB41 15	SDJCR/L1212.11 SDJCR/L1616.11 SDJCR/L2020.11 SDJCR/L2525.11 see p. 118 A16QSDUCR/L11 A20QSDUCR/L11 A25RSUCR/L11 A32TSDUCR/L11 see p. 124 A16QSDQCR/L11 A20QSDQCR/L11 see p. 124	0.20	0.30	1.50	0.05	0.08	0.10	12.04
		TF CB32 20	DCMT 11T302-DL TF CB32 20		0.20	0.30	1.50	0.05	0.08	0.10	12.04
		TF CB91 25	DCMT 11T302-DL TF CB91 25		0.20	0.30	1.50	0.05	0.08	0.10	12.04
		TF UC81 10	DCMT 11T302-DL TF UC81 10		0.20	0.30	1.50	0.05	0.08	0.10	12.04
		TF PZ51 25	DCMT 11T302-DL TF PZ51 25		0.20	0.30	1.50	0.05	0.08	0.10	12.04
		TF PY81 15	DCMT 11T302-DL TF PY81 15		0.20	0.30	1.50	0.05	0.08	0.12	12.04
		TF CY71 25	DCMT 11T302-DL TF CY71 25		0.20	0.30	1.50	0.05	0.08	0.12	12.04
	TF PY91 30	DCMT 11T302-DL TF PY91 30	0.20		0.30	1.50	0.05	0.08	0.10	12.04	
		TF CB41 15	DCMT 11T302-DM TF CB41 15		0.30	0.60	1.50	0.08	0.10	0.15	12.04
		TF CB91 25	DCMT 11T302-DM TF CB91 25		0.30	0.60	1.50	0.08	0.10	0.15	12.04
TF UC81 10		DCMT 11T302-DM TF UC81 10	0.30	0.60	1.50	0.08	0.10	0.15	12.04		
0.40		TF CB31 05	DCMT 11T304-DL TF CB31 05	0.20	0.40	1.50	0.08	0.12	0.20	12.04	
		TF CB22 10	DCMT 11T304-DL TF CB22 10	0.20	0.50	1.50	0.06	0.11	0.23	12.04	
		TF CB41 15	DCMT 11T304-DL TF CB41 15	0.20	0.50	1.50	0.06	0.11	0.23	12.04	
		TF CB32 20	DCMT 11T304-DL TF CB32 20	0.20	0.50	1.50	0.06	0.11	0.23	12.04	
		TF CB91 25	DCMT 11T304-DL TF CB91 25	0.20	0.50	1.50	0.06	0.11	0.23	12.04	
		TF CB12 30	DCMT 11T304-DL TF CB12 30	0.20	0.50	1.50	0.06	0.11	0.23	12.04	
		TF UC81 10	DCMT 11T304-DL TF UC81 10	0.20	0.50	1.50	0.06	0.11	0.23	12.04	
		TF PZ51 25	DCMT 11T304-DL TF PZ51 25	0.20	0.40	1.50	0.08	0.12	0.20	12.04	
		TF PY81 15	DCMT 11T304-DL TF PY81 15	0.20	0.40	1.50	0.08	0.12	0.20	12.04	
		TF CY71 25	DCMT 11T304-DL TF CY71 25	0.20	0.40	1.50	0.08	0.12	0.20	12.04	
		TF PY91 30	DCMT 11T304-DL TF PY91 30	0.20	0.40	1.50	0.08	0.12	0.20	12.04	



* Cutting speed v_c: p. 115

Turning – Positive

Indexable Inserts – Turning



DCMT 11T3...

Product family **710**

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price €/pc. PU 10 pcs.	
					min	Start	max	min	Start	max		
0.40		TF CB41 15	DCMT 11T304-DM TF CB41 15	SDJCR/L1212.11 SDJCR/L1616.11 SDJCR/L2020.11 SDJCR/L2525.11 see p. 118 A16QSDUCR/L11 A20QSDUCR/L11 A25RSDUCR/L11 A32TSDUCR/L11 see p. 124 A16QSDQCR/L11 A20QSDQCR/L11 see p. 124	0.30	1.20	3.00	0.08	0.15	0.23	12.04	
		TF CB91 25	DCMT 11T304-DM TF CB91 25		0.30	1.20	3.00	0.08	0.15	0.23	12.04	
		TF UC81 10	DCMT 11T304-DM TF UC81 10		0.30	1.20	3.00	0.08	0.15	0.23	12.04	
		TF PZ51 25	DCMT 11T304-DM TF PZ51 25		0.30	1.00	3.00	0.10	0.15	0.23	12.04	
		TF CY71 25	DCMT 11T304-DM TF CY71 25		0.30	1.00	3.00	0.10	0.15	0.23	12.04	
		TF PY91 30	DCMT 11T304-DM TF PY91 30		0.30	1.00	3.00	0.10	0.15	0.23	12.04	
0.80		TF CR31 15	DCMT 11T304-DS TF CR31 15			0.30	1.00	3.00	0.10	0.15	0.25	12.04
		TF CB31 05	DCMT 11T308-DL TF CB31 05			0.40	0.80	1.50	0.10	0.15	0.25	12.04
		TF CB22 10	DCMT 11T308-DL TF CB22 10			0.40	0.80	1.50	0.10	0.15	0.25	12.04
		TF CB41 15	DCMT 11T308-DL TF CB41 15			0.40	0.80	1.50	0.10	0.15	0.25	12.04
		TF CB32 20	DCMT 11T308-DL TF CB32 20			0.40	0.80	1.50	0.10	0.15	0.25	12.04
		TF CB91 25	DCMT 11T308-DL TF CB91 25			0.40	0.80	1.50	0.10	0.15	0.25	12.04
		TF CB12 30	DCMT 11T308-DL TF CB12 30		0.40	0.80	1.50	0.10	0.15	0.25	12.04	
		TF UC81 10	DCMT 11T308-DL TF UC81 10		0.40	0.80	1.50	0.10	0.15	0.25	12.04	
		TF PY81 15	DCMT 11T308-DL TF PY81 15		0.40	0.80	1.50	0.10	0.15	0.25	12.04	
		TF CY71 25	DCMT 11T308-DL TF CY71 25		0.40	0.80	1.50	0.10	0.15	0.25	12.04	
		TF PY91 30	DCMT 11T308-DL TF PY91 30		0.40	0.80	1.50	0.10	0.15	0.25	12.04	
		TF CB41 15	DCMT 11T308-DM TF CB41 15		0.30	1.20	3.00	0.10	0.20	0.30	12.04	
		TF CB91 25	DCMT 11T308-DM TF CB91 25		0.30	1.20	3.00	0.10	0.20	0.30	12.04	
		TF UC81 10	DCMT 11T308-DM TF UC81 10		0.40	0.80	1.50	0.10	0.15	0.25	12.04	
		TF PZ51 25	DCMT 11T308-DM TF PZ51 25		0.50	1.20	3.00	0.10	0.20	0.30	12.04	
	TF CY71 25	DCMT 11T308-DM TF CY71 25		0.50	1.20	3.00	0.10	0.20	0.30	12.04		
	TF CB91 25	DCMT 11T308-DS TF CB91 25		1.00	2.00	3.50	0.12	0.25	0.35	12.04		
	TF CR31 15	DCMT 11T308-DS TF CR31 15		0.60	1.50	3.00	0.12	0.22	0.35	12.04		

* Cutting speed v_c: p. 115



Turning – Positive



Positive

Indexable Inserts – Turning



SCMT 09T3...

Product family 710

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*		f_n Feed*		Price		
					mm		mm/U		€/pc.		
					min	– Start	– max	min	– Start	– max	PU 10 pcs.
0.40		TF CB32 20	SCMT 09T304-DL TF CB32 20	-	0.30	– 0.50	– 1.50	0.08	– 0.12	– 0.15	10.65
		TF CB12 30	SCMT 09T304-DL TF CB12 30		0.30	– 0.50	– 1.50	0.08	– 0.12	– 0.15	10.65
0.80		TF CB32 20	SCMT 09T308-DL TF CB32 20		0.40	– 0.80	– 1.50	0.10	– 0.15	– 0.25	10.65
		TF CR31 15	SCMT 09T308-DS TF CR31 15		0.60	– 1.50	– 3.00	0.12	– 0.22	– 0.35	10.65



SCMT 1204...

Product family 710

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*		f_n Feed*		Price		
					mm		mm/U		€/pc.		
					min	– Start	– max	min	– Start	– max	PU 10 pcs.
0.80		TF CR31 15	SCMT 120408-DS TF CR31 15	-	0.60	– 1.50	– 4.00	0.12	– 0.22	– 0.35	14.44



TCGX 0902... PVD

Product family 710

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*		f_n Feed*		Price		
					mm		mm/U		€/pc.		
					min	– Start	– max	min	– Start	– max	PU 10 pcs.
0.40	Alu	TF PG63 25	TCGX 090204-AL TF PG63 25	A10K STFCL/L 09 A12K STFCL/L 09 A16Q STFCL/L 09 see p. 125	0.60	– 1.50	– 4.00	0.12	– 0.22	– 0.35	15.16

Fine-finishing

Finishing

Medium machining

Roughing


Heavy roughing

 * Cutting speed v_c : p. 115

Indexable Inserts – Turning



 <p>TCGX 1102...</p>						Product family 710		
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*		f_n Feed*	Price
					mm		mm/U	€/pc.
					min – Start – max	min – Start – max	PU 10 pcs.	
0.20	Alu	NEW TF UG31 25	TCGX 110202-AL TF UG31 25	A10K STFCR/L 11 A12K STFCR/L 11 A16Q STFCR/L 11 see p. 126	0.20 – 1.00 – 3.90	0.05 – 0.10 – 0.15	12.95	
		NEW TF PG63 25	TCGX 110202-AL TF PG63 25		0.20 – 1.00 – 3.90	0.05 – 0.10 – 0.15	15.53	
0.40	Alu	NEW TF UG31 25	TCGX 110204-AL TF UG31 25		0.40 – 1.20 – 3.90	0.10 – 0.20 – 0.30	12.95	
		NEW TF PG63 25	TCGX 110204-AL TF PG63 25		0.40 – 1.20 – 3.90	0.10 – 0.20 – 0.30	15.53	
0.80	Alu	NEW TF UG31 25	TCGX 110208-AL TF UG31 25		0.50 – 2.50 – 3.90	0.15 – 0.30 – 0.60	12.95	
		NEW TF PG63 25	TCGX 110208-AL TF PG63 25		0.50 – 2.50 – 3.90	0.15 – 0.30 – 0.60	15.53	

 <p>TCGX 16T3... PVD</p>						Product family 710		
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*		f_n Feed*	Price
					mm		mm/U	€/pc.
					min – Start – max	min – Start – max	PU 10 pcs.	
0.20	Alu	NEW TF PG63 25	TCGX 16T302-AL TF PG63 25	A20QSTFCR/L16 A25RSTFCR/L16 see p. 126	0.20 – 1.00 – 4.90	0.05 – 0.10 – 0.15	19.43	
0.40	Alu	NEW TF PG63 25	TCGX 16T304-AL TF PG63 25		0.40 – 2.50 – 4.90	0.10 – 0.20 – 0.30	19.43	
0.80	Alu	NEW TF PG63 25	TCGX 16T308-AL TF PG63 25		0.50 – 2.50 – 4.90	0.15 – 0.30 – 0.60	19.43	



* Cutting speed v_c : p. 115












Positive

Indexable Inserts – Turning

 <h3>TCMT 0902...</h3>							Product family	710			
Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _n Feed*		Price		
					mm		mm/U		€/pc.		
					min	– Start –	max	min	– Start –	max	PU 10 pcs.
0.40		TF CB41 15	TCMT 090204-DM TF CB41 15	A10K STFPCR/L 09 A12K STFPCR/L 09 A16Q STFPCR/L 09 see p. 125	0.30	– 1.20 –	2.30	0.06	– 0.11 –	0.17	8.28
		TF CB91 25	TCMT 090204-DM TF CB91 25		0.30	– 1.20 –	2.30	0.06	– 0.11 –	0.17	8.28
		TF CY71 25	TCMT 090204-DM TF CY71 25		0.20	– 1.00 –	2.30	0.10	– 0.12 –	0.17	8.28

 <h3>TCMT 1102...</h3>							Product family	710			
Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _n Feed*		Price		
					mm		mm/U		€/pc.		
					min	– Start –	max	min	– Start –	max	PU 10 pcs.
0.20		TF UC81 10	TCMT 110202-DL TF UC81 10	A10K STFPCR/L11 A12KSTFPCR/L11 A16QSTFPCR/L11 see p. 126	0.20	– 0.30 –	1.50	0.05	– 0.08 –	0.12	9.23
		TF PY81 15	TCMT 110202-DL TF PY81 15		0.20	– 0.30 –	1.50	0.05	– 0.08 –	0.12	9.23
		TF CB91 25	TCMT 110202-DM TF CB91 25		0.30	– 1.20 –	2.50	0.06	– 0.10 –	0.15	9.23
0.40		TF UC81 10	TCMT 110204-DL TF UC81 10		0.20	– 0.50 –	1.50	0.06	– 0.11 –	0.20	9.23
		TF CB32 20	TCMT 110204-DL TF CB32 20		0.20	– 0.50 –	1.50	0.06	– 0.11 –	0.20	9.23
		TF CB12 30	TCMT 110204-DL TF CB12 30		0.20	– 0.50 –	1.50	0.06	– 0.11 –	0.20	9.23
		TF PY81 15	TCMT 110204-DL TF PY81 15		0.20	– 0.50 –	1.50	0.06	– 0.11 –	0.20	9.23
		TF CB41 15	TCMT 110204-DM TF CB41 15		0.30	– 1.20 –	3.00	0.10	– 0.15 –	0.22	9.23
		TF CB91 25	TCMT 110204-DM TF CB91 25		0.50	– 1.50 –	2.50	0.10	– 0.15 –	0.22	9.23
		TF PZ51 25	TCMT 110204-DM TF PZ51 25		0.30	– 1.20 –	3.00	0.10	– 0.15 –	0.22	9.23
0.80		TF CY71 25	TCMT 110204-DM TF CY71 25	0.30	– 1.20 –	3.00	0.10	– 0.15 –	0.22	9.23	
		TF CB91 25	TCMT 110204-DS TF CB91 25	0.60	– 1.50 –	3.00	0.12	– 0.22 –	0.30	9.23	
		TF CR31 15	TCMT 110204-DS TF CR31 15	0.30	– 1.00 –	2.50	0.10	– 0.15 –	0.22	9.23	
0.80		TF CB91 25	TCMT 110208-DM TF CB91 25	0.80	– 1.50 –	3.00	0.10	– 0.15 –	0.25	9.23	
		TF CY71 25	TCMT 110208-DM TF CY71 25	0.50	– 1.50 –	3.00	0.12	– 0.18 –	0.25	9.23	

Turning – Positive



* Cutting speed v_c: p. 115

Indexable Inserts – Turning



Product family **710**



TCMT 16T3...

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price				
					mm			mm/U			€/pc.				
					min	– Start	– max	min	– Start	– max	PU 10 pcs.				
0.40		TF CB12 30	TCMT 16T304-DL TF CB12 30	A20QSTFCR/L16 A25RSTFCR/L16 see p. 126	0.20	–	0.50	–	1.50	0.06	–	0.11	–	0.20	12.45
		TF CB41 15	TCMT 16T304-DM TF CB41 15		0.50	–	1.50	–	3.00	0.08	–	0.15	–	0.23	12.45
	TF CB91 25	TCMT 16T304-DM TF CB91 25	0.50		–	1.50	–	3.00	0.08	–	0.15	–	0.23	12.45	
	TF UC81 10	TCMT 16T304-DM TF UC81 10	0.50		–	1.50	–	2.00	0.08	–	0.15	–	0.23	12.45	
		TF PZ51 25	TCMT 16T304-DM TF PZ51 25		0.50	–	1.50	–	3.00	0.08	–	0.15	–	0.23	12.45
		TF CY71 25	TCMT 16T304-DM TF CY71 25		0.30	–	1.50	–	3.00	0.10	–	0.15	–	0.23	12.45
		TF PY91 30	TCMT 16T304-DM TF PY91 30		0.50	–	1.50	–	3.00	0.08	–	0.15	–	0.23	12.45
	TF CR31 15	TCMT 16T304-DS TF CR31 15	0.30		–	1.00	–	3.00	0.10	–	0.15	–	0.25	12.45	
0.80		TF CB12 30	TCMT 16T308-DL TF CB12 30		0.40	–	0.80	–	1.50	0.10	–	0.15	–	0.25	12.45
		TF CB41 15	TCMT 16T308-DM TF CB41 15		0.80	–	1.50	–	3.00	0.12	–	0.18	–	0.25	12.45
		TF CB91 25	TCMT 16T308-DM TF CB91 25		0.50	–	1.50	–	3.00	0.10	–	0.20	–	0.30	12.45
		TF PZ51 25	TCMT 16T308-DM TF PZ51 25		0.50	–	1.50	–	3.00	0.10	–	0.20	–	0.30	12.45
		TF CY71 25	TCMT 16T308-DM TF CY71 25		0.50	–	1.50	–	3.00	0.10	–	0.20	–	0.30	12.45
		TF CB91 25	TCMT 16T308-DS TF CB91 25		1.00	–	2.00	–	4.00	0.12	–	0.25	–	0.35	12.45
		TF CR31 15	TCMT 16T308-DS TF CR31 15	0.60	–	1.50	–	4.00	0.12	–	0.22	–	0.35	12.45	

Turning – Positive

* Cutting speed v_c : p. 115





Positive

Indexable Inserts – Turning

Product family 710



VBMT 1103...

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.40		TF CB22 10	VBMT 110304-DL TF CB22 10	SVJBR/L 1010.11 SVJBR/L 1212.11 SVJBR/L 1616.11 see p. 119	0.20	0.50	1.50	0.06	0.11	0.20	16.38
		TF CB41 15	VBMT 110304-DL TF CB41 15		0.20	0.50	1.50	0.06	0.11	0.20	16.38
		TF CB32 20	VBMT 110304-DL TF CB32 20		0.20	0.50	1.50	0.06	0.11	0.20	16.38
		TF CB91 25	VBMT 110304-DL TF CB91 25		0.20	0.50	1.50	0.06	0.11	0.20	16.38
		TF UC81 10	VBMT 110304-DL TF UC81 10	SVVBN 1212 J11 see p. 120	0.20	0.50	1.50	0.06	0.11	0.20	16.38
		TF PZ51 25	VBMT 110304-DL TF PZ51 25	A16Q SVQBR/L 11 A16Q SVUBR/L 11 A20Q SVQBR/L 11 A20Q SVUBR/L 11 see p. 127	0.20	0.50	1.50	0.06	0.11	0.20	16.38
		TF PY81 15	VBMT 110304-DL TF PY81 15		0.20	0.50	1.50	0.06	0.11	0.20	16.38
		TF CY71 25	VBMT 110304-DL TF CY71 25		0.20	0.50	1.50	0.06	0.11	0.20	16.38
TF PY91 30	VBMT 110304-DL TF PY91 30	0.20	0.50		1.50	0.06	0.11	0.20	16.38		

Product family 710



VBMT 1604...

Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*			f_n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.40		TF CB31 05	VBMT 160404-DL TF CB31 05	SVJBR/L2020.16 SVJBR/L2525.16 see p. 120	0.20	0.50	1.50	0.06	0.11	0.20	17.21
		TF CB41 15	VBMT 160404-DL TF CB41 15		0.20	0.50	1.50	0.06	0.11	0.20	17.21
		TF CB91 25	VBMT 160404-DL TF CB91 25		0.20	0.50	1.50	0.06	0.11	0.20	17.21
		TF UC81 10	VBMT 160404-DL TF UC81 10		0.20	0.50	1.50	0.06	0.11	0.20	17.21
		TF PZ51 25	VBMT 160404-DL TF PZ51 25	A25RSVUBR/L16 A32TSVUBR/L16 see p. 127	0.20	0.50	1.50	0.06	0.11	0.20	17.21
		TF PY81 15	VBMT 160404-DL TF PY81 15		0.20	0.40	1.50	0.08	0.12	0.20	17.21
		TF CY71 25	VBMT 160404-DL TF CY71 25		0.20	0.40	1.50	0.08	0.12	0.20	17.21
		TF PY91 30	VBMT 160404-DL TF PY91 30		0.20	0.50	1.50	0.06	0.11	0.20	17.21

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

 * Cutting speed v_c : p. 115

Indexable Inserts – Turning



Positive

Product family **710**



VBMT 1604...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					min	Start	max	min	Start	max	€/pc.
											PU 10 pcs.
0.40		TF CB22 10	VBMT 160404-DL TF CB22 10	SVJBR/L2020.16 SVJBR/L2525.16 see p. 120 A25RSVUBR/L16 A32TSVUBR/L16 see p. 127	0.20	0.50	1.50	0.06	0.11	0.20	17.21
		TF CB32 20	VBMT 160404-DL TF CB32 20		0.20	0.50	1.50	0.06	0.11	0.20	17.21
		TF CB41 15	VBMT 160404-DM TF CB41 15		0.20	0.70	2.70	0.07	0.14	0.20	17.21
		TF CB91 25	VBMT 160404-DM TF CB91 25		0.20	0.70	2.70	0.07	0.14	0.20	17.21
		TF UC81 10	VBMT 160404-DM TF UC81 10		0.50	1.00	2.00	0.10	0.15	0.22	17.21
		TF PZ51 25	VBMT 160404-DM TF PZ51 25		0.50	1.00	2.50	0.10	0.15	0.22	17.21
		TF CY71 25	VBMT 160404-DM TF CY71 25		0.20	1.50	2.70	0.07	0.14	0.20	17.21
0.80		TF CB31 05	VBMT 160408-DL TF CB31 05		0.40	0.80	1.50	0.10	0.15	0.25	17.21
		TF CB22 10	VBMT 160408-DL TF CB22 10		0.40	0.80	1.50	0.10	0.15	0.25	17.21
		TF CB41 15	VBMT 160408-DL TF CB41 15		0.40	0.80	1.50	0.10	0.15	0.25	17.21
		TF CB32 20	VBMT 160408-DL TF CB32 20		0.40	0.80	1.50	0.10	0.15	0.25	17.21
		TF CB91 25	VBMT 160408-DL TF CB91 25		0.40	0.80	1.50	0.10	0.15	0.25	17.21
		TF UC81 10	VBMT 160408-DL TF UC81 10		0.40	0.80	1.50	0.10	0.15	0.25	17.21
		TF PZ51 25	VBMT 160408-DL TF PZ51 25		0.40	0.80	1.50	0.10	0.15	0.25	17.21
		TF PY81 15	VBMT 160408-DL TF PY81 15	0.50	0.80	1.50	0.10	0.15	0.30	17.21	
		TF CY71 25	VBMT 160408-DL TF CY71 25	0.50	0.80	1.50	0.10	0.15	0.30	17.21	
		TF PY91 30	VBMT 160408-DL TF PY91 30	0.40	0.80	1.50	0.10	0.15	0.25	17.21	
			TF CB41 15	VBMT 160408-DM TF CB41 15	0.50	1.20	2.70	0.09	0.18	0.27	17.21
			TF CB91 25	VBMT 160408-DM TF CB91 25	0.50	1.20	2.70	0.09	0.18	0.27	17.21
			TF PZ51 25	VBMT 160408-DM TF PZ51 25	0.80	1.50	3.00	0.12	0.18	0.25	17.21
TF CY71 25	VBMT 160408-DM TF CY71 25		0.50	1.50	2.50	0.09	0.18	0.27	17.21		
1.20		TF CB91 25	VBMT 160408-DS TF CB91 25	1.00	1.80	3.50	0.12	0.25	0.30	17.21	
		TF CB41 15	VBMT 160412-DM TF CB41 15	0.70	1.50	2.70	0.12	0.22	0.30	17.21	
		TF CB91 25	VBMT 160412-DM TF CB91 25	0.50	1.20	2.70	0.09	0.18	0.27	16.49	
		TF CB31 05	VBMT 160412-DM TF CB31 05	0.80	3.00	6.00	0.20	0.35	0.60	16.49	
		TF CR31 15	VBMT 160412-DM TF CR31 15	0.30	1.00	2.70	0.09	0.18	0.27	17.21	

* Cutting speed v_c: p. 115



Turning – Positive



Positive

Indexable Inserts – Turning

Product family 710



VCGT 1103...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _n Feed*		Price
					mm		mm/U		€/pc.
					min – Start – max	min – Start – max	min – Start – max	PU 10 pcs.	
0.40		TF PZ51 25	VCGT 110304-DM TF PZ51 25	SVJCR/L1212.11 SVJCR/L1616.11 SVJCR/L2020.11 SVJCR/L2525.11 see p. 121 A16QSVUCR/L11 A20QSVUCR/L11 A16QSVQCR/L11 A20QSVQCR/L11 see p. 128	0.30 – 0.80 – 2.50	0.10 – 0.15 – 0.25		16.03	

Product family 710



VCGT 1604...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*		f _n Feed*		Price
					mm		mm/U		€/pc.
					min – Start – max	min – Start – max	min – Start – max	PU 10 pcs.	
0.40		TF PZ51 25	VCGT 160404-DM TF PZ51 25	SVJCR/L2020.16 SVJCR/L2525.16 see p. 122	0.50 – 1.00 – 2.50	0.10 – 0.15 – 0.22		18.41	
		TF PY91 30	VCGT 160404-DM TF PY91 30	A25RSVUCR/L16 A32TSVUCR/L16 see p. 128	0.50 – 1.00 – 2.50	0.10 – 0.15 – 0.22		18.41	

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

 * Cutting speed v_c: p. 115

Indexable Inserts – Turning



							Product family	710			
		VCGX 1103...									
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*		f_n Feed*		Price		
					mm		mm/U		€/pc.		
					min	– Start –	max	min	– Start –	max	PU 10 pcs.
0.20	Alu	NEW TF UG31 25	VCGX 110302-AL TF UG31 25	SVJCR/L1212.11 SVJCR/L1616.11 SVJCR/L2020.11 SVJCR/L2525.11 see p. 121	0.20	– 1.00 –	2.10	0.05	– 0.10 –	0.15	16.03
		NEW TF PG63 25	VCGX 110302-AL TF PG63 25		0.20	– 1.00 –	2.10	0.05	– 0.10 –	0.15	19.24
0.40	Alu	NEW TF UG31 25	VCGX 110304-AL TF UG31 25	A16QSVUCR/L11 A20QSVUCR/L11 A16QSVQCR/L11 A20QSVQCR/L11 see p. 128	0.40	– 1.20 –	2.10	0.10	– 0.20 –	0.30	16.03
		NEW TF PG63 25	VCGX 110304-AL TF PG63 25		0.40	– 1.20 –	2.10	0.10	– 0.20 –	0.30	19.24
0.80	Alu	NEW TF UG31 25	VCGX 110308-AL TF UG31 25	A16QSVUCR/L11 A20QSVUCR/L11 A16QSVQCR/L11 A20QSVQCR/L11 see p. 128	0.40	– 1.20 –	2.10	0.15	– 0.20 –	0.30	16.03
		NEW TF PG63 25	VCGX 110308-AL TF PG63 25		0.40	– 1.20 –	2.10	0.15	– 0.30 –	0.60	19.24

							Product family	710			
		VCGX 1604...									
Radius mm	Machining	Grade	Type	Holder	a_p Cutting depth*		f_n Feed*		Price		
					mm		mm/U		€/pc.		
					min	– Start –	max	min	– Start –	max	PU 10 pcs.
0.20	Alu	NEW TF PG63 25	VCGX 160402-AL TF PG63 25	SVJCR/L2020.16 SVJCR/L2525.16 see p. 122	0.50	– 2.50 –	3.50	0.05	– 0.10 –	0.15	22.11
0.40		NEW TF UG31 25	VCGX 160404-AL TF UG31 25		0.40	– 2.50 –	3.50	0.10	– 0.20 –	0.30	18.41
		0.80	NEW TF PG63 25	VCGX 160404-AL TF PG63 25	A25RSVUCR/L16 A32TSVUCR/L16 see p. 128	0.20	– 2.50 –	3.50	0.10	– 0.20 –	0.30
1.20			NEW TF UG31 25	VCGX 160408-AL TF UG31 25		0.50	– 2.50 –	3.50	0.15	– 0.30 –	0.60
		0.80	NEW TF PG63 25	VCGX 160408-AL TF PG63 25	A25RSVUCR/L16 A32TSVUCR/L16 see p. 128	0.50	– 2.50 –	3.50	0.15	– 0.30 –	0.60
1.20			NEW TF UG31 25	VCGX 160412-AL TF UG31 25		0.50	– 2.00 –	3.50	0.15	– 0.40 –	0.60
	1.20	NEW TF PG63 25	VCGX 160412-AL TF PG63 25	0.50	– 2.50 –	3.50	0.15	– 0.40 –	0.60	22.11	

* Cutting speed v_c : p. 115



Turning – Positive



Positive

Indexable Inserts – Turning

Product family 710



VCMT 1103...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.40		TF CB41 15	VCMT 110304-DM TF CB41 15	SVJCR/L1212.11 SVJCR/L1616.11 SVJCR/L2020.11 SVJCR/L2525.11 see p. 121	0.30	0.80	2.50	0.10	0.15	0.25	16.38
		TF CB91 25	VCMT 110304-DM TF CB91 25		0.30	0.80	2.50	0.10	0.15	0.25	16.38
		TF UC81 10	VCMT 110304-DM TF UC81 10	A16QSVUCR/L11 A20QSVUCR/L11 A16QSVGCR/L11 A20QSVGCR/L11 see p. 128	0.20	0.50	1.50	0.06	0.11	0.20	16.38
		TF CY71 25	VCMT 110304-DM TF CY71 25		0.30	1.00	2.50	0.10	0.15	0.25	16.38

Product family 710



VCMT 1604...

Radius mm	Machining	Grade	Type	Holder	a _p Cutting depth*			f _n Feed*			Price
					mm			mm/U			€/pc.
					min	Start	max	min	Start	max	PU 10 pcs.
0.40		TF CB41 15	VCMT 160404-DM TF CB41 15	SVJCR/L2020.16 SVJCR/L2525.16 see p. 122	0.50	1.00	2.50	0.10	0.15	0.22	17.19
		TF CB91 25	VCMT 160404-DM TF CB91 25		0.50	1.00	2.50	0.10	0.15	0.22	17.19
		TF UC81 10	VCMT 160404-DM TF UC81 10		0.20	0.50	1.50	0.06	0.11	0.20	17.19
0.80		TF CB41 15	VCMT 160408-DM TF CB41 15	A25RSVUCR/L16 A32TSVUCR/L16 see p. 128	0.80	1.50	2.50	0.12	0.18	0.25	17.19
		TF CB91 25	VCMT 160408-DM TF CB91 25		0.80	1.50	2.50	0.12	0.18	0.25	17.19
		TF CB91 25	VCMT 160408-DS TF CB91 25		1.00	1.80	3.50	0.12	0.25	0.30	17.19

Fine-finishing

Finishing

Medium machining

Roughing

Heavy roughing

Indexable Inserts – Turning



Positive

VC for Positive Indexable Inserts

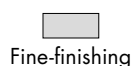
Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)				
			TF CB31 05	TF CB41 15	TF CB91 25	TF PZ51 25	TF UC81 10
P	St52, C45, 16MnCr5	≤ 750	240 – 300 – 380	220 – 280 – 360	180 – 250 – 320	100 – 220 – 300	220 – 280 – 360
	42CrMo4, 1.2080, 1.2312, 1.2343, 1.2379	≤ 1200	160 – 220 – 300	140 – 180 – 280	120 – 160 – 220	90 – 140 – 180	140 – 180 – 280
	Werkzeugstähle vergütet	≤ 1700 50 HRC	70 – 100 – 160	70 – 90 – 260	60 – 80 – 140	50 – 75 – 100	70 – 90 – 160

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)			
			TF PY81 15	TF CY71 25	TF PY91 30	TF PZ51 25
M	1.4000, 1.4021, 1.4034, 1.4510, 1.4301, 1.4305, 1.4310, 1.4541	≤ 750	100 – 160 – 240	80 – 140 – 200	70 – 120 – 180	70 – 140 – 200
	1.4401, 1.4435, 1.4571, 1.4583	≤ 850	100 – 150 – 200	70 – 120 – 160	60 – 100 – 140	80 – 120 – 180
	1.4362, 1.4460, 1.4462	≤ 850	80 – 120 – 160	50 – 100 – 150	50 – 80 – 130	60 – 95 – 130

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)
			TF CR31 15
K	GG15, GG25, GG40	≤ 500	220 – 300 – 400
	GGG40, GGG60, GTW-35-04, GTW-45-07	≤ 650	180 – 250 – 350

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)	
			TF UG31 25	TF PG63 25
N	Rolled aluminium alloys Cast aluminium alloys	≤ 500	240 – 810 – 1500	240 – 810 – 1500
	Free machining alloys ≥1 %PB brass, lead-based aluminium alloy ≤1	≤ 700	55 – 550 – 560	55 – 550 – 560

Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)
			TF PO41 15
S	Titanium	≤ 850	40 – 60 – 80
	Inconel	≤ 1300	40 – 55 – 75

* Cutting speed v_c: p. 115

Fine-finishing



Finishing



Medium machining



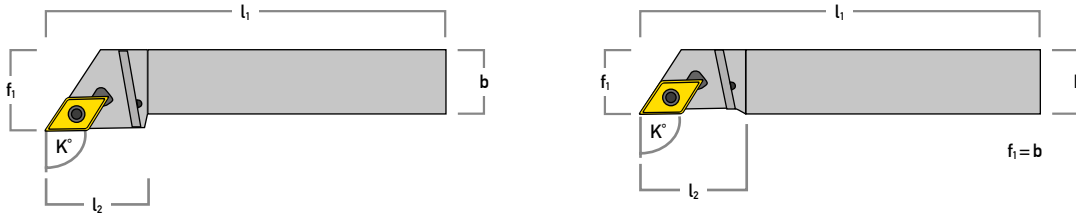
Roughing



Heavy roughing






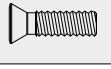

External Turning Tool Holder For Positive Inserts




Product family **810**

Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	SCLCR 1616 H09		16	16	100	20	20	95	90.77
		LH	SCLCL 1616 H09		16	16	100	20	20	95	90.77
		RH	SCLCR 1616 H09 IC	•	16	16	100	25	20	95	136.15
		LH	SCLCL 1616 H09 IC	•	16	16	100	25	20	95	136.15
		RH with f ₁ =b	SCLCR 1616 H09-F		16	16	100	16.8	16	95	90.77
		LH with f ₁ =b	SCLCL 1616 H09-F		16	16	100	16.8	16	95	90.77
		RH with f ₁ =b	SCLCR 1616 H09-F IC	•	16	16	100	25	16	95	136.15
		LH with f ₁ =b	SCLCL 1616 H09-F IC	•	16	16	100	25	16	95	136.15
		RH	SCLCR 2020 K09		20	20	125	25	25	95	97.26
		LH	SCLCL 2020 K09		20	20	125	25	25	95	97.26
		RH	SCLCR 2020 K09 IC	•	20	20	125	25	25	95	145.88
		LH	SCLCL 2020 K09 IC	•	20	20	125	25	25	95	145.88




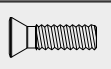

Product family **8..**

Holder – Accessories	Insert	Insert shim	Hollow bolt/ Insert shim	Wrench/ Hollow bolt	Screw/ Insert	Wrench for Screw/ Insert
						
SCLC...09...	CC... 09T3...	E100051 835	E100019 835	E100000 835	E100012 835	E100029 834
Price for spare parts €/pc.		9.79	3.72	1.76	1.99	6.63

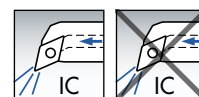
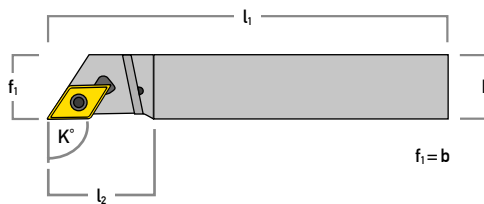
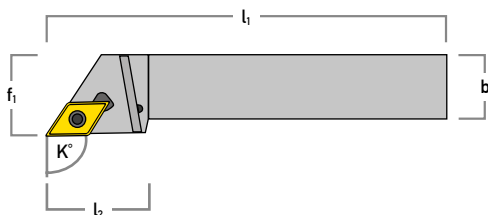
Product family **810**

Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	SCLCR 2020 K12		20	20	125	25	25	95	97.26
		LH	SCLCL 2020 K12		20	20	125	25	25	95	97.26
		RH	SCLCR 2020 K12 IC	•	20	20	125	30	25	95	145.88
		LH	SCLCL 2020 K12 IC	•	20	20	125	30	25	95	145.88
		RH	SCLCR 2525 M12		25	25	150	25	32	95	103.74
		LH	SCLCL 2525 M12		25	25	150	25	32	95	103.74
		RH	SCLCR 2525 M12 IC	•	25	25	150	30	32	95	155.61
		LH	SCLCL 2525 M12 IC	•	25	25	150	30	32	95	155.61

Product family **8..**

Holder – Accessories	Insert	Insert shim	Hollow bolt/ Insert shim	Wrench/ Hollow bolt	Screw/ Insert	Wrench for Screw/ Insert
						
SCLC...12...	CC... 1204...	E100033 835	E100018 835	E100048 835	E100010 835	E100029 834
Price for spare parts €/pc.		9.79	3.72	1.76	1.99	6.63

External Turning Tool Holder For Positive Inserts



Product family 810

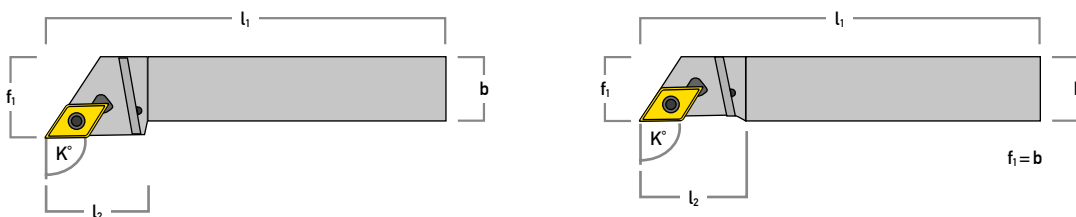
Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
		RH	SDJCR 1212 K07		12	12	125	15	16	93	90.77
		LH	SDJCL 1212 K07		12	12	125	15	16	93	90.77
		RH	SDJCR 1212 K07 IC	•	12	12	125	15	16	93	136.15
		LH	SDJCL 1212 K07 IC	•	12	12	125	15	16	93	136.15
		RH with f ₁ =b	SDJCR 1212 K07-F		12	12	125	15	12	93	90.77
		LH with f ₁ =b	SDJCL 1212 K07-F		12	12	125	15	12	93	90.77
		RH with f ₁ =b	SDJCR 1212 K07-F IC	•	12	12	125	15	12	93	136.15
		LH with f ₁ =b	SDJCL 1212 K07-F IC	•	12	12	125	15	12	93	136.15
		RH	SDJCR 1616 H07		16	16	100	18	20	93	90.77
		LH	SDJCL 1616 H07		16	16	100	18	20	93	90.77
		RH	SDJCR 1616 H07 IC	•	16	16	100	27.5	20	93	136.15
		LH	SDJCL 1616 H07 IC	•	16	16	100	27.5	20	93	136.15
		RH with f ₁ =b	SDJCR 1616 H07-F		16	16	100	16	16	93	90.77
		LH with f ₁ =b	SDJCL 1616 H07-F		16	16	100	16	16	93	90.77
		RH with f ₁ =b	SDJCR 1616 H07-F IC	•	16	16	100	27.5	16	93	136.15
		LH with f ₁ =b	SDJCL 1616 H07-F IC	•	16	16	100	27.5	16	93	136.15
		RH	SDJCR 2020 K07		20	20	125	20	25	93	97.26
		LH	SDJCL 2020 K07		20	20	125	20	25	93	97.26
RH	SDJCR 2020 K07 IC	•	20	20	125	27.5	25	93	145.88		
LH	SDJCL 2020 K07 IC	•	20	20	125	27.5	25	93	145.88		

Product family 8...

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
SDJC...07...	DC... 0702...	E100015 835	E100028 834
Price for spare parts €/pc.		1.99	6.63



External Turning Tool Holder For Positive Inserts



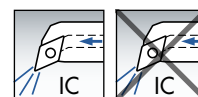
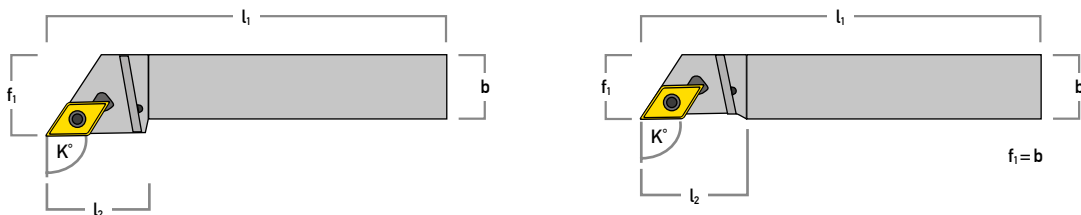
Product family 810

Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
Screw clamp 		RH	SDJCR 1212 J11		12	12	110	20	16	93	90.77
		LH	SDJCL 1212 J11		12	12	110	20	16	93	90.77
		RH	SDJCR 1212 J11 IC	•	12	12	110	20	16	93	136.15
		LH	SDJCL 1212 J11 IC	•	12	12	110	20	16	93	136.15
		RH with f ₁ =b	SDJCR 1212 J11-F		12	12	110	15	12	93	90.77
		LH with f ₁ =b	SDJCL 1212 J11-F		12	12	110	15	12	93	90.77
		RH with f ₁ =b	SDJCR 1212 J11-F IC	•	12	12	110	20	12	93	136.15
		LH with f ₁ =b	SDJCL 1212 J11-F IC	•	12	12	110	20	12	93	136.15
		RH	SDJCR 1616 H11		16	16	100	25	20	93	90.77
		LH	SDJCL 1616 H11		16	16	100	25	20	93	90.77
		RH	SDJCR 1616 H11 IC	•	16	16	100	32	20	93	136.15
		LH	SDJCL 1616 H11 IC	•	16	16	100	32	20	93	136.15
		RH with f ₁ =b	SDJCR 1616 H11-F		16	16	100	16	16	93	90.77
		LH with f ₁ =b	SDJCL 1616 H11-F		16	16	100	16	16	93	90.77
		RH with f ₁ =b	SDJCR 1616 H11-F IC	•	16	16	100	32	16	93	136.15
		LH with f ₁ =b	SDJCL 1616 H11-F IC	•	16	16	100	32	16	93	136.15
		RH	SDJCR 2020 K11		20	20	125	26	25	93	97.26
		LH	SDJCL 2020 K11		20	20	125	26	25	93	97.26
		RH	SDJCR 2020 K11 IC	•	20	20	125	32	25	93	145.88
		LH	SDJCL 2020 K11 IC	•	20	20	125	32	25	93	145.88
RH	SDJCR 2525 M11		25	25	150	30	32	93	103.74		
LH	SDJCL 2525 M11		25	25	150	30	32	93	103.74		
RH	SDJCR 2525 M11 IC	•	25	25	150	35	32	93	155.61		
LH	SDJCL 2525 M11 IC	•	25	25	150	35	32	93	155.61		

Product family 8..

Holder – Accessories	Insert	Insert shim	Hollow bolt/ Insert shim	Wrench/ Hollow bolt	Screw/ Insert	Wrench for Screw/ Insert
SDJC...1212 J11...	DC... 11T3...					
SDJC...1616 H11...		-	-	-		
SDJC...2020 K11...		E100037 835	E100019 835	E100000 835	E100012 835	E100029 834
SDJC...2525 M11...						
Price for spare parts €/pc.		7.14	3.72	1.76	1.99	6.63

External Turning Tool Holder For Positive Inserts



Product family 810

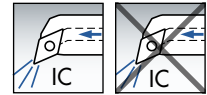
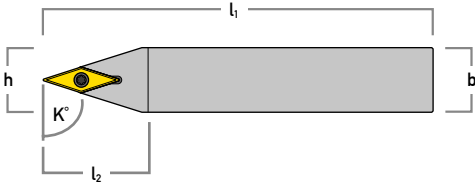
Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
	VB... 1103...	RH	SVJBR 1010 J11		10	10	110	20	12	93	103.74
		LH	SVJBL 1010 J11		10	10	110	20	12	93	103.74
		RH	SVJBR 1010 J11 IC	•	10	10	110	20	12	93	136.15
		LH	SVJBL 1010 J11 IC	•	10	10	110	20	12	93	136.15
		RH with f ₁ =b	SVJBR 1010 J11-F		10	10	110	20	10	93	103.74
		LH with f ₁ =b	SVJBL 1010 J11-F		10	10	110	20	10	93	103.74
		RH with f ₁ =b	SVJBR 1010 J11-F IC	•	10	10	110	20	10	93	136.15
		LH with f ₁ =b	SVJBL 1010 J11-F IC	•	10	10	110	20	10	93	136.15
		RH	SVJBR 1212 J11		12	12	110	20	16	93	103.74
		LH	SVJBL 1212 J11		12	12	110	20	16	93	103.74
		RH	SVJBR 1212 J11 IC	•	12	12	110	20	16	93	136.15
		LH	SVJBL 1212 J11 IC	•	12	12	110	20	16	93	136.15
		RH with f ₁ =b	SVJBR 1212 J11-F		12	12	110	20	12	93	103.74
		LH with f ₁ =b	SVJBL 1212 J11-F		12	12	110	20	12	93	103.74
		RH with f ₁ =b	SVJBR 1212 J11-F IC	•	12	12	110	20	12	93	136.15
		LH with f ₁ =b	SVJBL 1212 J11-F IC	•	12	12	110	20	12	93	136.15
		RH	SVJBR 1616 H11		16	16	100	25	20	93	103.74
		LH	SVJBL 1616 H11		16	16	100	25	20	93	103.74
		RH	SVJBR 1616 H11 IC	•	16	16	100	35	20	93	136.15
		LH	SVJBL 1616 H11 IC	•	16	16	100	35	20	93	136.15
RH with f ₁ =b	SVJBR 1616 H11-F		16	16	100	25	16	93	103.74		
LH with f ₁ =b	SVJBL 1616 H11-F		16	16	100	25	16	93	103.74		
RH with f ₁ =b	SVJBR 1616 H11-F IC	•	16	16	100	35	16	93	136.15		
LH with f ₁ =b	SVJBL 1616 H11-F IC	•	16	16	100	35	16	93	136.15		

Product family 8..



Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
SVJB...11...	VB... 1103...	E100015 835	E100028 834
Price for spare parts €/pc.		1.99	6.63





External Turning Tool Holder For Positive Inserts

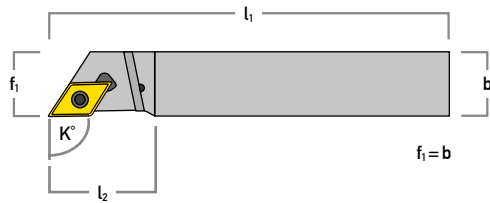
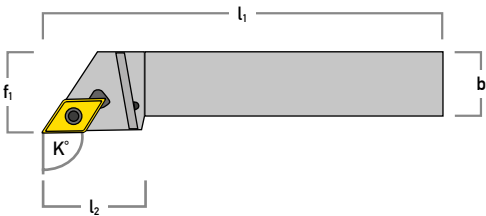


Product family 810

Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂		f ₁	K°
Screw clamp 	VB... 1103... 	neutral	SVVBN 1212 J11		12	12	110	22	–	72.5	103.74
		neutral	SVVBN 1212 J11 IC	•	12	12	110	22	–	72.5	155.61

Product family 8..






Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
SVVBN 1212 J11...	VB... 1103...	E100015 835	E100028 834
Price for spare parts €/pc.		1.99	6.63



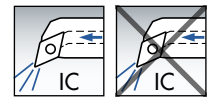
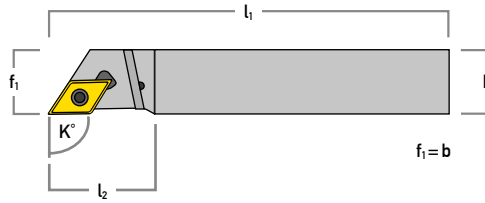
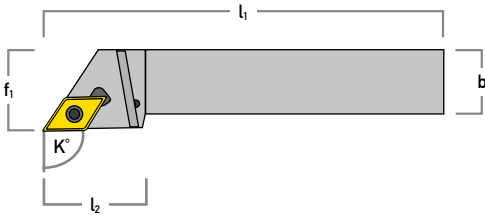
Product family 810

Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂		f ₁	K°
Screw clamp 	VB... 1604... 	RH	SVJBR 2020 K16		20	20	125	33	25	93	111.51
		LH	SVJBL 2020 K16		20	20	125	33	25	93	111.51
		RH	SVJBR 2020 K16 IC	•	20	20	125	40	25	93	145.88
		LH	SVJBL 2020 K16 IC	•	20	20	125	40	25	93	145.88
		RH	SVJBR 2525 M16		25	25	150	39	32	93	116.70
		LH	SVJBL 2525 M16		25	25	150	39	32	93	116.70
		RH	SVJBR 2525 M16 IC	•	25	25	150	40	32	93	155.61
		LH	SVJBL 2525 M16 IC	•	25	25	150	40	32	93	155.61


Product family 8..

Holder – Accessories	Insert	Insert shim	Hollow bolt/ Insert shim	Wrench/ Hollow bolt	Screw/ Insert	Wrench for Screw/ Insert
						
SVJB...16...	VB... 1604...	E100034 835	E100019 835	E100000 835	E100012 835	E100029 834
Price for spare parts €/pc.		9.79	3.72	1.76	1.99	6.63



External Turning Tool Holder For Positive Inserts



Product family 810

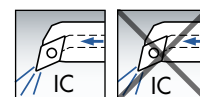
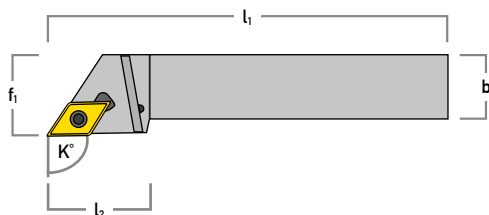
Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
	VC... 1103...	RH	SVJCR 1212 J11		12	12	110	20	16	93	103.74
		LH	SVJCL 1212 J11		12	12	110	20	16	93	103.74
		RH	SVJCR 1212 J11 IC	•	12	12	110	20	16	93	136.15
		LH	SVJCL 1212 J11 IC	•	12	12	110	20	16	93	136.15
		RH with f ₁ =b	SVJCR 1212 J11-F		12	12	110	20	12	93	103.74
		LH with f ₁ =b	SVJCL 1212 J11-F		12	12	110	20	12	93	103.74
		RH with f ₁ =b	SVJCR 1212 J11-F IC	•	12	12	110	20	12	93	136.15
		LH with f ₁ =b	SVJCL 1212 J11-F IC	•	12	12	110	20	12	93	136.15
		RH	SVJCR 1616 H11		16	16	100	25	20	93	103.74
		LH	SVJCL 1616 H11		16	16	100	25	20	93	103.74
		RH	SVJCR 1616 H11 IC	•	16	16	100	35	20	93	136.15
		LH	SVJCL 1616 H11 IC	•	16	16	100	35	20	93	136.15
		RH with f ₁ =b	SVJCR 1616 H11-F		16	16	100	25	16	93	103.74
		LH with f ₁ =b	SVJCL 1616 H11-F		16	16	100	25	16	93	103.74
		RH with f ₁ =b	SVJCR 1616 H11-F IC	•	16	16	100	35	16	93	136.15
		LH with f ₁ =b	SVJCL 1616 H11-F IC	•	16	16	100	35	16	93	136.15
		RH	SVJCR 2020 K11		20	20	125	32	25	93	111.51
		LH	SVJCL 2020 K11		20	20	125	32	25	93	111.51
		RH	SVJCR 2020 K11 IC	•	20	20	125	35	25	93	145.88
		LH	SVJCL 2020 K11 IC	•	20	20	125	35	25	93	145.88
RH	SVJCR 2525 M11		25	25	150	41	32	93	116.70		
LH	SVJCL 2525 M11		25	25	150	41	32	93	116.70		
RH	SVJCR 2525 M11 IC	•	25	25	150	40	32	93	155.61		
LH	SVJCL 2525 M11 IC	•	25	25	150	40	32	93	155.61		

Product family 8...

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
SVJC...11...	VC... 1103...	E100012 835	E100028 834
Price for spare parts €/pc.		1.99	6.63



External Turning Tool Holder For Positive Inserts



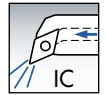
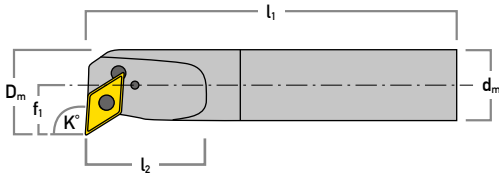
Product family 810

Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Length	Unit	Setting angle	Price
					h	b	l ₁	l ₂	f ₁	K°	€/pc.
	VC... 1604...	RH	SVJCR 2020 K16		20	20	125	33	25	93	111.51
		LH	SVJCL 2020 K16		20	20	125	33	25	93	111.51
		RH	SVJCR 2020 K16 IC	•	20	20	125	40	25	93	145.88
		LH	SVJCL 2020 K16 IC	•	20	20	125	40	25	93	145.88
		RH	SVJCR 2525 M16		25	25	150	40	32	93	116.70
		LH	SVJCL 2525 M16		25	25	150	40	32	93	116.70
		RH	SVJCR 2525 M16 IC	•	25	25	150	40	32	93	155.61
		LH	SVJCL 2525 M16 IC	•	25	25	150	40	32	93	155.61



Product family 8..

Holder – Accessories	Insert	Insert shim	Hollow bolt/ Insert shim	Wrench/ Hollow bolt	Screw/ Insert	Wrench for Screw/ Insert
SVJC...16...	VC... 1604...	E100034 835	E100019 835	E100000 835	E100012 835	E100029 834
Price for spare parts €/pc.		9.79	3.72	1.76	1.99	6.63



Internal Turning Tool Holder For Positive Inserts





Product family 820

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Length	Unit	Setting angle	Price
						l ₁	l ₂	f ₁	K°	€/pc.
		RH	A08H SCLCR 06	10	8	100	16	5.5	95	114.11
		LH	A08H SCLCL 06	10	8	100	16	5.5	95	114.11
		RH	A10J SCLCR 06	12	10	110	19	6	95	114.11
		LH	A10J SCLCL 06	12	10	110	19	6	95	114.11
		RH	A12K SCLCR 06	16	12	125	23	9	95	114.11
		LH	A12K SCLCL 06	16	12	125	23	9	95	114.11



Product family 8..

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
...SCLC...06	CC... 0602...	E100015 835	E100028 834
Price for spare parts €/pc.		1.99	6.63

Product family 820

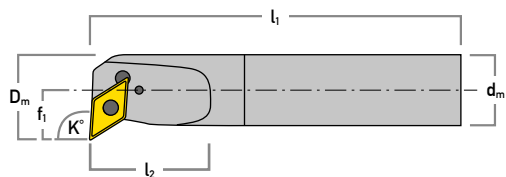
Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Length	Unit	Setting angle	Price
						l ₁	l ₂	f ₁	K°	€/pc.
		RH	A14-16Q SCLCR 09	19	16	180	45	9.5	95	128.38
		LH	A14-16Q SCLCL 09	19	16	180	45	9.5	95	128.38
		RH	A16Q SCLCR 09	20	16	180	30.5	11	95	114.11
		LH	A16Q SCLCL 09	20	16	180	30.5	11	95	114.11
		RH	A20Q SCLCR 09	25	20	180	38	13	95	141.34
		LH	A20Q SCLCL 09	25	20	180	38	13	95	141.34
		RH	A25R SCLCR 09	32	25	200	39	17	95	164.68
		LH	A25R SCLCL 09	32	25	200	39	17	95	164.68

Product family 8..



Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
..SCLC...09	CC... 09T3...	E100011 835	E100029 834
Price for spare parts €/pc.		1.99	6.63





Internal Turning Tool Holder For Positive Inserts






Product family 820

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
		RH	A10J SDUCR 07	13	10	110	20	7	93	114.11
		LH	A10J SDUCL 07	13	10	110	20	7	93	114.11
		RH	A12K SDUCR 07	16	12	125	23	9	93	114.11
		LH	A12K SDUCL 07	16	12	125	23	9	93	114.11
		RH	A14-16Q SDUCR 07	20	16	180	41	11	93	128.38
		LH	A14-16Q SDUCL 07	20	16	180	41	11	93	128.38



Product family 8..

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
...SDUC...07	DC... 0702...	E100012 835	E100028 834
Price for spare parts €/pc.		1.99	6.63

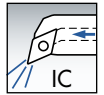
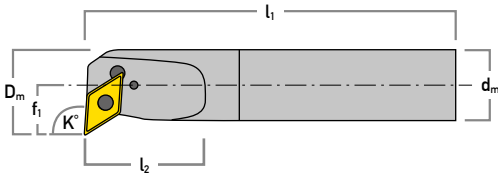
Product family 820



Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
 		RH	A16Q SDUCR 11	20	16	180	29	12.4	93	114.11
		LH	A16Q SDUCL 11	20	16	180	29	12.4	93	114.11
		RH	A16Q SDQCR 11	20	16	180	30	11	107.5	114.11
		LH	A16Q SDQCL 11	20	16	180	30	11	107.5	114.11
		RH	A20Q SDUCR 11	25	20	180	31	13	93	141.34
		LH	A20Q SDUCL 11	25	20	180	31	13	93	141.34
		RH	A20Q SDQCR 11	25	20	180	32	13	107.5	141.34
		LH	A20Q SDQCL 11	25	20	180	32	13	107.5	141.34
		RH	A25R SDUCR 11	32	25	200	38.5	17	93	164.68
		LH	A25R SDUCL 11	32	25	200	38.5	17	93	164.68
		RH	A32T SDUCR 11	40	32	300	38.5	22	93	223.03
		LH	A32T SDUCL 11	40	32	300	38.5	22	93	223.03


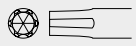
Product family 8..

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
...SDUC...11	DC... 11T3...	E100011 835	E100028 834
...SDQC...11		E100012 835	
Price for spare parts €/pc.		1.99	6.63

Internal Turning Tool Holder For Positive Inserts



Product family 820										
Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
		RH	A10K STFCL 09	13	10	125	22.5	7	90	114.11
		LH	A10K STFCL 09	13	10	125	22.5	7	90	114.11
		RH	A12K STFCL 09	16	12	125	22.5	9	90	114.11
		LH	A12K STFCL 09	16	12	125	22.5	9	90	114.11
		RH	A16Q STFCL 09	20	16	180	30	11	90	114.11
		LH	A16Q STFCL 09	20	16	180	30	11	90	114.11

Product family 835			
Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
...STFC...09	TC... 0902...	E100055	E100078
Price for spare parts €/pc.		1.99	6.63

Turning – Positive

Stay on top of the latest news
and subscribe to our newsletter!

NEWS



Get the latest information about our products, promotions,
and events with our free newsletter.

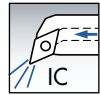
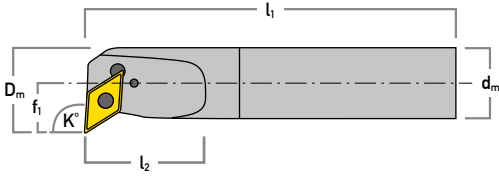
<https://shop.tool-factory.de/en/newsletter/>



icon by icons8.de





Internal Turning Tool Holder For Positive Inserts



Product family 820

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
		RH	A10K STFCL 11	13	10	125	22.5	7	90	114.11
		LH	A10K STFCL 11	13	10	125	22.5	7	90	114.11
		RH	A12K STFCL 11	17	12	125	22.5	9	91	114.11
		LH	A12K STFCL 11	17	12	125	22.5	9	91	114.11
		RH	A16Q STFCL 11	21	16	180	32	11	91	114.11
		LH	A16Q STFCL 11	21	16	180	32	11	91	114.11



Product family 8..

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
...STFC...11	TC... 1102...	E100012 835	E100028 834
Price for spare parts €/pc.		1.99	6.63

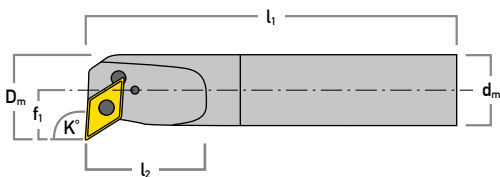
Product family 820

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
		RH	A20Q STFCL 16	25	20	180	32	13	91	141.34
		LH	A20Q STFCL 16	25	20	180	32	13	91	141.34
		RH	A25R STFCL 16	32	25	200	39	16	91	164.68
		LH	A25R STFCL 16	32	25	200	39	16	91	164.68

Product family 8..

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
			
...STFC...16	TC... 16T3...	E100011 835	E100029 834
Price for spare parts €/pc.		1.99	6.63

Internal Turning Tool Holder For Positive Inserts



Product family 820

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Length	Unit	Setting angle	Price
						l ₁	l ₂	f ₁	K°	€/pc.
		RH	A16Q SVQBR 11	21	16	180	31	11	107.5	114.11
		LH	A16Q SVQBL 11	21	16	180	31	11	107.5	114.11
		RH	A16Q SVUBR 11	21	16	180	28.5	11	93	114.11
		LH	A16Q SVUBL 11	21	16	180	28.5	11	93	114.11
		RH	A20Q SVQBR 11	25	20	180	31	13	107.5	141.34
		LH	A20Q SVQBL 11	25	20	180	31	13	107.5	141.34
		RH	A20Q SVUBR 11	25	20	180	28.5	13	93	141.34
		LH	A20Q SVUBL 11	25	20	180	28.5	13	93	141.34

Product family 8...

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
...SVQB...11	VB... 1103...		
...SVUB...11		E100053 835	E100028 834
Price for spare parts €/pc.		1.99	6.63

Product family 820

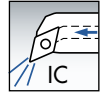
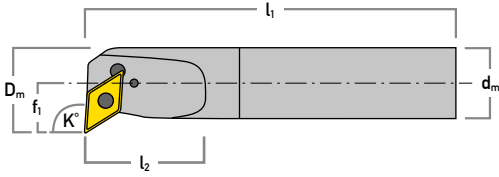
Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Length	Unit	Setting angle	Price
						l ₁	l ₂	f ₁	K°	€/pc.
		RH	A25R SVUBR 16	32	25	200	50	17	93	164.68
		LH	A25R SVUBL 16	32	25	200	50	17	93	164.68
		RH	A32T SVUBR 16	40	32	300	50	22	93	223.03
		LH	A32T SVUBL 16	40	32	300	50	22	93	223.03

Product family 8...

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
...SVUB...16	VB... 1604...		
		E100013 835	E100029 834
Price for spare parts €/pc.		1.99	6.63



Internal Turning Tool Holder For Positive Inserts



Product family 820

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
		RH	A16Q SVQCR 11	21	16	180	32	11	107.5	114.11
		LH	A16Q SVQCL 11	21	16	180	31	11	107.5	114.11
		RH	A16Q SVUCR 11	21	16	180	28.5	11	93	114.11
		LH	A16Q SVUCL 11	21	16	180	28.5	11	93	114.11
		RH	A20Q SVQCR 11	25	20	180	31	13	107.5	141.34
		LH	A20Q SVQCL 11	25	20	180	31	13	107.5	141.34
		RH	A20Q SVUCR 11	25	20	180	28.5	13	93	141.34
		LH	A20Q SVUCL 11	25	20	180	28.5	13	93	141.34

Product family 8..

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
...SVQC...11	VC... 1103...	E100015 835	E100028 834
...SVUC...11	VC... 1103...		
Price for spare parts €/pc.		1,99	6,63

Product family 820

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length		Unit	Setting angle	Price
						l ₁	l ₂			
		RH	A25R SVUCR 16	32	25	200	50	17	93	164.68
		LH	A25R SVUCL 16	32	25	200	50	17	93	164.68
		RH	A32T SVUCR 16	40	32	300	50	22	93	223.03
		LH	A32T SVUCL 16	40	32	300	50	22	93	223.03

Product family 8..

Holder – Accessories	Insert	Screw/ Insert	Wrench for Screw/ Insert
...SVUC...16	VC... 1604...	E100013 835	E100029 834
Price for spare parts €/pc.		1,99	6,63





Accessory Parts for Positive Inserts

	Product family	834	835				
Holder – Accessories	Insert	Wrench/ Insert	Screw/ Insert	Insert shim	Screw/ Insert shim	Wrench/ Insert shim	
CC...06...							
A08H...06	CC... 0602...	E100028 6.63 €	E100015 1.99 €	-	-	-	
A10J...06				-	-	-	
A12K...06				-	-	-	
CC...09...							
SCLC...09	CC... 09T3...	E100029 6.63 €	E100012 1.99 €	E100051 9.79 €	E100019 3.72 €	E100000 1.76 €	
A14-16Q...09			E100011 1.99 €	-	-	-	
A16Q...09				-	-	-	
A20Q...09				-	-	-	
A25R...09				-	-	-	
				-	-	-	
CC...12...							
SCLC...12	CC... 1204...	E100029 6.63 €	E100010 1.99 €	E100033 9.79 €	E100018 3.72 €	E100048 1.76 €	
DC...07...							
SDJC...07	DC... 0702...	E100028 6.63 €	E100015 1.99 €	-	-	-	
A10J...07				-	-	-	
A12K...07				-	-	-	
A14-16Q...07				-	-	-	
				-	-	-	
DC...11...							
SDJC... 1212 J11	DC... 11T3...	E100029 6.63 €	E100012 1.99 €	-	-	-	
SDJC... 1616 H11				E100037 7.14 €	E100019 3.72 €	E100000 1.76 €	
SDJC... 2020 K11							
SDJC... 2525 M11							
A16Q...11			E100011 1.99 €		-	-	-
A20Q...11					-	-	-
A25R...11					-	-	-
A32T...11				-	-	-	

Accessory Parts for Positive Inserts



	Product family	834	835			
Holder – Accessories	Insert	Wrench/ Insert	Screw/ Insert	Insert shim	Screw/ Insert shim	Wrench/ Insert shim
TC...09...						
A10K...09	TC... 0902...	E100078 6.63 €	E100055 1.99 €	-	-	-
A12K...09				-	-	-
A16Q...09				-	-	-
TC...11...						
A10K...11	TC... 1102...	E100028 6.63 €	E100015 1.99 €	-	-	-
A12K...11				-	-	-
A16Q...11				-	-	-
TC...16...						
A10K...16	TC... 16T3...	E100029 6.63 €	E100011 1.99 €	-	-	-
A12K...16				-	-	-
A16Q...16				-	-	-
A20Q...16				-	-	-
A25R...16				-	-	-
VB...11...						
SVJB...11	VB... 1103...	E100028 6.63 €	E100015 1.99 €	-	-	-
SVBN...11				-	-	-
A16Q...11			E100053 1.99 €	-	-	-
A20Q...11				-	-	-
VB...16...						
SVJB...K16	VB... 1604...	E100029 6.63 €	E100012 1.99 €	E100034 9.79 €	E100019 3.72 €	E100000 1.76 €
SVJB...M16						
A25R...16			E100013 1.99 €	-	-	-
A32T...16				-	-	-
VC...11...						
SVJC...11	VC... 1103...	E100028 6.63 €	E100012 1.99 €	-	-	-
A16Q...11				E100015 1.99 €	-	-
A20Q...11			-		-	-
VC...16...						
SVJC...16	VC... 1604...	E100029 6.63 €	E100012 1.99 €	E100034 9.79 €	E100019 3.72 €	E100000 1.76 €
A25R...16						
A32T...16			-	-	-	

Innovative Solutions For Efficient Cutting Performance



A perfect solution would be if you can get all products from one source and can rely on good quality.



Then convince yourself of the drills and milling cutters in our main catalogue.

You can also rely on our machine taps.



Flexible Line

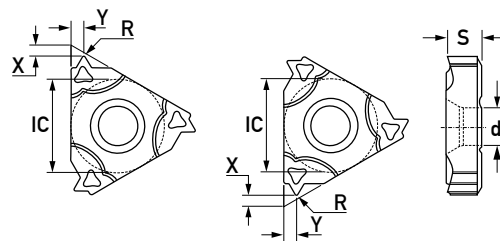
Indexable Inserts Threads

Internal And External threads



Flexible
Line

Indexable Inserts – Threads



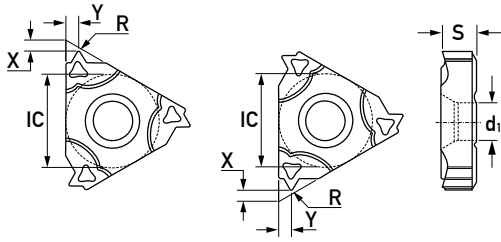
M60°
Full Profile Insert
External Thread

Product family **760**

Type	Size	Pitch P [mm]	Reference	Geometry	Grade	X	Y	R	IC	S	d _i	Price* €/pc.		
External metric	60°	16	16ER 1.00ISO-TC TF PU51 25	TC	TF PU51 25	0.80	0.70	0.14	9.525	3.47	4.0	20.14		
			16ER 1.25ISO-TC TF PU51 25			0.80	0.90	0.18	9.525	3.47	4.0	20.14		
			16ER 1.50ISO-TC TF PU51 25			0.80	1.00	0.22	9.525	3.47	4.0	20.14		
			16ER 1.75ISO-TC TF PU51 25			1.20	1.20	0.25	9.525	3.47	4.0	20.14		
			16ER 2.00ISO-TC TF PU51 25			1.20	1.30	0.29	9.525	3.47	4.0	20.14		
			16ER 2.50ISO-TC TF PU51 25			1.20	1.50	0.36	9.525	3.47	4.0	20.14		
			16ER 3.00ISO-TC TF PU51 25			1.20	1.50	0.43	9.525	3.47	4.0	20.14		
	22	22ER 3.50ISO-TC TF PU51 25	22	22ER 3.50ISO-TC TF PU51 25		TC	1.60	2.30	0.45	12.70	4.71	5.0	29.83	
							22ER 4.00ISO-TC TF PU51 25	1.60	2.30	0.52	12.70	4.71	5.0	29.83
							22ER 4.50ISO-TC TF PU51 25	1.70	2.40	0.58	12.70	4.71	5.0	29.83
							22ER 5.00ISO-TC TF PU51 25	1.70	2.50	0.63	12.70	4.71	5.0	29.83
							22ER 6.00ISO-TC TF PU51 25	1.90	2.70	0.78	12.70	4.71	5.0	29.83

*PU 5 pcs.

Indexable Inserts – Threads



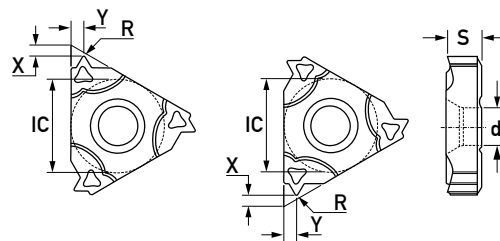
M60°
Full Profile Insert
Internal Thread



Product family **760**

Type	Size	Pitch P	Reference	Geometry	Grade	X	Y	R	IC	S	d ₁	Price*
		[mm]										€/pc.
Internal metric	60°	11	11IR 1.00ISO-TC TF PU51 25	TC	TF PU51 25	0.80	0.70	0.07	6.350	3.00	3.2	20.14
			11IR 1.25ISO-TC TF PU51 25			0.80	0.90	0.09	6.350	3.00	3.2	20.14
			11IR 1.50ISO-TC TF PU51 25			0.80	1.00	0.11	6.350	3.00	3.2	20.14
			11IR 1.75ISO-TC TF PU51 25			0.80	1.10	0.13	6.350	3.00	3.2	20.14
			11IR 2.00ISO-TC TF PU51 25			0.80	1.10	0.15	6.350	3.00	3.2	20.14
		16	16IR 1.00ISO-TC TF PU51 25			0.80	0.70	0.07	9.525	3.47	4.0	20.14
			16IR 1.25ISO-TC TF PU51 25			0.80	0.90	0.09	9.525	3.47	4.0	20.14
			16IR 1.50ISO-TC TF PU51 25			0.80	1.00	0.11	9.525	3.47	4.0	20.14
			16IR 1.75ISO-TC TF PU51 25			1.20	1.20	0.13	9.525	3.47	4.0	20.14
			16IR 2.00ISO-TC TF PU51 25			1.20	1.30	0.15	9.525	3.47	4.0	20.14
	16IR 2.50ISO-TC TF PU51 25		1.20	1.50		0.18	9.525	3.47	4.0	20.14		
	16IR 3.00ISO-TC TF PU51 25		1.20	1.50		0.22	9.525	3.47	4.0	20.14		
	22		22IR 3.50ISO-TC TF PU51 25	1.60		2.30	0.22	12.70	4.71	5.0	29.83	
			22IR 4.00ISO-TC TF PU51 25	1.60		2.30	0.25	12.70	4.71	5.0	29.83	
			22IR 4.50ISO-TC TF PU51 25	1.60		2.40	0.28	12.70	4.71	5.0	29.83	
		22IR 5.00ISO-TC TF PU51 25	1.60	2.30		0.32	12.70	4.71	5.0	29.83		
		22IR 6.00ISO-TC TF PU51 25	1.60	2.40		0.39	12.70	4.71	5.0	29.83		



*PU 5 pcs.

Indexable Inserts – Threads



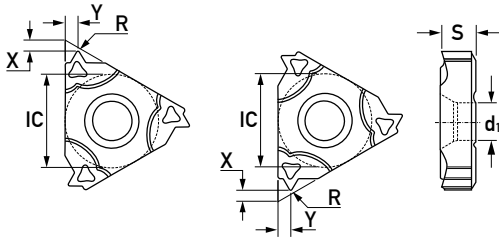
		M60° Sub-Profile Insert External Thread		Product family 760									
Type	Size	Pitch P	Reference	Geometry	Grade	X	Y	R	IC	S	d _i	Price*	
		[mm]										€/pc.	
External metric	60°	16	0.5–1.5	16ER A60-TC TF PU51 25	TC		0.80	0.90	0.08	9.525	3.47	4.0	20.14
			1.75–3.0	16ER G60-TC TF PU51 25			1.20	1.70	0.25	9.525	3.47	4.0	20.14


*PU 5 pcs.

		M60° Sub-Profile Insert Internal Thread		Product family 760									
Type	Size	Pitch P	Reference	Geometry	Grade	X	Y	R	IC	S	d _i	Price*	
		[mm]										€/pc.	
Internal metric	60°	11	0.5–1.5	11IR A60-TC TF PU51 25	TC		0.80	0.90	0.08	6.350	3.00	3.2	20.14
		16	0.5–1.5	16IR A60-TC TF PU51 25	TC		0.80	0.90	0.08	9.525	3.47	4.0	20.14
			1.75–3.0	16IR G60-TC TF PU51 25	TC		1.20	1.70	0.13	9.525	3.47	4.0	20.14


*PU 5 pcs.

Indexable Inserts – Threads



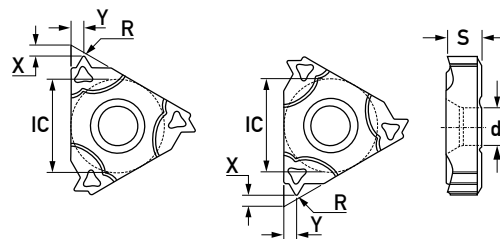
													Product family 760	
<p>Whitworth 55° Full Profile Insert External Thread</p>														
Type	Size	Pitch P [mm]	Reference	Geometry	Grade	X	Y	R	IC	S	d ₁	Price* €/pc.		
External Whitworth	55°	16	19	16ER 19W-TC TF PU51 25	TC	TF PU51 25	0.80	1.00	0.17	9.525	3.47	4.0	20.14	
			14	16ER 14W-TC TF PU51 25			1.20	1.50	0.24	9.525	3.47	4.0	20.14	
			11	16ER 11W-TC TF PU51 25			1.20	1.50	0.30	9.525	3.47	4.0	20.14	



*PU 5 pcs.

													Product family 760	
<p>Whitworth 55° Full Profile Insert Internal Thread</p>														
Type	Size	Pitch P [mm]	Reference	Geometry	Grade	X	Y	R	IC	S	d ₁	Price* €/pc.		
Internal Whitworth	55°	16	19	16IR 19W-TC TF PU51 25	TC	TF PU51 25	0.80	1.00	0.17	9.525	3.47	4.0	20.14	
			14	16IR 14W-TC TF PU51 25			1.20	1.50	0.24	9.525	3.47	4.0	20.14	
			11	16IR 11W-TC TF PU51 25			1.20	1.50	0.30	9.525	3.47	4.0	20.14	



*PU 5 pcs.

Indexable Inserts – Threads



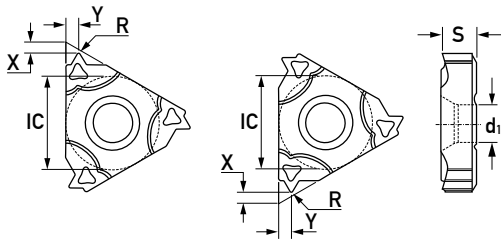
													Product family 760	
<h3>Whitworth 55° Sub-Profile Insert External Thread</h3>														
Type	Size	Pitch P	Reference	Geometry	Grade	X	Y	R	IC	S	d _i	Price*		
		[mm]										€/pc.		
External Whitworth	55°	16	48-16	16ER A55-TC TF PU51 25	TC		0.80	0.90	0.08	9.525	3.47	4.0	20.14	
			14-8	16ER G55-TC TF PU51 25			1.20	1.70	0.21	9.525	3.47	4.0	20.14	



*PU 5 pcs.

													Product family 760	
<h3>Whitworth 55° Sub-Profile Insert Internal Thread</h3>														
Type	Size	Pitch P	Reference	Geometry	Grade	X	Y	R	IC	S	d _i	Price*		
		[mm]										€/pc.		
Internal Whitworth	55°	11	48-16	11IR A55-TC TF PU51 25	TC		0.80	0.90	0.08	6.350	3.00	3.2	20.14	
		16	48-16	16IR A55-TC TF PU51 25			0.80	0.90	0.08	9.525	3.47	4.0	20.14	
			14-8	16IR G55-TC TF PU51 25			1.20	1.70	0.21	9.525	3.47	4.0	20.14	



*PU 5 pcs.

Indexable Inserts – Threads



													Product family 760	
<h2>NPT 60° External Thread</h2>														
Type	Size	Pitch P	Reference	Geometry	Grade	X	Y	R	IC	S	d ₁	Price*		
		[mm]										€/pc.		
External NPT	60°	16	11.5	16ER 11.5NPT-TC TF PU51 25	TC		1.20	1.50	0.25	9.525	3.47	4.0	20.14	
			14	16ER 14NPT-TC TF PU51 25			1.20	1.50	0.22	9.525	3.47	4.0	20.14	
			18	16ER 18NPT-TC TF PU51 25			0.80	1.00	0.20	9.525	3.47	4.0	20.14	

*PU 5 pcs.

													Product family 760	
<h2>NPT 60° Internal Thread</h2>														
Type	Size	Pitch P	Reference	Geometry	Grade	X	Y	R	IC	S	d ₁	Price*		
		[mm]										€/pc.		
Internal NPT	60°	16	11.5	16IR 11.5NPT-TC TF PU51 25	TC		1.20	1.50	0.25	9.525	3.47	4.0	20.14	
			14	16IR 14NPT-TC TF PU51 25			1.20	1.50	0.22	9.525	3.47	4.0	20.14	
			18	16IR 18NPT-TC TF PU51 25			0.80	1.00	0.20	9.525	3.47	4.0	20.14	

*PU 5 pcs.

Infeed Recommendation For Metric Threads 60°

External Thread							
Pitch P [mm]	1.00	1.25	1.50	1.75	2.00	2.50	3.00
Total infeed	0.61	0.77	0.92	1.07	1.23	1.53	1.84
Number of infeeds (nap)	5	6	6	8	8	10	12
Pass	Infeed per pass						
1	0.15	0.16	0.19	0.17	0.20	0.20	0.20
2	0.14	0.15	0.18	0.16	0.19	0.19	0.19
3	0.13	0.14	0.17	0.15	0.18	0.18	0.19
4	0.11	0.13	0.16	0.14	0.16	0.16	0.18
5	0.08	0.11	0.14	0.13	0.16	0.16	0.18
6		0.08	0.08	0.13	0.14	0.15	0.16
7				0.11	0.12	0.15	0.16
8				0.08	0.08	0.14	0.14
9						0.12	0.13
10						0.08	0.12
11							0.11
12							0.08

Internal Thread							
Pitch P [mm]	1.00	1.25	1.50	1.75	2.00	2.50	3.00
Total infeed	0.54	0.68	0.81	0.95	1.08	1.35	1.62
Number of infeeds (nap)	5	6	6	8	8	10	12
Pass	Infeed per pass						
1	0.13	0.14	0.17	0.15	0.17	0.17	0.17
2	0.12	0.13	0.16	0.14	0.16	0.16	0.16
3	0.11	0.12	0.15	0.13	0.15	0.15	0.16
4	0.10	0.11	0.13	0.12	0.14	0.15	0.15
5	0.08	0.10	0.12	0.12	0.14	0.14	0.15
6		0.08	0.08	0.11	0.13	0.14	0.14
7				0.10	0.11	0.13	0.14
8				0.08	0.08	0.12	0.13
9						0.11	0.13
10						0.08	0.11
11							0.10
12							0.08

Zustellungsempfehlung for Whitworth Threads 55°

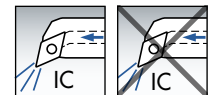
External Thread			
Pitch P [Gang/Zoll]	19	14	11
Total infeed	0.86	1.16	1.48
Number of infeeds (nap)	6	8	9
Pass	Infeed per pass		
1	0.18	0.19	0.22
2	0.17	0.18	0.21
3	0.16	0.17	0.20
4	0.15	0.15	0.18
5	0.12	0.15	0.18
6	0.08	0.13	0.16
7		0.11	0.14
8		0.08	0.11
9			0.08


Internal Thread		
19	14	11
0.86	1.16	1.48
6	8	9
	Infeed per pass	
0.18	0.19	0.22
0.17	0.18	0.21
0.16	0.17	0.20
0.15	0.15	0.18
0.12	0.15	0.18
0.08	0.13	0.16
	0.11	0.14
	0.08	0.11
		0.08

VC For Threading Inserts

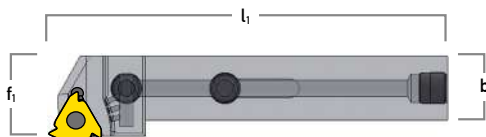
Iso	Material	Tensile strength N/mm ²	Cutting speed V _c (m/min)		
			TF PU51 25		
P	St52, C45, 16MnCr5, 42CrMo4, 100Cr6	<850	120	– 150	– 180
M	1.4305, 1.4301, 1.4571, 1.4034, 1.4435	<750	60	– 100	– 140
K	GG20, GG40, GTW.45-07, GGG40, GGG60	<650	90	– 130	– 150


External Turning Tool Holder For Indexable Inserts – Threads





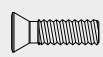



Product family 870								
Holder Type	Insert / size	Holder Design	Standard No.	Height	Width	Length	Unit	Price
				h	b	l ₁	f ₁	€/pc.
External Holder 	16	RH	AL 12-3J ER 16	12	12	110	16	128.38
			AL 16-3H ER 16	16	16	100	16	128.38
			AL 20-3K ER 16	20	20	125	20	141.34
			AL 25-3M ER 16	25	25	150	25	154.33

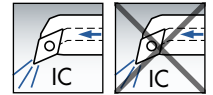
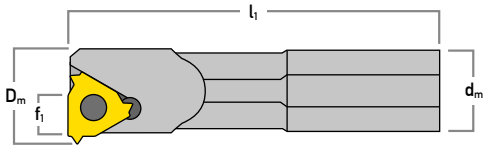
External Turning Tool Holder for Indexable Inserts – Threads



Product family 870									
Holder Type	Insert / size	Holder Design	Standard No.	IC	Height	Width	Length	Unit	Price
					h	b	l ₁	f ₁	€/pc.
External Holder 	16	RH	AL 20-3K ER 16-IC	•	20	20	125	25	169.53
		RH	AL 25-3K ER 16-IC	•	25	25	150	32	182.18

Product family 8..						
Holder – Accessories External Holder	Standard- Insert shim	Screw for Insert shim	Washer	Wrench for Insert shim	Screw for Insert	Wrench for Insert
AL 12-3J ER 16	 E100057 836	 E100056 835	 E100073 835	 E100029 834	 E100054 835	 E100029 834
AL 16-3H ER 16						
AL 20-3K ER 16						
AL 25-3M ER 16						
Price for spare parts €/pc.	12.78	1.99	1.76	6.63	1.99	6.63






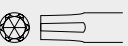
Internal Turning Tool Holder For Indexable Inserts – Threads



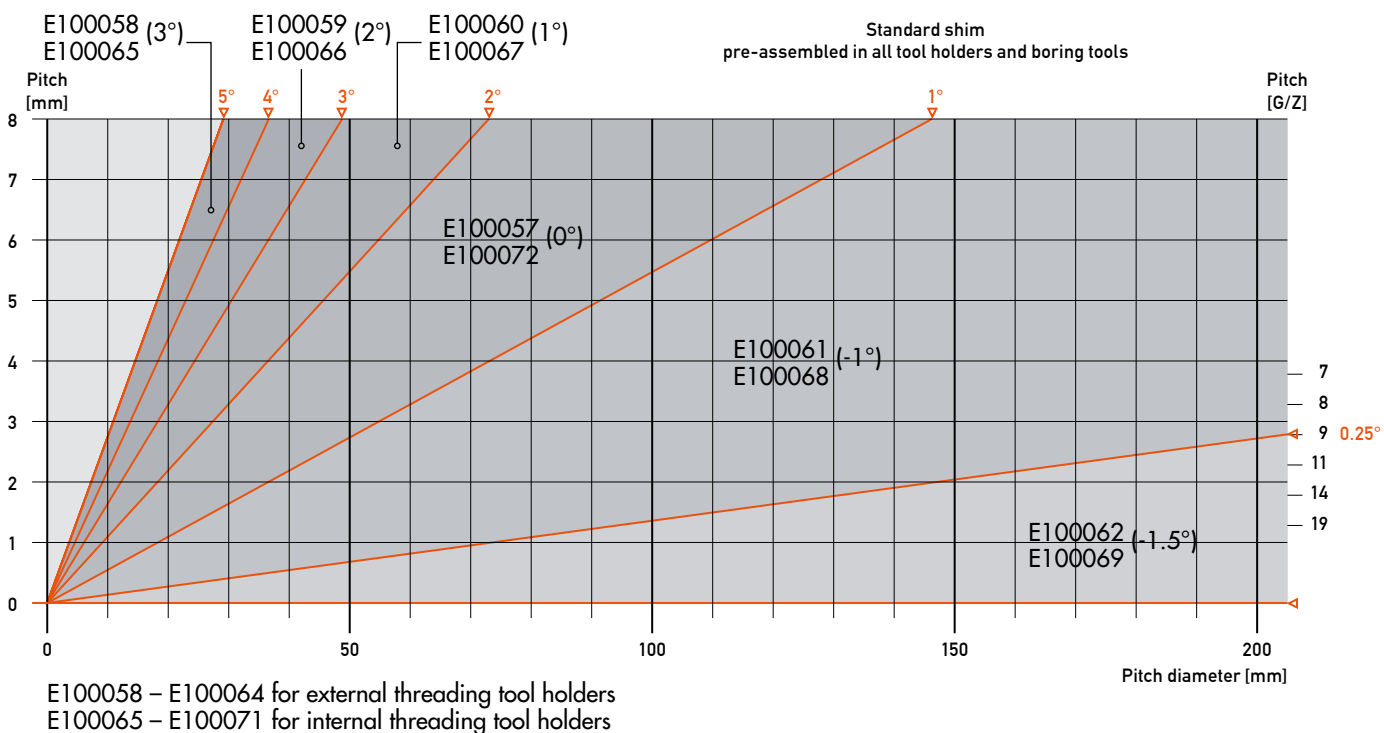
Product family 870

Holder Type	Insert / size	Holder Design	Standard No.	D _m	d _m	Length	Unit	Price
						l _i	f _i	€/pc.
Internal Holder 	11	RH	S10J STIR 11	12	10	110	6	115.41
			S12K STIR 11	16	12	125	7.3	115.41
	16	RH	A16Q STIR 16	20	16	180	11.3	128.38
			A20Q STIR 16	24	20	180	13.4	154.33
			A25R STIR 16	29	25	200	16.1	180.26
			A32T STIR 16	39	32	300	21.5	206.18

Product family 8..

Holder – Accessories Internal Holder	Standard- Insert shim	Screw for Insert shim	Washer	Wrench for Insert shim	Screw for Insert	Wrench for Insert
						
S10J STIR 11	-	-	-	-	E100015 835	E100028 834
S12K STIR 11	-	-	-	-	E100015 835	E100028 834
A16Q STIR 16	-	-	-	-	E100075 835	E100029 834
A20Q STIR 16	E100072 836	E100056 835	E100073 835	E100029 834		
A25R STIR 16						
A32T STIR 16						
Price for spare parts €/pc.	12.78	1.99	1.76	6.63	1.99	6.63

Insert Shims – Right Hand Thread

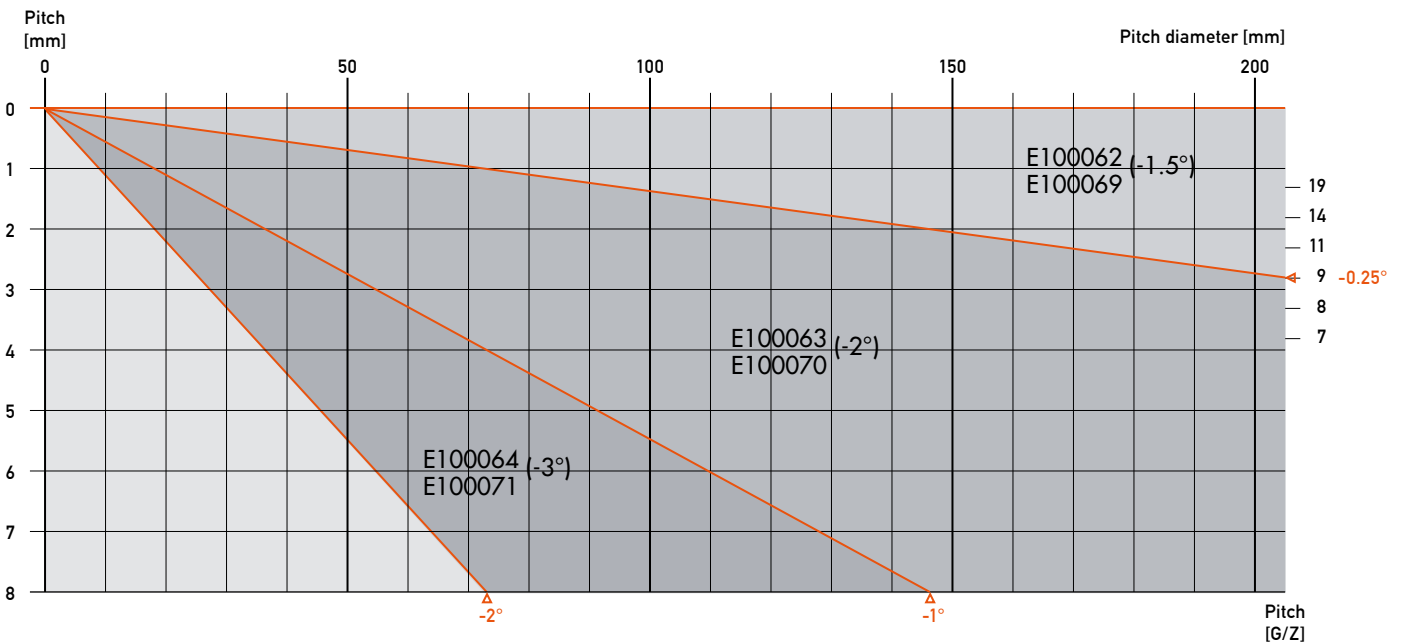


Insert shim for External Thread

Nominal angle insert shim	Effective angle	Insert / size	Insert shim	Price €/pc.
3°	4.5	16	E100058	13.55
2°	3.5	16	E100059	13.55
1°	2.5	16	E100060	13.55
0°	1.5	16	E100057	12.78
-1°	0.5	16	E100061	13.55
-1.5°	0	16	E100062	13.55
-2°	-0.5	16	E100063	13.55
-3°	-1.5	16	E100064	13.55

Product family 836

Insert Shims – Left Hand Thread (With RH Holders)

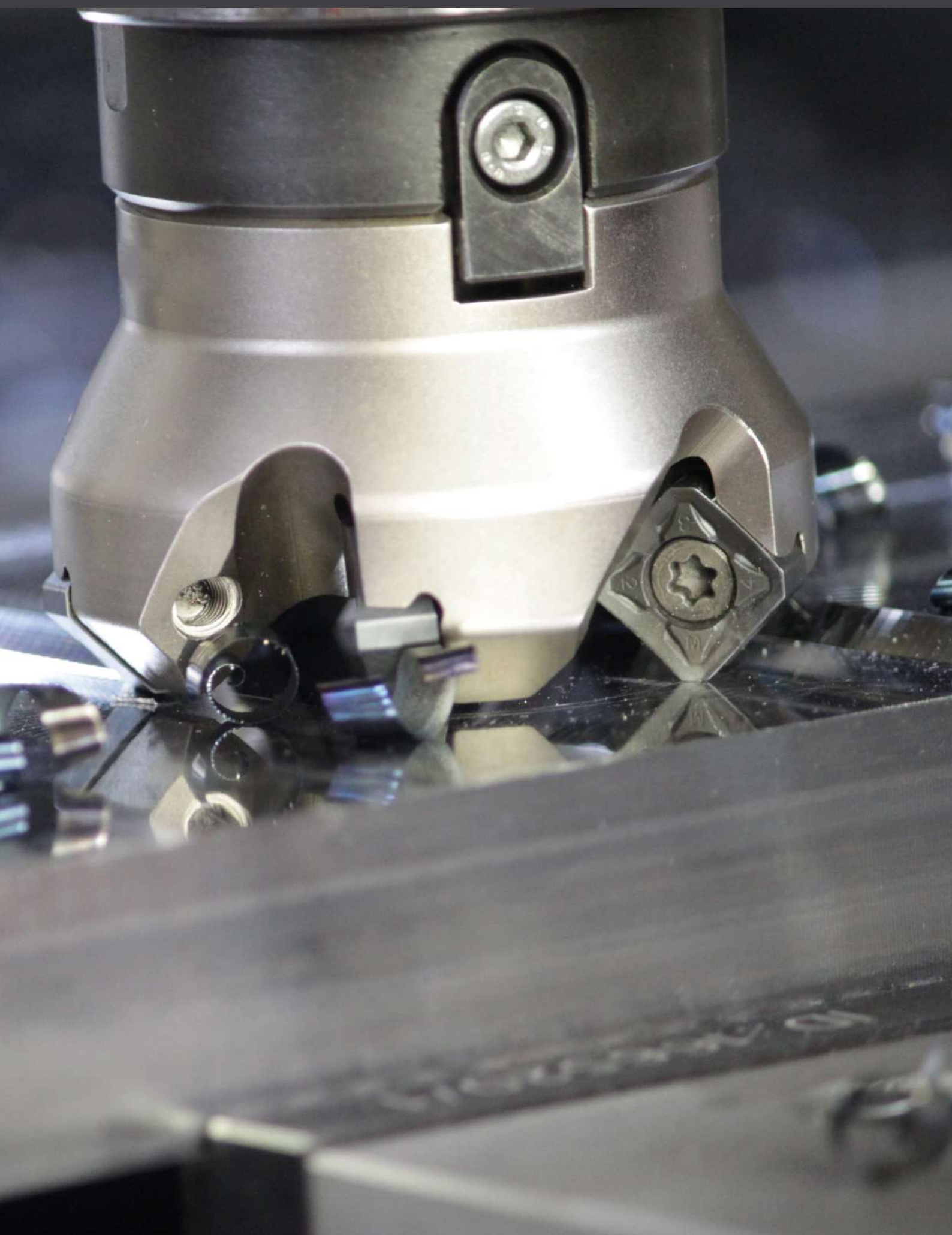


E100058 – E100064 for external threading tool holders
 E100065 – E100071 for internal threading tool holders

Insert shim for Internal Thread

Product family 836

Nominal angle insert shim	Effective angle	Insert / size	Insert shim	Price €/pc.
3°	4.5	16	E100065	13.55
2°	3.5	16	E100066	13.55
1°	2.5	16	E100067	13.55
0°	1.5	16	E100072	12.78
-1°	0.5	16	E100068	13.55
-1.5°	0	16	E100069	13.55
-2°	-0.5	16	E100070	13.55
-3°	-1.5	16	E100071	13.55



Flexible Line

Indexable Inserts And Tool Holders Face And Shoulder Milling

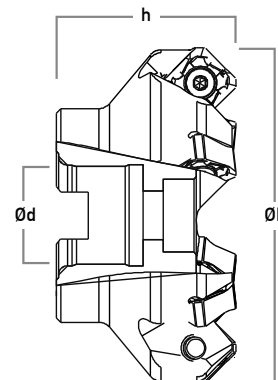
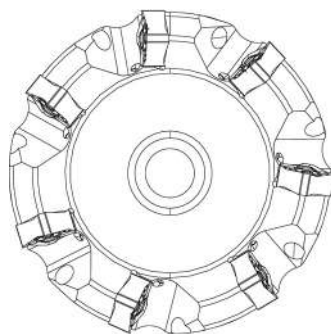
Flexible
Line





MR145



Face Milling Cutter MR145 with Internal coolant



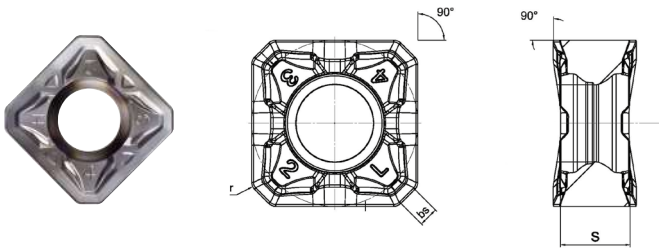
						Product family 851	
Reference	ØD	Ød	z	h	Insert	Price	
							€/pc.
Shell mill							
MR145Q50-40-5-SNEU12	50	22	5	40	SNEU12	447.38	
MR145Q63-40-6-SNEU12	63		6			525.18	
MR145Q80-50-7-SNEU12	80	27	7	50		654.84	
MR145Q100-50-8-SNEU12	100	32	8	739.13			
MR145Q125-63-10-SNEU12	125	40	10	920.67			

			Product family 835					
Milling body accessories	Insert	Ø range	Spare part screw			Wrench for Screw		
								
			Reference	Part No.	Price €/pc.	Reference	Part No.	Price €/pc.
MR145Q...	SNEU12	50 - 125	Screw M5x12	E100076	2.00	T20	E100049	9.80

Torx size	Tightening torque of insert screws
T20	5.0 Nm

MR145

Inserts SNEU



Product family **750**

Reference	Machining	Grade	Wiper flat	Radius	Thickness	Cutting depth	f_z	Price*								
			bs mm	r mm	s	$a_{p,max}$	mm/z	€/pc.								
SNEU 1206ANEN-FL TF CB61 20		TF CB61 20	2.2	0.80	6.35	6.5	0.10 – 0.15 – 0.20	22.58								
SNEU 1206ANEN-FL TF PB81 25		TF PB81 25					0.10 – 0.15 – 0.20	22.58								
SNEU 1206ANEN-FL TF CZ21 20		TF CZ21 20					0.10 – 0.15 – 0.20	22.58								
SNEU 1206ANEN-FL TF PU61 30		TF PU61 30					0.10 – 0.15 – 0.20	24.61								
SNEU 1206ANEN-FM TF CB61 20		TF CB61 20					2.2	0.80	6.35	6.5	0.10 – 0.20 – 0.30	22.58				
SNEU 1206ANEN-FM TF PB81 25		TF PB81 25									0.10 – 0.20 – 0.30	22.58				
SNEU 1206ANEN-FM TF CZ21 20		TF CZ21 20									0.10 – 0.20 – 0.30	22.58				
SNEU 1206ANEN-FM TF PU61 30		TF PU61 30									0.10 – 0.20 – 0.30	24.61				
SNEU 1206ANSN-FS TF CB61 20		TF CB61 20									2.2	0.80	6.35	6.5	0.20 – 0.30 – 0.40	22.58
SNEU 1206ANSN-FS TF PB81 25		TF PB81 25													0.20 – 0.30 – 0.40	22.58
SNEU 1206ANSN-FS TF CZ21 20		TF CZ21 20													0.20 – 0.30 – 0.40	22.58
SNEU 1206ANSN-FS TF PU61 30		TF PU61 30													0.20 – 0.30 – 0.40	24.61
SNEU 1206ANFN-AL TF UG31 25	Alu	TF UG31 25	2.2	0.80	6.35	6.5									0.10 – 0.20 – 0.30	22.58

*PU 10 pcs.

Cutting parameters

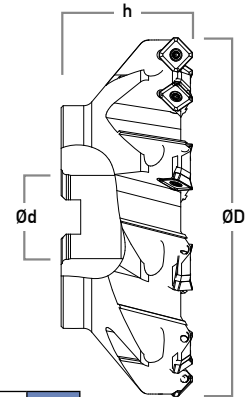
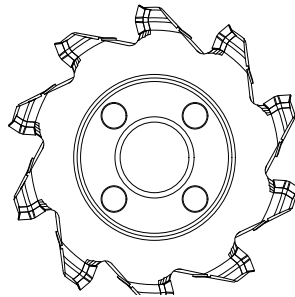
ISO		P	M	K	N
		Steel	Stainless austenitic / martensitic	Cast iron (GGG, GT)	Aluminum & Al alloys
Tensile strength N/mm ²		≤ 850	≤ 750	≤ 650	≤ 500
Cutting speed V_c (m/min)	TF PB81 25	FL/FM/FS	180 – 230 – 280	180 – 230 – 280	
	TF CZ21 20		180 – 230 – 280	180 – 230 – 280	
	TF PU61 30		180 – 230 – 280	130 – 180 – 250	180 – 230 – 280
	TF UG31 25	AL			300 – 610 – 1000



MR45



Face Milling Cutter MR45 with Internal coolant



Product family **851**

Reference	ØD	Ød	z	h	Insert	Price €/pc.
Shell mill						
MR45Q50-40-4-SEET13	50	22	4	40	SEET13	459.03
MR45Q63-40-5-SEET13	63		5			
MR45Q80-50-6-SEET13	80	32	6	50		
MR45Q100-50-7-SEET13	100		7			
MR45Q125-63-8-SEET13	125	40	8	63		972.55
MR45Q160-63-10-SEET13	160		10			1.248.74

Product family **834**

Milling body accessories	Insert	Ø range	Spare part screw			Wrench for Screw		
			Reference	Part No.	Price €/pc.	Reference	Part No.	Price €/pc.
MR45Q...	SEET13	50 – 160	Screw M3.5x12 T15	SEET13SC	2.00	T15	E100029	6.63

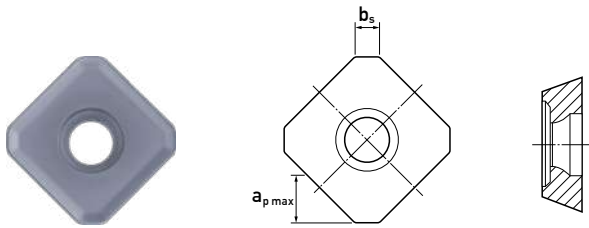
Product family **8...**

Milling body accessories	Insert shim		Hollow bolt		Wrench for Hollow bolt		
	Part No./Group	Price €/pc.	Part No./Group	Price €/pc.	Reference	Part No./Group	Price €/pc.
MR45Q...	SEET13ZW 838	2.18	SEET13ZWSC 835	3.72	SW3.5	E100000 835	1.76

Torx size	Tightening torque of insert screws
T20	5.0 Nm

MR45

Inserts SEET



Product family **75.**

Reference	Machining	Grade	Wiper flat	Cutting depth	f_z	Price*
			bs mm	$a_{p\ max}$	mm/z	
SEET 13T3AGEN-FL TF PB81 25 751		TF PB81 25	1.70	6.5	0.10 – 0.15 – 0.20	19.16
SEET 13T3AGEN-FL TF PU61 30 750		TF PU61 30	1.70		0.10 – 0.15 – 0.20	
SEET 13T3AGEN-FM TF PB81 25 751		TF PB81 25	1.30		0.10 – 0.15 – 0.20	
SEET 13T3AGEN-FM TF UC81 10 750		TF UC81 10	1.20	1.5	0.10 – 0.20 – 0.30	
SEET 13T3AGEN-FM TF PU61 30 750		TF PU61 30		0.10 – 0.15 – 0.20		
SEET 13T3AGSN-FM TF PR71 25 750		TF PR71 25	1.30	6.5	0.10 – 0.15 – 0.20	
SEET 13T3AGSN-FS TF PU61 30 750		TF PU61 30			0.20 – 0.35 – 0.45	
SEET 13T3AGSN-FSS TF PB81 25 750		TF PB81 25	2.20		0.20 – 0.35 – 0.45	
SEET 13T3AGFN-AL TF UG31 25 750	Alu	TF UG31 25			0.15 – 0.25 – 0.30	

*PU 10 pcs.

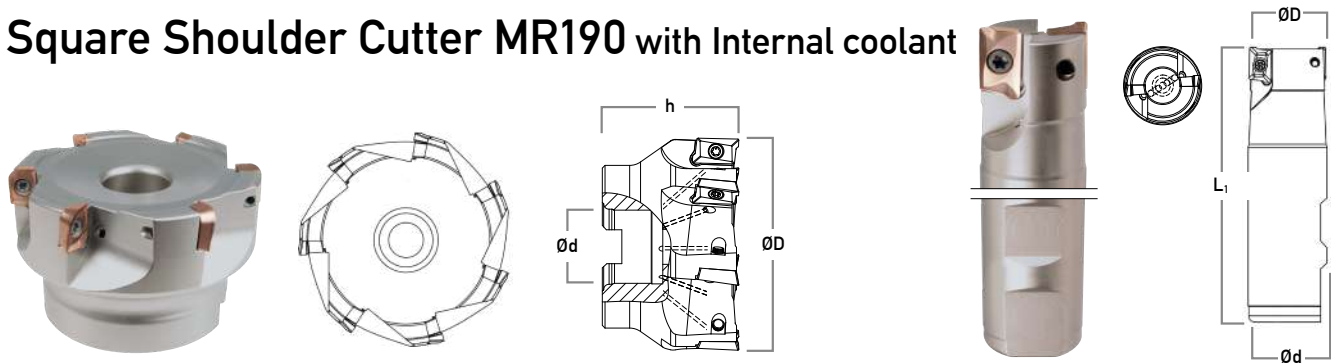
Cutting parameters

ISO			P	M	K	N
			Steel	Stainless austenitic / martensitic	Cast iron (GGG, GT)	Aluminum & Al alloys
		Tensile strength N/mm ²	≤ 850	≤ 750	≤ 650	≤ 500
Cutting speed V_c (m/min)	TF PB81 25	FM/FL	180 – 230 – 280		180 – 230 – 280	
		FSS	160 – 210 – 260		160 – 210 – 260	
	TF UC81 10	FM	185 – 290 – 350			
	TF PR71 25	FM			180 – 220 – 280	
	TF PU61 30	FM/FL	180 – 230 – 280	130 – 180 – 250	180 – 230 – 280	
		FS	160 – 210 – 260	140 – 160 – 180	160 – 210 – 260	
	TF UG31 25	AL				250 – 540 – 900



MR190

Square Shoulder Cutter MR190 with Internal coolant


 Product family **850**

Reference	ØD	Ød	z	L ₁	h	AP	Insert	Shank	Price €/pc.	
End mill 90°										
MR190A16-145-2-APKT11	16	16	2	145		40	APKT11	HA	258.06	
MR190A20-170-2-APKT11	20	20	2	170		50			269.71	
MR190A20-170-3-APKT11	20	20	3						291.77	
MR190A25-170-2-APKT11	25	25	2						291.77	
MR190A25-170-3-APKT11	25	25	3						303.43	
MR190A32-170-3-APKT11	32	32	3						325.49	
MR190A32-170-4-APKT11	32	32	4						368.26	
MR190A25-170-2-APKT16	25	25	2						APKT16	291.77
MR190A32-170-2-APKT16	32	32	2							315.11
MR190A32-170-3-APKT16	32	32	3							315.11
MR190B16-73-2-APKT11	16	16	2		73			25	APKT11	HB
MR190B20-81-2-APKT11	20	20	2	81	31	269.71				
MR190B20-81-3-APKT11	20	20	3			291.77				
MR190B25-88-3-APKT11	25	25	3	88	32	303.43				
MR190B25-88-4-APKT11	25	25	4			315.11				
MR190B32-100-5-APKT11	32	32	5	100	40	368.26				
MR190B25-88-2-APKT16	25	25	2	88	32	APKT16		291.77		
MR190B32-100-3-APKT16	32	32	3	100	40			325.49		
MR190B40-110-4-APKT16	40	32	4	110	50			368.26		


 Product family **851**

Reference	ØD	Ød	z	L ₁	h	AP	Insert	Shank	Price €/pc.	
Shell mill 90°										
MR190Q40-40-4-APKT11	40	16	4		40		APKT11	Arbor mount	368.26	
MR190Q40-40-6-APKT11	40	16	6						381.23	
MR190Q50-40-5-APKT11	50	22	5						447.38	
MR190Q50-40-7-APKT11	50	22	7						473.31	
MR190Q63-40-6-APKT11	63	22	6						APKT16	536.83
MR190Q40-40-4-APKT16	40	16	4							347.52
MR190Q50-40-5-APKT16	50	22	5						50	439.59
MR190Q63-40-6-APKT16	63	22	6							530.37
MR190Q80-50-7-APKT16	80	27	7							621.14
MR190Q100-50-7-APKT16	100	32	7							704.13

MR190

Square Shoulder Cutter MR190 with Internal coolant

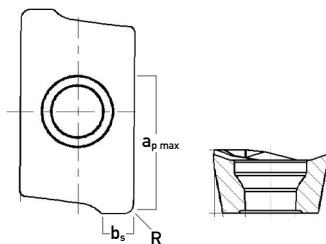
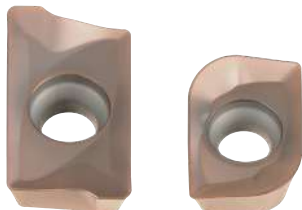
Product family 83.

Milling body accessories	Insert	Ø range	Screw 			Wrench 			
			Reference	Part No./Group	Price €/pc.	Reference	Part No./Group: 834	Price €/pc.	
			MR190A16...11	APKT11	16-63	M2.5x5T8	E100015	835	T08
MR190A20...11									
MR190A25...11									
MR190A32...11									
MR190A25...16	APKT16	25	M4x8T15	E100014	834	T15	E100029		
MR190A32...16		32-100	M4x10T15	E100013	835				
MR190B16...11	APKT11	16-63	M2.5x5T8	E100015	835	T08	E100028		
MR190B20...11									
MR190B25...11									
MR190B32...11									
MR190B25...16	APKT16	25	M4x8T15	E100014	834	T15	E100029		
MR190B32...16		32-100	M4x10T15	E100013	835				
MR190B40...16									
MR190Q40...11	APKT11	16-63	M2.5x5T8	E100015	835	T08	E100028		
MR190Q50...11									
MR190Q63...11									
MR190Q40...16	APKT16	32-100	M4x10T15	E100013	835	T15	E100029		
MR190Q50...16									
MR190Q63...16									
MR190Q80...16									
MR190Q100...16									

Torx size	Tightening torque of insert screws
T08	1.2 Nm
T12	3.5 Nm

MR190

Inserts APKT



Product family 75.

Reference	Machining	Grade	Wiper flat	Radius	Cutting depth	f _z mm/z	Price* €/pc.	
			b _s	mm	a _{p max}			
APKT 113504R-FL TF PB81 25 751		TF PB81 25	2.00	0.40	9	0.05 – 0.08 – 0.14	17.06	
APKT 113504R-FL TF PU61 30 750		TF PU61 30				0.05 – 0.08 – 0.14		
APKT 113504R-FL TF CY01 40 750		TF CY01 40				0.05 – 0.08 – 0.14		
APKT 113508R-FL TF PB81 25 751		TF PB81 25		0.80		0.05 – 0.08 – 0.14		
APKT 113508R-FL TF PU61 30 750		TF PU61 30				0.05 – 0.08 – 0.14		
APKT 113504R-FM TF PB81 25 751		TF PB81 25				0.08 – 0.12 – 0.20		
APKT 113504R-FM TF PU61 30 750		TF PU61 30	2.00	0.40	9	0.08 – 0.12 – 0.20		
APKT 113504R-FM TF PY31 30 750		TF PY31 30				0.08 – 0.12 – 0.20		
APKT 113504R-FM TF CY01 40 750		TF CY01 40				0.08 – 0.12 – 0.20		
APKT 113504R-FM TF PR71 25 750		TF PR71 25		0.08 – 0.12 – 0.20				
APKT 113508R-FM TF PB81 25 751				TF PB81 25		0.80		0.08 – 0.12 – 0.20
APKT 113508R-FM TF CZ21 20 750				TF CZ21 20				0.08 – 0.12 – 0.20
APKT 113508R-FM TF PU61 30 750	TF PU61 30		0.08 – 0.12 – 0.20					
APKT 113508R-FM TF CY01 40 750		TF CY01 40	3.20**	0.08 – 0.12 – 0.20				
APKT 113508R-FM TF PR71 25 750		TF PR71 25		0.08 – 0.12 – 0.20				
APKT 113532R-FM TF PU61 30 750		TF PU61 30		0.08 – 0.12 – 0.20				
APKT 113516R-FS TF PU61 30 750		TF PU61 30	1.60	0.10 – 0.15 – 0.24	20.04			
APKT 160408R-FM TF PB81 25 751		TF PB81 25	2.60	0.80		14		0.08 – 0.12 – 0.20
APKT 160408R-FM TF CZ21 20 750		TF CZ21 20					0.08 – 0.12 – 0.20	
APKT 160408R-FM TF PU61 30 750		TF PU61 30					0.08 – 0.12 – 0.20	
APKT 160408R-FM TF PY31 30 750		TF PY31 30					0.08 – 0.12 – 0.20	
APKT 160408R-FM TF PR71 25 750		TF PR71 25					0.08 – 0.12 – 0.20	
APET 160408R-AL TF UG31 25 750	Alu	TF UG31 25		0.05 – 0.17 – 0.25				
APKT 160412R-FM TF PU61 30 750		TF PU61 30	1.20	0.08 – 0.12 – 0.20				
APKT 160432R-FM TF PU61 30 750		TF PU61 30	–	3.20**		0.08 – 0.12 – 0.20		

Milling



MR190

Inserts APKT

Reference	Machining	Grade	Wiper flat	Radius	Cutting depth	f_z	Price*
			b_s	mm	$a_{p\ max}$	mm/z	€/pc.
APKT 160416R-FS TF PB81 25 751		TF PB81 25	2.60	1.60	14	0.10 – 0.15 – 0.24	20.04
APKT 160416R-FS TF CZ21 20 750		TF CZ21 20				0.10 – 0.15 – 0.24	
APKT 160416R-FS TF PU61 30 750		TF PU61 30				0.10 – 0.15 – 0.24	
APKT 160416R-FS TF PR71 25 750		TF PB81 25				0.10 – 0.15 – 0.24	

Product family **75.**

*PU 10 pcs.

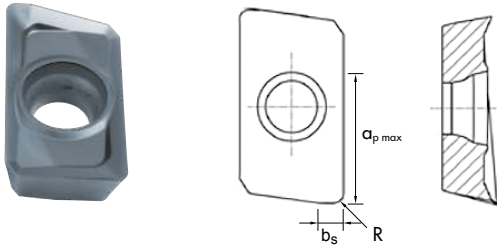
Cutting parameters

ISO		P	M	K	N
		Steel	Stainless austenitic / martensitic	Cast iron (GGG, GT)	Aluminum & Al alloys
Tensile strength N/mm ²		≤ 850	≤ 750	≤ 650	≤ 500
Cutting speed V_c (m/min)	TF PB81 25	160 – 210 – 260		160 – 210 – 260	
	TF CZ21 20	180 – 230 – 280		180 – 220 – 280	
	TF PR71 25			160 – 200 – 260	
	TF PU61 30	160 – 210 – 260	140 – 160 – 180	160 – 210 – 260	
	TF PY31 30		140 – 150 – 180		
	TF CY01 40		110 – 130 – 160		
	TF UG31 25				250 – 540 – 900



MR90

Inserts APMT



Reference	Machining	Grade	Wiper flat	Radius	Cutting depth	f_z	Price*
			b_s	mm	$a_{p max}$	mm/z	€/pc.
APMT 1135PDER-FM TF PB81 25 751		TF PB81 25	1.92	0.80	8	0.10 – 0.15 – 0.20	15..69
APMT 1135PDER-FM TF PU61 30 750		TF PU61 30				0.10 – 0.15 – 0.20	
APGT 1135PDFR-AL TF UG31 25 750	Alu	TF UG31 25	0.05 – 0.15 – 0.25				
APMT 1604PDER-FM TF PB81 25 751		TF PB81 25	2.00	0.80	13	0.10 – 0.15 – 0.20	18.33
APMT 1604PDER-FM TF PU61 30 750		TF PU61 30				0.10 – 0.15 – 0.20	
APMT 1604PDER-FS TF PU61 30 750		TF PU61 30	0.12 – 0.18 – 0.25				
APGT 1604PDFR-AL TF UG31 25 750	Alu	TF UG31 25	0.05 – 0.15 – 0.25				

Cutting parameters

ISO			P	M	K	N
			Steel	Stainless austenitic / martensitic	Cast iron (GGG, GT)	Aluminum & Al alloys
Tensile strength N/mm ²			≤ 850	≤ 750	≤ 650	≤ 500
Cutting speed V_c (m/min)	TF PB81 25	FM	160 – 210 – 260		160 – 210 – 260	
	TF PU61 30	FM/FS	160 – 210 – 260	140 – 160 – 180	160 – 210 – 260	
	TF UG31 25	AL				250 – 540 – 900

*PU 10 pcs.

Milling

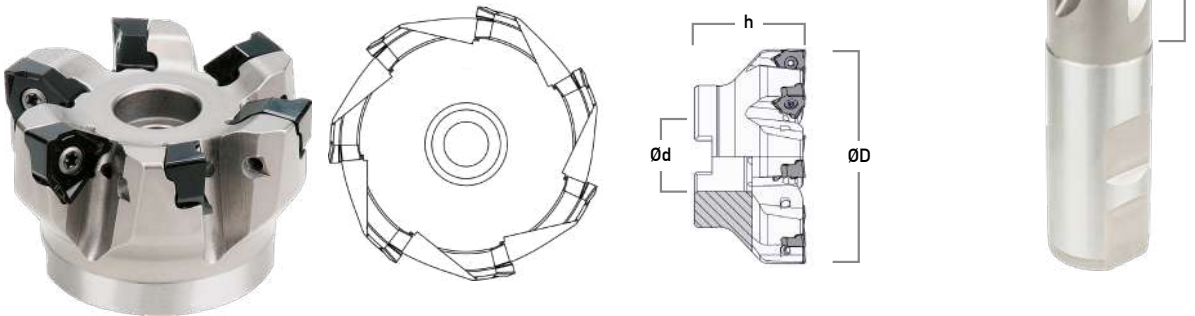


Square Shoulder Cutter MR290

- Can be used for slot, shoulder, face, and plunge milling for roughing and finishing
- High rotation and axial run-out accuracy due to high precision of insert pockets and ground indexable inserts
- High cost-efficiency due to double-sided indexable inserts with six cutting edges
- High process reliability due to optimum cooling (air/cutting fluid) through IC holes and thick, stable indexable inserts
- Improved shearing action due to positive rake angle
- Best surfaces finishing due to large wiper geometry
- Can be used with a wide range of materials (steel, stainless steel, aluminium, high-temperature materials)

MR290



Square Shoulder Cutter MR290 with Internal coolant



Product family **850**

Reference	ØD	Ød	z	L _i	AP	Insert	Shank	Price €/pc.	
End mill									
MR290A20-170-3-WNGX04	20	20	3	170	50	WNGX04	HA	389.02	
MR290A25-170-3-WNGX04	25	25	3					525.18	
MR290A32-170-4-WNGX04	32	32	4					596.49	
MR290A32-25-170-4-WNGX04	32	25	4					616.37	
MR290A40-170-3-WNGX08	40	32	3					710.59	
MR290B20-81-3-WNGX04	20	20	3	81	31	WNGX04	HB	356.61	
MR290B25-88-3-WNGX04	25	25	3	88	32			376.06	
MR290B25-88-4-WNGX04	25	25	4					395.50	
MR290B32-100-5-WNGX04	32	32	5	100	40			460.34	
MR290B32-25-100-5-WNGX04	32	25	5		32			483.26	
MR290B40-100-3-WNGX08	40	32	3		40			WNGX08	519.04

Product family **83**

Milling body accessories	Insert	Ø range	Spare part screw			Wrench for Screw		
								
			Reference	Part No.	Price €/pc.	Reference	Part No.	Price €/pc.
MR290...04	WNGX04	20–63	Screw M2.5x6 T8	E100087 835	3.60	T08	E100028 834	6.63
MR290...08	WNGX08	50–80	Screw M4x11 T15	E100088 835		T15	E100029 834	

MR290

Square Shoulder Cutter MR290 With Internal coolant

							Product family	851
Reference	ØD	Ød	z	h	Insert	Shank	Price	
							€/pc.	
End mill								
MR290Q40-40-4-WNGX04	40	16	4	40	WNGX04	Arbor mount	350.12	
MR290Q40-40-6-WNGX04	40	16	6				401.98	
MR290Q50-40-5-WNGX04	50	22	5				447.38	
MR290Q50-40-7-WNGX04	50	22	7				479.78	
MR290Q63-40-6-WNGX04	63	22	6				525.18	
MR290Q50-40-5-WNGX08	50	22	5				447.38	
MR290Q63-40-6-WNGX08	63	22	6	525.18				
MR290Q80-50-7-WNGX08	80	27	7	50	WNGX08	654.84		
MR290Q100-50-9-WNGX08	100	32	9			815.85		
MR290Q125-63-11-WNGX08	125	40	11			63	1.028.68	

Torx size	Tightening torque of insert screws
T08	1.2 Nm
T15	3.5 Nm

MR290 in use

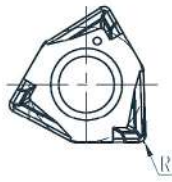
On YouTube you can see our MR290 corner cutterhead with its six-fluted WNGX inserts in use for the application of C45E.

<https://www.youtube.com/watch?v=S4qEl-onSLc&t=158s>



MR290

Inserts WNGX



Product family 750

Reference	Machining	Grade	Wiper flat	Radius	Thickness	Cutting depth	f _z	Price*	
			b _s	mm	s	a _{p max}	mm/z	€/pc.	
WNGX 040304-FM TF PB81 25		TF PB81 25	0.80	0.40	3.3	4.0	0.10 – 0.15 – 0.20	28.99	
WNGX 040304-FM TF PU61 30		TF PU61 30					0.10 – 0.15 – 0.20		
WNGX 040304-FM TF CY01 40		TF CY01 40					0.05 – 0.15 – 0.25		
WNGX 040304-FM TF PR71 25		TF PR71 25					0.05 – 0.15 – 0.25		
WNGX 040308-FM TF CB61 20		TF CB61 20	0.40		3.3	4.0	0.10 – 0.15 – 0.20		
WNGX 040308-FM TF PB81 25		TF PB81 25					0.10 – 0.15 – 0.20		
WNGX 040308-FM TF PU61 30		TF PU61 30					0.10 – 0.15 – 0.20		
WNGX 040308-FM TF PY31 30		TF PY31 30					0.10 – 0.15 – 0.20		
WNGX 040308-FM TF CY01 40		TF CY01 40					0.10 – 0.15 – 0.20		
WNGX 040308-FM TF PR71 25		TF PR71 25					0.10 – 0.15 – 0.20		
WNGX 080608-FM TF CB61 20		TF CB61 20	1.30	0.80	6.45	7.5	0.10 – 0.15 – 0.20		32.15
WNGX 080608-FM TF PB81 25		TF PB81 25					0.10 – 0.15 – 0.20		
WNGX 080608-FM TF CZ21 20		TF CZ21 20					0.10 – 0.15 – 0.20		
WNGX 080608-FM TF PU61 30		TF PU61 30					0.10 – 0.15 – 0.20		
WNGX 080608-FM TF PY31 30		TF PY31 30					0.10 – 0.15 – 0.20		
WNGX 080608-FM TF CY01 40		TF CY01 40					0.10 – 0.15 – 0.20		
WNGX 080608-FM TF PR71 25		TF PR71 25	0.12 – 0.18 – 0.25						
WNGX 080608-FS TF CB61 20		TF CB61 20			6.45	7.5	0.10 – 0.20 – 0.30		
WNGX 080608-FS TF CZ21 20		TF CZ21 20					0.10 – 0.20 – 0.30		
WNGX 080608-FS TF PU61 30		TF PU61 30					0.12 – 0.18 – 0.25		
WNGX 080608-FS TF PR71 25		TF PR71 25					0.05 – 0.15 – 0.25		

*PU 10 pcs.

Milling



MR290

Inserts WNGX

Cutting parameters

ISO		P	M	K	N
		Steel	Stainless austenitic / martensitic	Cast iron (GGG, GT)	Aluminum & Al alloys
Tensile strength N/mm ²		≤ 1100	≤ 750	≤ 750	≤ 10% Si
Cutting speed V _c (m/min)	TF CB61 20	200 – 250 – 300		200 – 250 – 300	
	TF PB81 25	160 – 210 – 260		160 – 210 – 260	
	TF CZ21 20	180 – 230 – 280		180 – 220 – 280	
	TF PU61 30	160 – 210 – 260	130 – 160 – 180	160 – 210 – 260	400 – 600 – 800
	TF PY31 30		140 – 150 – 180		
	TF CY01 40		110 – 130 – 160		
	TF PR71 25			160 – 200 – 260	

General Terms and Conditions

§ 1 Scope of application – Privacy

1. Our General Terms and Conditions shall apply exclusively to all our deliveries and services including any associated consulting and information. We do not accept any conflicting Terms and Conditions or any Terms that differ from our Terms unless we have approved their validity in writing.
2. Our Terms and Conditions shall also apply, if we fully execute delivery to the customer knowing any conflicting or differing Terms and Conditions of the customer.
3. These Terms shall also apply to all future contractual relations with companies according to § 310 BGB (German Civil Code). Terms and Conditions that are identified as such shall also apply to them.
4. Within a business relationship between *entrepreNEWrs*, receipt of our deliveries and services implies that the customer accepts the legal validity of our Terms and Conditions. Any agreements including collateral agreements that differ from our Terms and Conditions or contain any kind of confirmation from our side shall only be effective in writing.
5. Customer information will be saved (acc. to Sections 28, 33 BDSG, German Federal Data Protection Act).

§ 2 Quotations – Conclusion of the contract

1. The customer's order shall be binding. Upon our choice, we shall be entitled to accept this order within 14 days by providing an order confirmation or by shipping the ordered goods.
2. Our quotations in business transactions with companies shall always be non-binding unless otherwise provided in the order confirmation. Oral agreements and confirmations only apply if we have confirmed the same in writing.

§ 3 Prices – Delivery and payment terms

1. Unless another price agreement has been agreed upon in written form, our prices are net plus applicable VAT according to our latest catalogues and price lists valid on the day of order. Catalogues and price lists are accessible at our premises or can be ordered from us.
2. Our deliveries are supplied carriage paid including packaging from an net order value of € 200,00. Any other orders will be shipped at the owner's expense.
3. Unless otherwise agreed, our invoices are payable within 8 days from date of invoice with 2% discount or 30 days net. Checks and payment orders will only be accepted on account of performance. Payment shall be deemed completed when the amount is credited to our account.
4. The customer is in default at the latest, if he fails to pay within 30 days when an invoice is due or after the receipt of the invoice or another payment schedule. Thereupon, we shall be entitled to charge the applicable default interest and charge € 10,00 for each payment reminder. We shall reserve the right to furnish proof of higher damage caused by default.
5. Any discounts or periods allowed for payment granted by us can be refused if the customer defaults on payment of previous invoices or following filings for insolvency. In these cases we shall be entitled to declare all due as well as any deferred invoice amounts immediately payable. In such cases, delivery of ordered goods will only be made on cash payment.
6. Set off rights can only be granted to the Buyer, if his counter claims have been stated legally binding, undisputed or recognized by our company. The customer's rights of retention only exist for counter claims resulting from the same contractual relationship.
7. In the case of the case of returned goods, we shall be entitled to retain a fee of 20% of the goods value as contribution to the coverage of costs. We can only take back tools in good order and condition and without any labels or with the TOOL FACTORY label only. Special tools and products with customized labelling are excluded from return. If the return shall be due to a fault of TOOL FACTORY, the take-back is free of charge to the customer. Only tools delivered within the last 6 months can be returned.

§ 4 Delivery terms – Receipt of the goods

1. Delivery times or dates shall only be binding upon agreement in writing.
2. Particularly in the case of larger deliveries, we shall be entitled for part-in deliveries to an extent that is reasonable for the customer.
3. As long as the customer is in delay with trade accounts payable, our obligation to deliver is in rest.
4. From our part, delivery term shall be deemed complied when the delivered goods have been sent to the customer prior to its expiry. The delivery period shall be reasonably extended against the background of measures taken within the scope of industrial action, particularly with regard to strikes and lockouts, as well as upon the occurrence of unforeseeable obstacles that are beyond our will, as far as such obstacles have a provable material influence on the delivery objects' completion or delivery. This shall also apply to circumstances which may occur at sub-suppliers. The aforementioned circumstances shall also be deemed to be beyond our control if they arise from a pre-existing delay. In important cases, we will inform the customer as soon as possible of the beginning and the end of such circumstances. If delivery or performance is rendered impossible or unreasonable by virtue of the indicated circumstances, we are relieved from the delivery obligation.
5. If we are in default towards companies due to reasons for which we bear responsibility, the client is entitled to a reimbursement for damages caused by arrears to the sum of 1% of the value of the declared value of goods for each full week of the delay, limited however to a maximum of 15% of the value of goods. Any additional claims due to delay of delivery are exclusively subject to § 8 of these Conditions.
6. If we are in default and if the customer – under the consideration of the statutory exceptions – grants to us a reasonable period of time for performance and if this period of time is not adhered to, the customer shall be entitled to withdrawal in accordance with statutory regulations. Any additional claims due to delay of delivery are exclusively subject to § 8 of these Conditions.
7. If the customer defaults in taking delivery or infringes other duties to cooperate, we shall be entitled to claim compensation for the damage suffered by us, including any additional expenses. In this case, the risk of accidental loss or of accidental degradation of the item purchased shall transfer to the customer at the time the customer falls into default of acceptance.
8. Where the customer does not accept the goods within the extension period, we are entitled, to request compensation for damages without any special proof due to non-fulfilment to an amount of 20% of the rejected goods value, as well as the incurred shipping cost plus applicable VAT. Both the customer and we reserve the right to provide evidence of higher or lower damages in the individual case.

§ 5 Transfer of risk – Dispatch

1. The goods shall be delivered or dispatched at the customer's risk in any case. Type and route of dispatch are left to us, unless otherwise agreed upon. As soon as the goods have been handed over to the forwarder/carrier, or, at the latest, when they have left our warehouse, the risk for the goods shall pass on to the customer.
2. If dispatch is delayed due to circumstances for which the customer bears responsibility, then the risk shall be transferred to the customer from the day on which the goods are ready for dispatch.
3. Delivered items shall be accepted by the customer even if there is evidence of minor faults, regardless of the rights arising from § 7.

§ 6 Retention of title

1. We shall retain full title of the goods that have been delivered in accordance with the delivery contract until the receipt of the full payment.
2. If the realisable value of the securities held by us exceeds the total value of our claims by more than 20%, we shall be obliged by request of the customer to the release of securities of our own choice.
3. The customer must inform us immediately in writing in relation to any attachments asserted by third parties, or any other such interventions, and it is also required to inform the attaching creditor of the existence of the retention of title.
4. In case of breach of contract by the client, in particular in case of default of payment, we shall be entitled to take back the object of sale. Our repossession of the object of sale shall not constitute a withdrawal from the contract, unless we make explicit written declaration thereof or imperative provisions of the consumer credit act shall apply to the contract. If we obtain the attachment of the object of sale this shall always be construed as a cancellation of the contract. We shall be entitled to re-market goods taken back from the company by implementing a resale at our sole discretion, provided that we have given advance reasonable notice of the threat of resale. After taking back the purchased goods, we shall be entitled to dispose of them. We shall offset the proceeds from such a sale against the client's liabilities, less appropriate administrative cost, in general 10% of the goods value.
5. If we are entitled to take back the goods, the customer is obliged to enable one of our employees to perform a stock check of the reserved goods.

§ 7 Defects of quality

1. We bear liability for defects as to quality as follows: All those parts which within the limitation period prove to have a defect, shall at our choice and at no expense to us be either repaired, delivered anew or performed again, insofar as the cause for the defect existed at the time of the transfer of risk.
2. The customer shall notify us in writing of any defects of quality immediately after their discovery.
3. If notice is given of defects, payments by the customer shall only be retained to such extent as is justified in proportion to the defects that have occurred. The customer may withhold payments only if the complaint as to defects is justified and incontestable. If the complaint is unjustified, we shall be entitled to demand from the customer reimbursement of the incurred expenses.
4. First, we must get the opportunity to provide subsequent fulfilment within a reasonable period.
5. If the subsequent fulfilment fails, the customer may withdraw from the contract or reduce the remuneration irrespective of any eventual indemnification claims pursuant to § 8.
6. There shall be no claims for defects where the discrepancy from the agreed condition is insignificant, where the impairment of use is insignificant, where there is normal wear and tear or where damages arise after the passing of risk as a consequence of incorrect or careless handling, excessive operational demands, unsuitable equipment or as a consequence of special exterior influences which in the agreement were not assumed. If improper modifications are made by the customer or third parties, they are not entitled to assert claims for damages on these goods and the consequences resulting thereof.
7. Claims by the customer concerning the expenses necessary for the purpose of supplementary performance, in particular costs of transport, travel, labour and material are precluded insofar as the expenses have risen because the delivery item has been moved to a different location subsequently, unless the move conforms to its intended use.

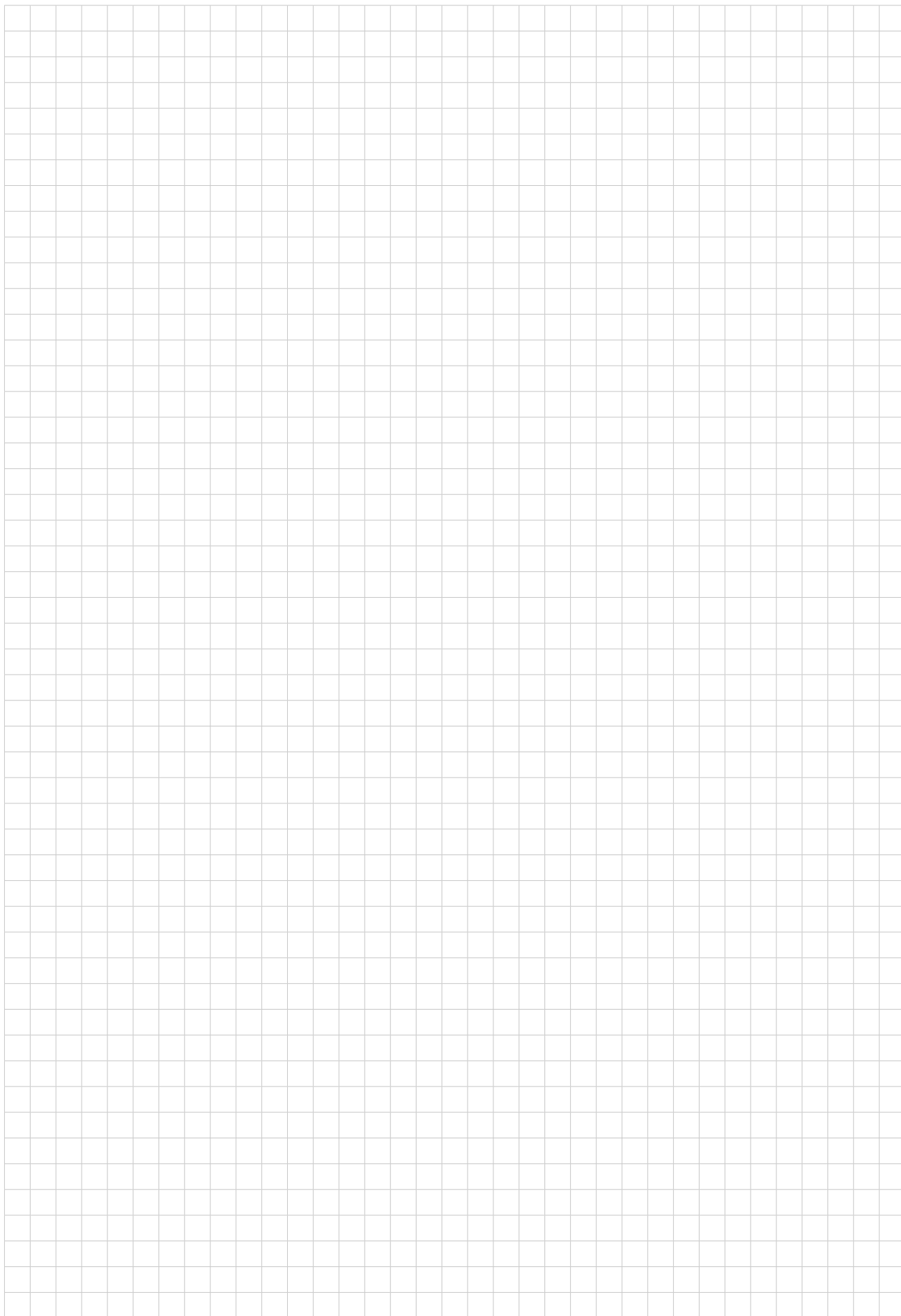
§ 8 Other claims for damages

1. Claims to damages and reimbursement of expenditure of the customer (hereinafter claims to damages), shall be excluded irrespective of their legal basis, including, but not limited to, the breach of duties under the law of obligations and under tort.
2. Claims for damages due to the infringement of material contractual duties, however, shall be limited to contract-typical, predictable damages, provided there is no intent or gross negligence, or that liability is assumed on account of damage to life, physical injury or damage to health. A change of the burden of proof to the disadvantage of the client is not associated with the aforementioned conditions.
3. Insofar as the customer is entitled to claims for damages in accordance with this section, they become statute-barred according to § 7 art. 2 of these conditions after the expiration of the limitation period applicable for claims for defects of quality. The legal provisions for limitation periods shall apply to claims for damage in accordance with the German product liability law.

§ 9 Place of fulfilment and court of jurisdiction

1. Though we ship the goods to the customer, our registered office shall remain the place of fulfilment.
2. Provided the customer is a company (*entrepreNEWr*), the court of jurisdiction shall be our registered office, however, upon our choice, also the company's registered office.

Notes

A large grid of 25 columns and 30 rows, intended for taking notes. The grid is composed of thin, light gray lines forming small squares across the entire page.

ToolFactory
Cutting Tool Solutions

TOOL FACTORY Cutting Tool Solutions GmbH
Linde 9
51399 Burscheid / Germany
Tel. +49 2174 79153 - 0
Fax +49 2174 79153 - 69
www.tool-factory.de · info@tool-factory.de

Member of the VDMA



Follow us



All prices are ex works, packaging and VAT excluded. We do not assume any reliability for printing errors.

Our sales partner:

