MILLING CUTTER BODIES

Tooling systems and application consulting for the milling of complex 2.5 and 3D geometries

pokolm

PREMIUMTOOLS. WE KNOW HOW.

NEW CATALOGUE OF MILLING CUTTER BODIES

The new catalogue of Pokolm's milling cutter bodies and inserts

Dear Customer,

With this catalogue we are sending you detailed documentation about POKOLM's current range of milling cutter bodies and inserts. The catalogue is just as well thought-through as our tooling systems. Because it is primarily structured according to the different forms of use! And it is clear straightaway, from the product overview, for what types of machining and material groups the individual cutter types can be used and in what sizes and connection types they are available.

Another positive aspect with regard to user-friendliness: the corresponding inserts, the accessories and cutting and enhanced use data is provided directly following the individual cutter types - removing the need for annoying searching for the information you need and therefore saving your working time.

Apart from the tried and tested series, all new developments have also naturally found their place in the product range. This ensures that you always find the optimum premium quality tooling system for your specific application.

Our top trained applications technicians will also be pleased to help you to develop individual and optimally coordinated solutions and concepts. We are happy to be of service and look forward to hearing from you!

Your Pokolm Team

Imprint

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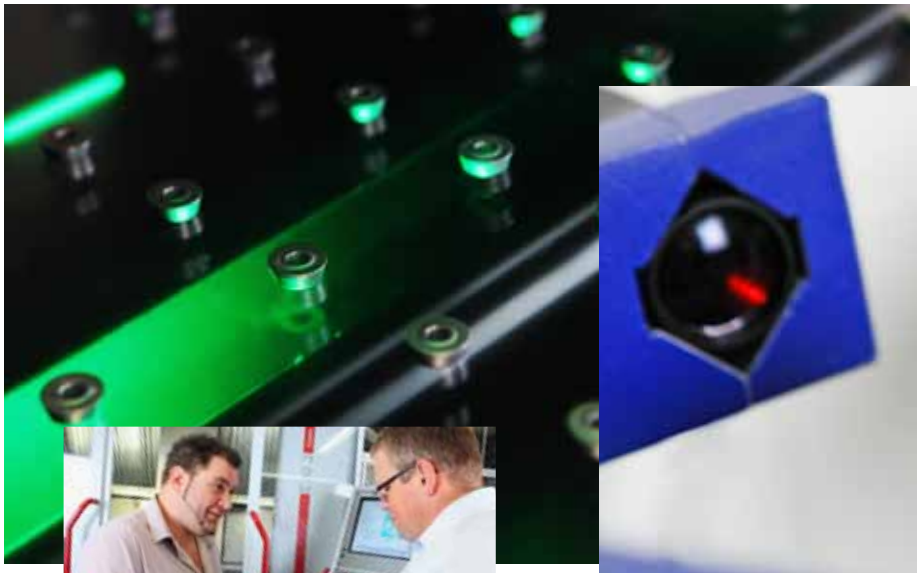
BENEFIT FROM OUR SUCCESS STORY

Being better means continuously thinking about the competition and your own products and services, identifying potential optimisation and above all, developing innovations, which constitute real progress and benefit. In cutting/milling technology, lighter, significantly faster machines led to fundamental changes, which required new cutters for higher feed rates and and considerably smaller cutting depths closer to the contour. The founder of our company, F.-J. Pokolm played a decisive role in this important milling cutter body development step with many innovations that are now considered to be the standard. For example, unlike the inch sizes commonly used before, today milling cutter bodies and inserts in metric sizes simplify calculation of the relevant values. The embedded insert seat is a POKOLM innovation, for which we have the inventive genius and practical experience of the founder of our company to thank. The patented **DUOPLUG®** system with its significantly increased holding forces and maximum concentricity is thought by the industry to be the perfect screw connection between tool and the toolholder. A current cutting/milling technology milestone is the **SPINWORX®** round insert cutter with self-rotating inserts.

At the same time the **SPINWORX®** tooling system with its holder, inserts and locking pins clearly verifies how perfectly all the individual POKOLM components are coordinated with each other - the result of years of experience and in-depth know-how. Top quality and precision standards during development and series production, not only in-house but also at our suppliers, also form an indispensable basis for this success.

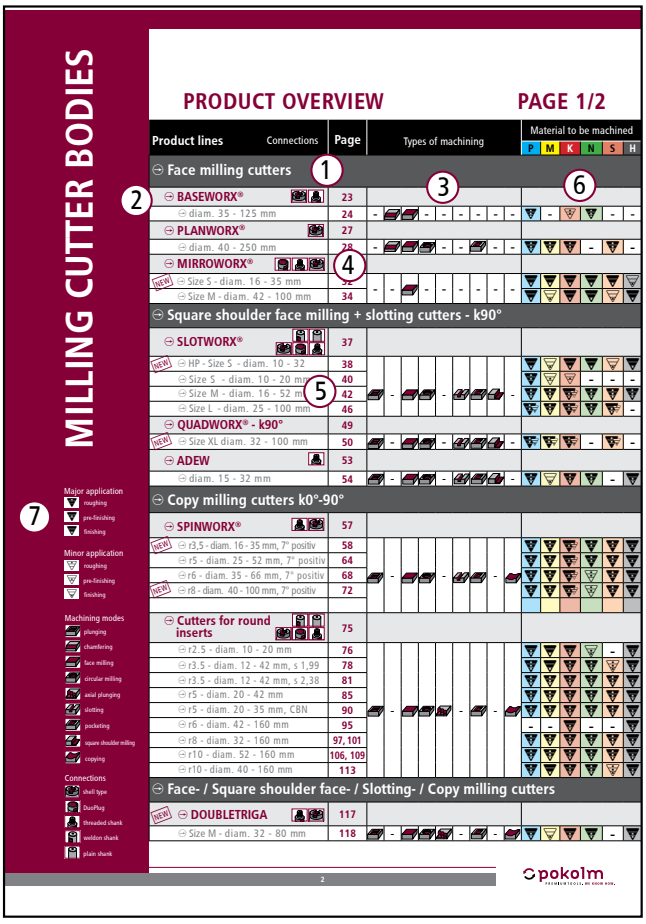


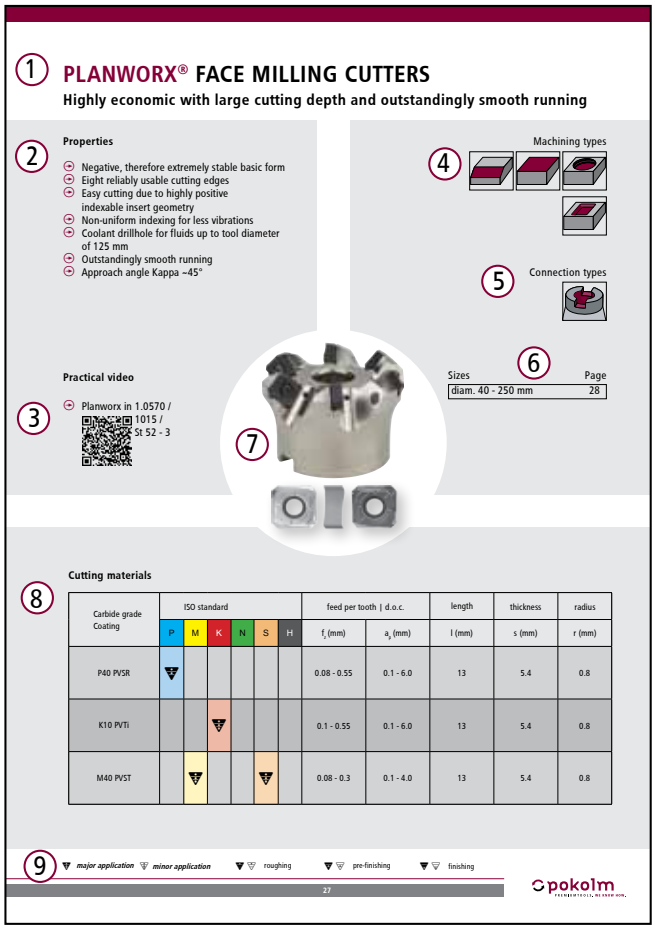
Successful practicians consciously opt for POKOLM premium tools and benefit from this decision. This little bit "more" that gives POKOLM customers the decisive competitive advantage, results automatically from the interaction of excellent products and outstanding technical advice provided by our technical field service, which is completely and individually orientated to every single customer.

THE CATALOGUE SYSTEM - YOU WILL FIND EVERYTHING EASILY!

The two-page product overview provides an excellent summary of the complete range of Pokolm cuttings systems and enables you to make a quick preselection of possible products for your individual use.

1. Cutter group
2. Name of the product series
3. Types of machining with cutting system
4. Available connection types
5. Available sizes with page references
6. Material to be machined
7. Key

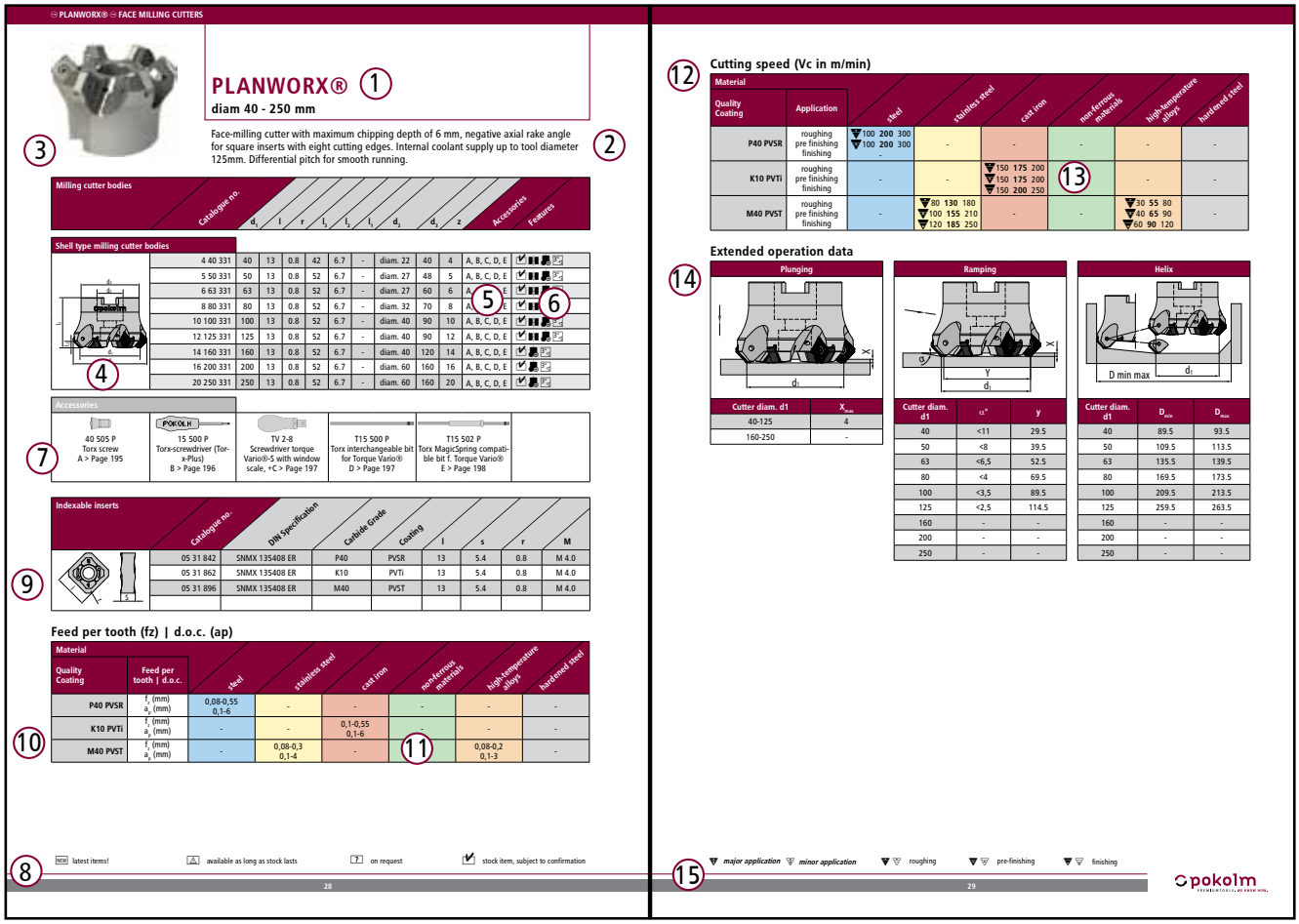




Before each cutting system you will find a page with a uniform layout, on which the most important characteristics of the respective product range are shown, briefly and succinctly, in a clear form. This enables you to compare the different product ranges easily at a glance.

1. Name of the product series
2. Most important properties of the cutting system
3. Application video with QR code as link, where available
4. Types of machining with this cutting system
5. Available connection types
6. Available sizes with page references
7. Exemplary figure of the cutting system
8. Available cutting materials with application options and cutting data information
9. Key to application options

The product pages contain information needed for purchasing and for use of the respective cutting system. Time-consuming paging and searching for accessories and cutting data is no longer necessary - saving you valuable time!



PLANWORX® FACE MILLING CUTTERS

PLANWORX® 1
diam 40 - 250 mm

Face-milling cutter with maximum chipping depth of 6 mm, negative axial rake angle for square inserts with eight cutting edges. Internal coolant supply up to tool diameter 125mm. Differential pitch for smooth running.

Milling cutter bodies

Shell type milling cutter bodies

Catalogue no.	d_1	l	r	l_2	l_3	d_2	d_3	z	Accessories	Features
4 40 331	40	13	0.8	42	6.7	-	diam. 22	40	4	A, B, C, D, E
5 50 331	50	13	0.8	52	6.7	-	diam. 27	48	5	A, B, C, D, E
6 63 331	63	13	0.8	52	6.7	-	diam. 27	60	6	A, B, C, D, E
8 80 331	80	13	0.8	52	6.7	-	diam. 32	70	8	A, B, C, D, E
10 100 331	100	13	0.8	52	6.7	-	diam. 40	90	10	A, B, C, D, E
12 125 331	125	13	0.8	52	6.7	-	diam. 40	90	12	A, B, C, D, E
14 160 331	160	13	0.8	52	6.7	-	diam. 40	120	14	A, B, C, D, E
16 200 331	200	13	0.8	52	6.7	-	diam. 60	160	16	A, B, C, D, E
20 250 331	250	13	0.8	52	6.7	-	diam. 60	160	20	A, B, C, D, E

Accessories

40 505 P Torx screw A > Page 195	15 500 P Torx-screwdriver (Torx-Plus) B > Page 196	TV 2-8 Screwdriver torque Vario®-S with window scale, +C > Page 197	T15 500 P Torx interchangeable bit for Torque Vario® D > Page 197	T15 502 P Torx MagicSpring compatible bit f. Torque Vario® E > Page 198

Indexable inserts

Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
05 31 842	SNMX 135408 ER	P40	PVSR	13	5.4	0.8	M 4.0
05 31 862	SNMX 135408 ER	K10	PVTi	13	5.4	0.8	M 4.0
05 31 896	SNMX 135408 ER	M40	PVST	13	5.4	0.8	M 4.0

Feed per tooth (fz) | d.o.c. (ap)

Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVSR	f_z (mm) a_p (mm)	0,08-0,55 0,1-6	-	-	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	0,1-0,55 0,1-6	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,08-0,3 0,1-4	-	-	0,08-0,2 0,1-3	-

Cutting speed (Vc in m/min)

Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVSR	roughing pre finishing finishing	▼100 200 300 ▽100 200 300 -	-	-	-	-	-
K10 PVTi	roughing pre finishing finishing	-	-	▼150 175 200 ▽150 175 200 ▼150 200 250	-	-	-
M40 PVST	roughing pre finishing finishing	-	▼80 130 180 ▽100 155 210 ▼120 185 250	-	-	▼30 55 80 ▽40 65 90 ▼60 90 120	-

Extended operation data

Plunging

Cutter diam. d1	X_{max}
40-125	4
160-250	-

Ramping

Cutter diam. d1	α°	y
40	<11	29.5
50	<8	39.5
63	<6,5	52.5
80	<4	69.5
100	<3,5	89.5
125	<2,5	114.5
160	-	-
200	-	-
250	-	-

Helix

Cutter diam. d1	D_{min}	D_{max}
40	89.5	93.5
50	109.5	113.5
63	135.5	139.5
80	169.5	173.5
100	209.5	213.5
125	259.5	263.5
160	-	-
200	-	-
250	-	-

NEW latest items! A available as long as stock lasts T on request stock item, subject to confirmation

major application minor application ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

28 29

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1. Name of the product series
2. Description of the product series
3. Example photo of a product in the product range
4. Dimensioned sketches of each type of connection, corresponding dimensions given in the adjacent table
5. Accessory allocation; for accessories see section 7
6. Properties, symbols in the key and on the last page of the catalogue
7. List of accessories with page reference
8. Key: stock statuses
9. Suitable indexable inserts
10. Feed per tooth (fz) and d.o.c. - depth of cut (ap)
11. ATTENTION! The values given are merely guide values and must be checked for each individual case!
    High a_p values may not be combined with high f_z values! Therefore, in case of high a_p values, low f_z values must be used and in case of high f_z values, low a_p values must be used.
12. Cutting speed
13. The values given reflect the bandwidth for both roughing and finishing. The **bold** figure in the middle is the respective average value.
    If the figures are in *italics*, they are merely given as values for minor applications!
14. Extended operation data
15. Key to the pictograms in the tables and to the main and secondary precision, medium and rough machining applications

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PURCHASE- AND INFO-HOTLINE

Pokolm
Frästechnik GmbH & Co. KG

+49 5247 9361-0

+49 5247 9361-99

7:30 a.m. - 6:00 p.m. (on working days)

Your purchase up to 5:00 p.m. for same-day shipping!

We want to simplify your problems:
Benefit from our additional services!

"Click" for an electronic quotation!
On request we will send you a quotation or your order confirmation as a PDF file by email.

This means that all information is just one "mouse click" away! With links to detailed technical information.

Individual advice: the QR codes are the shortest route to contacts on our website!

Office Sales

National
technical field service

International
technical field service

MILLING CUTTER BODIES

TABLE OF CONTENTS

VARIETY OF THE HIGHEST QUALITY

The intelligent POKOLM tooling system has the optimum tool for your every need – from the adapter to the milling cutter body or solid carbide cutter through to the insert in various geometries, qualities and coatings. Competent advice from our technical sales representatives, first-class service, a complex range of accessories and further training for our customers in the POKOLM Academy complete our full service concept. In this way we support your success in all areas of the process chain, sustainably.

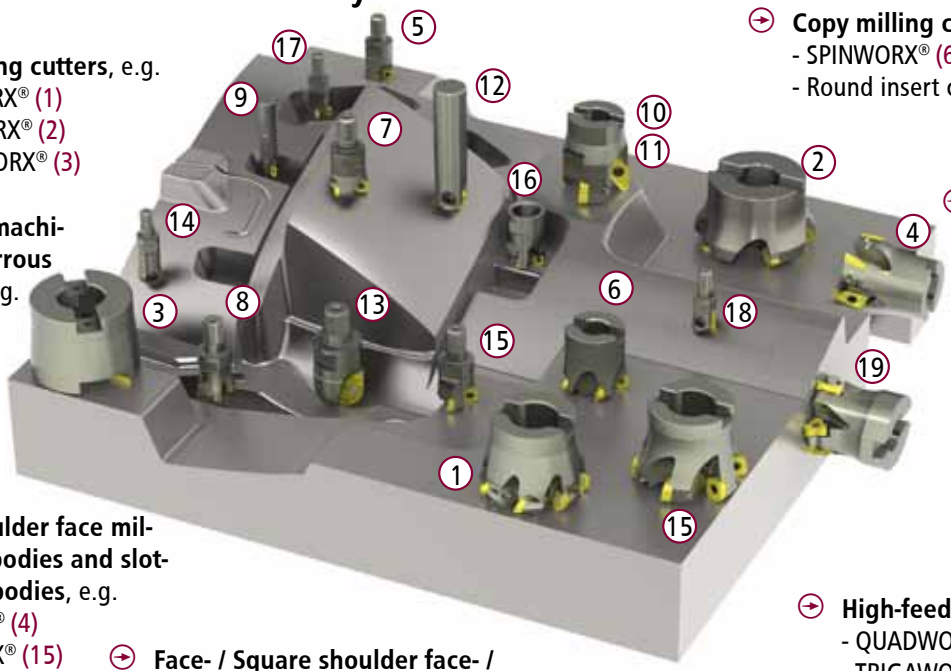
Milling cutter bodies for every use

Face milling cutters, e.g.
- BASEWORX® (1)
- PLANWORX® (2)
- MIRROWORX® (3)

Cutters for machining non-ferrous materials, e.g.
- VDGT (10)
- VCGT (11)

Square shoulder face milling cutter bodies and slotting cutter bodies, e.g.
- SLOTWORX® (4)
- QUADWORX® (15)
- ADEW (5)

Face- / Square shoulder face- / Slotting- / Copy milling cutters
- DOUBLETRIGA® (19)



Copy milling cutters, e.g.
- SPINWORX® (6)
- Round insert cutters (7)

Rhombic cutters, e.g.
- FINWORX® (8)
- XDHW | XDHT (9)

Ballnose / bull end mill cutters, e.g.
- UNIWORX® (12)
- WAVEWORX® (13)
- Ball nose end mills with 4 cutting edges (14)

High-feed cutters, e.g.
- QUADWORX® (15)
- TRIGAWORX® (16)
- SLOTWORX® (4)
- SLOTWORX®HP (17)

Corner radius- / High-feed cutters
- UNIWORX® PLUS(18)

The complete POKOLM product range for every aspect of milling technology


Milling cutter bodies


Adapter systems


Accessories


Indexable inserts


Spindle systems
Shrink technology


Detailed technical know-how


Solid carbide cutters


Special products


Qualified service

MILLING CUTTER BODIES

PRODUCT OVERVIEW

Product lines	Connections	Page	Types of machining	Material to be machined P	M	K	N	S	H
Face milling cutters									
BASEWORX®		23							
diam. 35 - 125 mm		24	- - - - - - - - -		-			-	-
PLANWORX®		27							
diam. 40 - 250 mm		28	- - - - - - - - -				-		-
MIRROWORX®		31							
NEW Size S - diam. 16 - 35 mm		32	- - - - - - - - -						
Size M - diam. 42 - 100 mm		34							
Square shoulder face milling + slotting cutters - k90°									
SLOTWORX®		37							
NEW HP - Size S - diam. 10 - 32 mm		38							
Size S - diam. 10 - 20 mm		40					-	-	-
Size M - diam. 16 - 52 mm		42	- - - - - - - - -						
Size L - diam. 25 - 100 mm		46							-
QUADWORX® - k90°		49							
NEW Size XL diam. 32 - 100 mm		50	- - - - - - - - -				-		-
ADEW		53							
diam. 15 - 32 mm		54	- - - - - - - - -					-	
Copy milling cutters k0°-90°									
SPINWORX®		57							
NEW r3,5 - diam. 16 - 35 mm, 7° positiv		58							
r5 - diam. 25 - 52 mm, 7° positiv		64							
r6 - diam. 35 - 66 mm, 7° positiv		68	- - - - - - - - -						
NEW r8 - diam. 40 - 100 mm, 7° positiv		72							
Cutters for round inserts		75							
r2.5 - diam. 10 - 20 mm		76						-	
r3.5 - diam. 12 - 42 mm, s 1,99		78							
r3.5 - diam. 15 - 42 mm, s 2,38		81							
r5 - diam. 20 - 42 mm, neutral		85							
r5 - diam. 25 - 52 mm, 7°positiv		90	- - - - - - - - -						
r5 - diam. 20 - 35 mm, CBN		95		-	-		-	-	
r6 - diam. 24 - 80 mm		97, 101							
r8 - diam. 32 - 160 mm		106, 109							
r10 - diam. 40 - 160 mm		113							
Face- / Square shoulder face- / Slotting- / Copy milling cutters									
NEW DOUBLETRIGA		117							
Size M - diam. 32 - 80 mm		118	- - - - - - - - -					-	

Major application
- roughing
- pre-finishing
- finishing

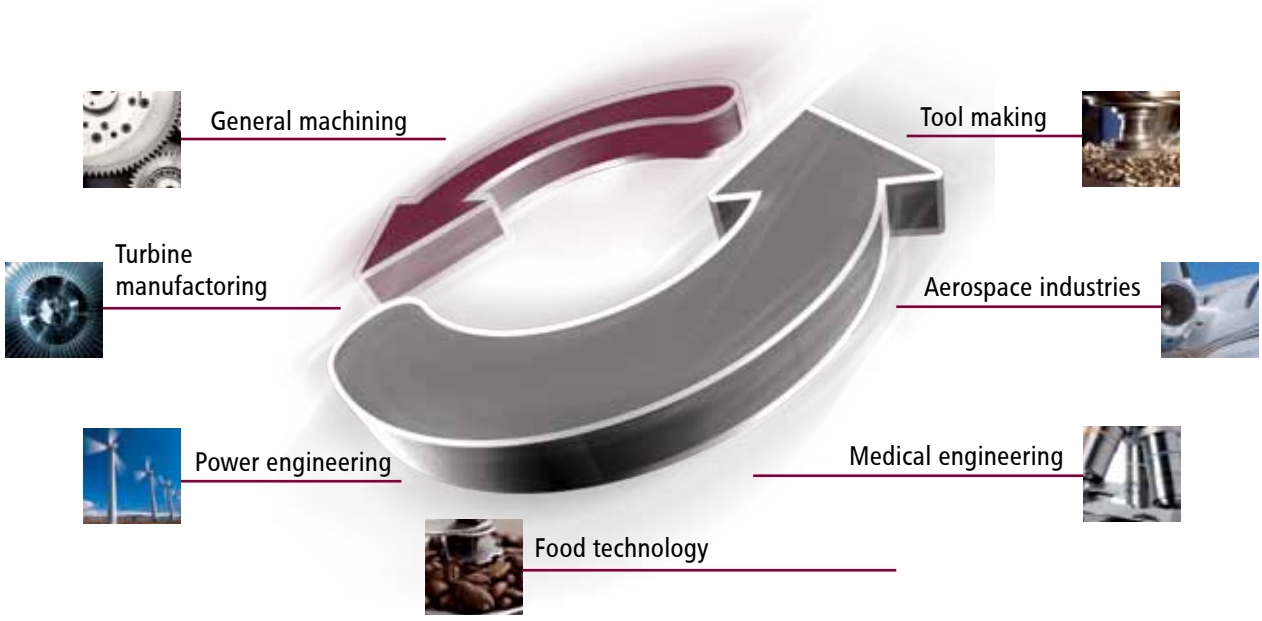
Minor application
- roughing
- pre-finishing
- finishing

Machining types
- plunging
- chamfering
- face milling
- circular milling
- axial plunging
- slotting
- pocketing
- square shoulder milling
- copying

Connection types
- shell type
- DUOPLUG®
- threaded shank
- weldon shank
- plain shank

CUSTOMIZED CONCEPTS FOR EVERY INDUSTRIAL SECTOR

From delicate medical engineering to powerful, vigorous racing sports – our services are used in the most various sectors. And at the same time, the requirements placed on our products are as diverse as they are demanding. Maximum precision, quality and expertise are what is demanded everywhere. It is inconsequential whether it is all about large components for aerospace or a highly-specific special tool for the wood industry. With this great diversity, direct contact with the customers is of decisive importance. That is the only way to precisely comprehend the specific challenges. Our highly-trained field service can often even help right onsite and flexibly and precisely find the perfect solution for highly customised requirements.



DOUPLUG®, **SPINWORX®** and other patents.

Guaranteed process optimization

If you don't go forward, you go backwards! For this reason, we continuously develop new products for our range of tooling. This is the only way to meet the requirements as technological leader in this field. And this is the way for you, having a lasting effect from our innovations and patents, which are able to promote your competitive advantage.

MILLING CUTTER BODIES

PRODUCT OVERVIEW

Product lines	Connections	Page	Types of machining	Material to be machined P	M	K	N	S	H
Rhombic cutters - k95°									
FINWORX®		121							
diam. 16 - 42 mm | r1		122						-	
XDHW | XDHT 06		125							
diam. 16 - 42 mm | r1		126						-	
diam. 16 - 35 mm | r2		129					-	-	
XDHW | XDHT 10		126							
NEW diam. 25 - 80 mm | r1		131					-	-	
Milling cutter bodies for non-ferrous materials									
VDGT - r1		132							
NEW diam. 15 - 42 mm | k90°		134	- - -	-	-	-		-	-
diam. 15 - 42 mm | k93°		136		-	-	-		-	-
VCGT - r3		139							
NEW diam. 32 - 125 mm | k90°		140	- - -	-	-	-		-	-
diam. 32 - 125 mm | k92°		142		-	-	-		-	-
Ball nose / bull end mill cutter bodies									
UNIWORX®		145							
diam. 8 - 20 mm | r3 - r10		146	- - - - - - - -					-	
WAVEWORX®		151							
diam. 16 - 32 mm | r8 - r16		152	- - - - - - - -		-	-	-	-	-
4 Cutting Edges		155							
diam. 10 - 20 mm | r5 - r10		156	- - - - - - - -						
Corner radius / High feed milling cutter bodies									
NEW UNIWORX PLUS®		159							
diam. 10 - 20 mm | r0.5 - r1.0		160	- - - -						
diam. 10 - 20 mm | HF		163	- - - -						
High feed milling cutter bodies									
QUADWORX®		167							
Size S - diam. 14 - 25 mm		168					-		
Size M - diam. 22 - 52 mm		170	- - - - -				-		
Size L - diam. 35 - 80 mm		173					-		
NEW Size XL - diam. 32 - 100 mm		176					-		-
TRIGAWORX®		179							
Size S - diam. 16 - 25 mm		180			-	-	-	-	
Size M - diam. 25 - 52 mm		182	- - - - -		-	-	-	-	
Size L - diam. 32 - 80 mm		185			-	-	-	-	-
SLOTWORX® - k94°		187							
Size M - diam. 16 - 52 mm		188	- - - - -		-		-	-	
SLOTWORX® HP		191							
HP Size S - diam. 10 - 25 mm		192	- - - - -		-		-	-	

Major application
- roughing
- pre-finishing
- finishing

Minor application
- roughing
- pre-finishing
- finishing

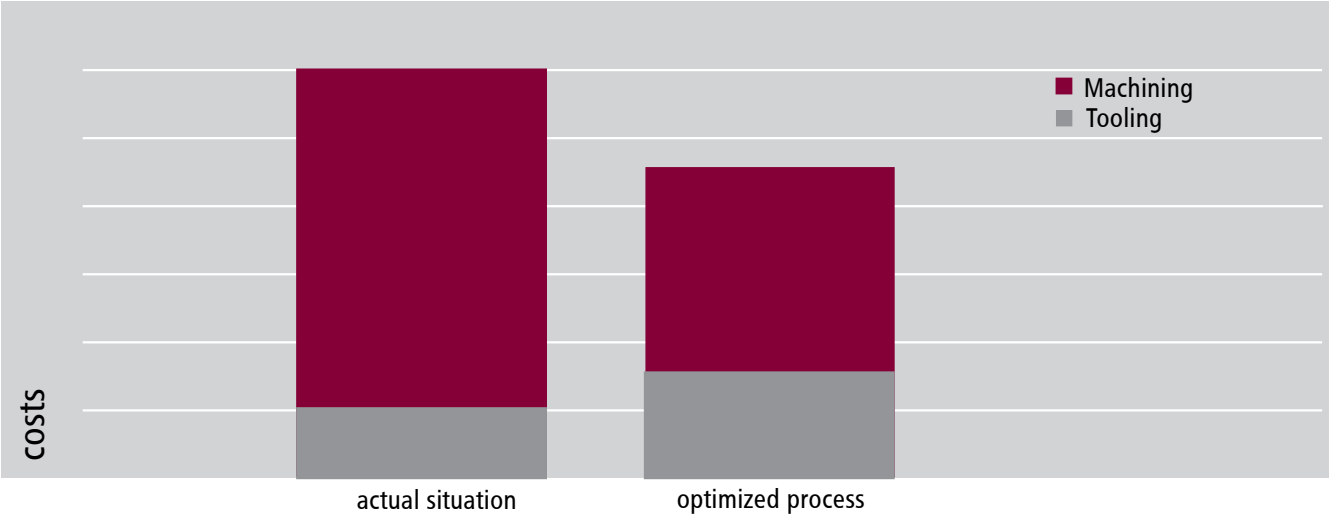
Machining types
- plunging
- chamfering
- face milling
- circular milling
- axial plunging
- slotting
- pocketing
- square shoulder milling
- copying

Connection types
- shell type
- DUOPLUG®
- threaded shank
- weldon shank
- plain shank

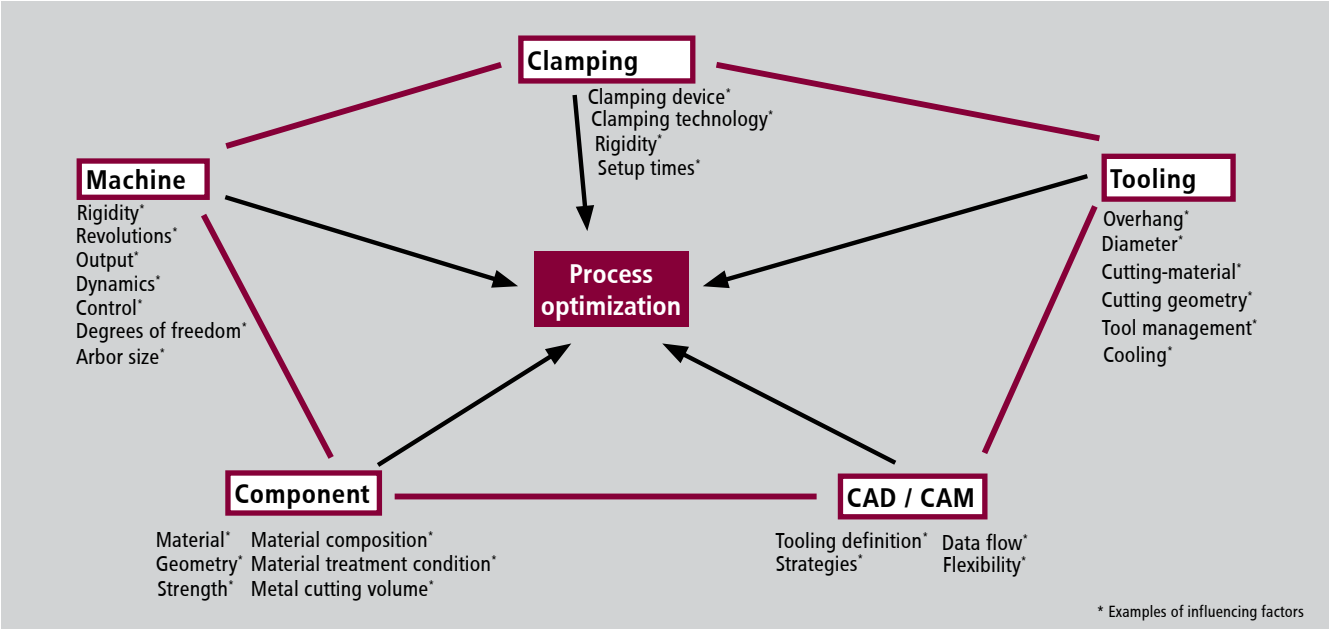
ADDED VALUE THROUGH EXPERTISE AND EFFICIENCY

The integral analysis and individual advice from our highly qualified technical sales representatives is entirely focussed on your specific process application – and always with one goal in mind: To cut costs and increase productivity.

Our goal: cutting costs



Our approach: process optimization



YOUR KNOW-HOW CENTRE: THE POKOLM ACADEMY

First-class products are one thing. But the basis for tooling systems that are more economical, faster and more efficient is: KNOWLEDGE. Which is why we started the POKOLM Academy for you.

Here the aim is to actively find new solutions, to pass on knowledge and to secure long-term competitive advantages.

Continuous training and vocational development is of decisive importance to master market challenges. In the POKOLM Academy we offer you professional workshops, seminars and training course which pass on in-depth product knowledge. An important key to your success.

Added value through knowledge

From metallurgy along with tools and their coatings to strategies for CNC mills and their programming – proven experts and specialists present their expertise in the academy. And that puts your employees at the cutting edge of everything.

YOUR ELECTRONIC QUOTATION PER 'CLICK'

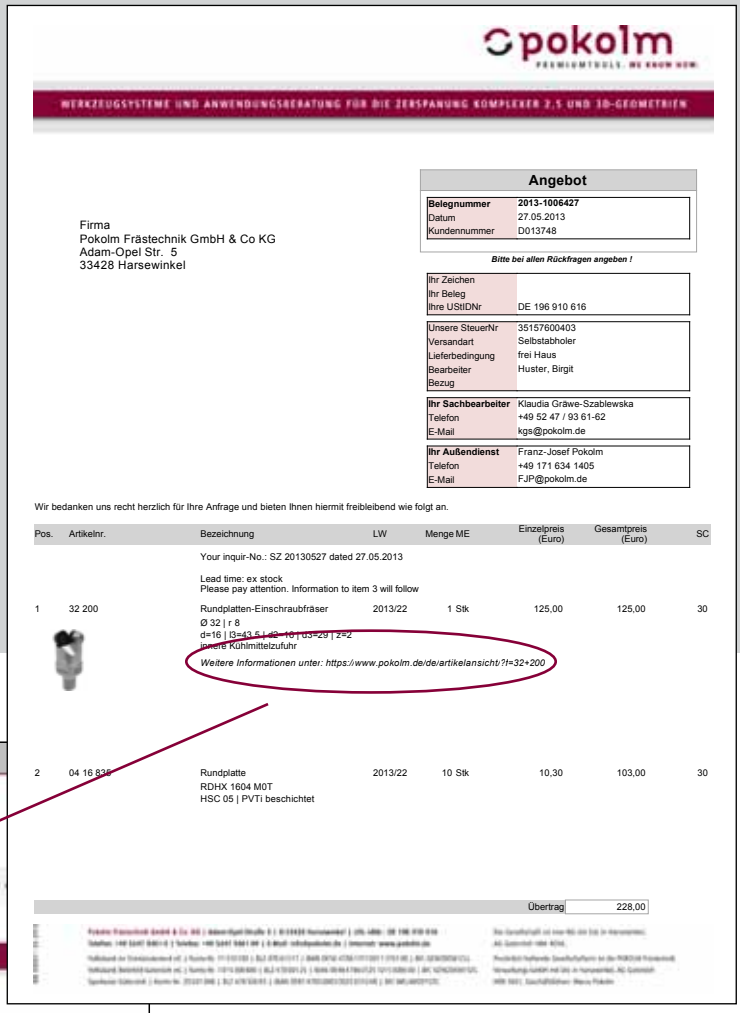
The following illustration shows the menu-range of our CD-ROM-catalogue.

Your electronic quotation per 'click'

Your advantage:
With only one click, you can receive all information about products selected, displayed on your screen

- photo
- drawing
- all dimensions
- accessories
- suitable arbors, adapters, inserts or solid carbide tools

All you need is internet connection!



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WERKZEUGSYSTEME UND ANWENDUNGSBERATUNG FÜR DIE ZERSPANUNG KOMPLEXER 2,5 UND 3D-GEOMETRIEN

Angebot

Belegnummer	**2013-1006427**
Datum	27.05.2013
Kundennummer	D013748

Firma
Pokolm Frästechnik GmbH & Co KG
Adam-Opel Str. 5
33428 Harsewinkel

Bitte bei allen Rückfragen angeben !

Ihr Zeichen	
Ihr Beleg	
Ihre USt/DNr	DE 196 910 616
Unsere SteuerNr	35157600403
Versandart	Selbstabholer
Lieferbedingung	frei Haus
Bearbeiter	Huster, Birgit
Bezug	
Ihr Sachbearbeiter	Klaudia Gräwe-Szablewska
Telefon	+49 52 47 / 93 61-62
E-Mail	kgs@pokolm.de
Ihr Außendienst	Franz-Josef Pokolm
Telefon	+49 171 634 1405
E-Mail	FJP@pokolm.de

Wir bedanken uns recht herzlich für Ihre Anfrage und bieten Ihnen hiermit freibleibend wie folgt an.

Pos.	Artikelnr.	Bezeichnung	LW	Menge ME	Einzelpreis (Euro)	Gesamtpreis (Euro)	SC
		Your inquir-No.: SZ 20130527 dated 27.05.2013 Lead time: ex stock Please pay attention. Information to item 3 will follow					
1	32 200	Rundplatten-Einschraubfräser Ø 32 | r 8 d=16 | l3=43,5 | d2=16 | d3=29 | z=2 innere Kühlmittelzufuhr *Weitere Informationen unter: https://www.pokolm.de/de/artikelansicht?f=32+200*	2013/22	1 Stk	125,00	125,00	30
2	04 16 836	Rundplatte RDHX 1604 M0T HSC 05 | PVTi beschichtet	2013/22	10 Stk	10,30	103,00	30
				Übertrag		228,00	

THE POKOLM BOX – THE INNOVATIVE CATALOGUE-SYSTEM

QR-CODES – THE QUICKEST WAY TO OUR WEB PRESENCES

WWW

pokolm.com

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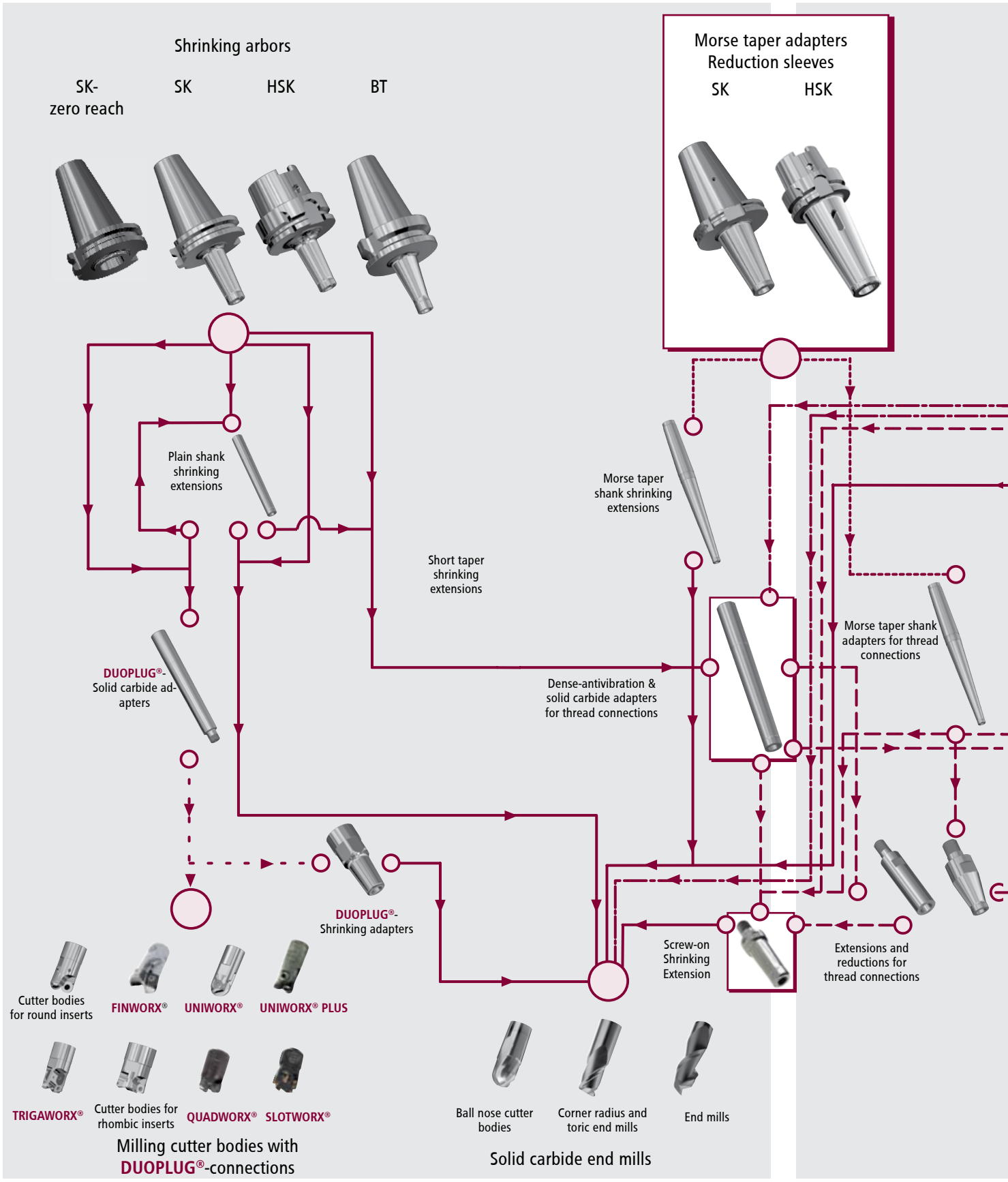
youtube.com

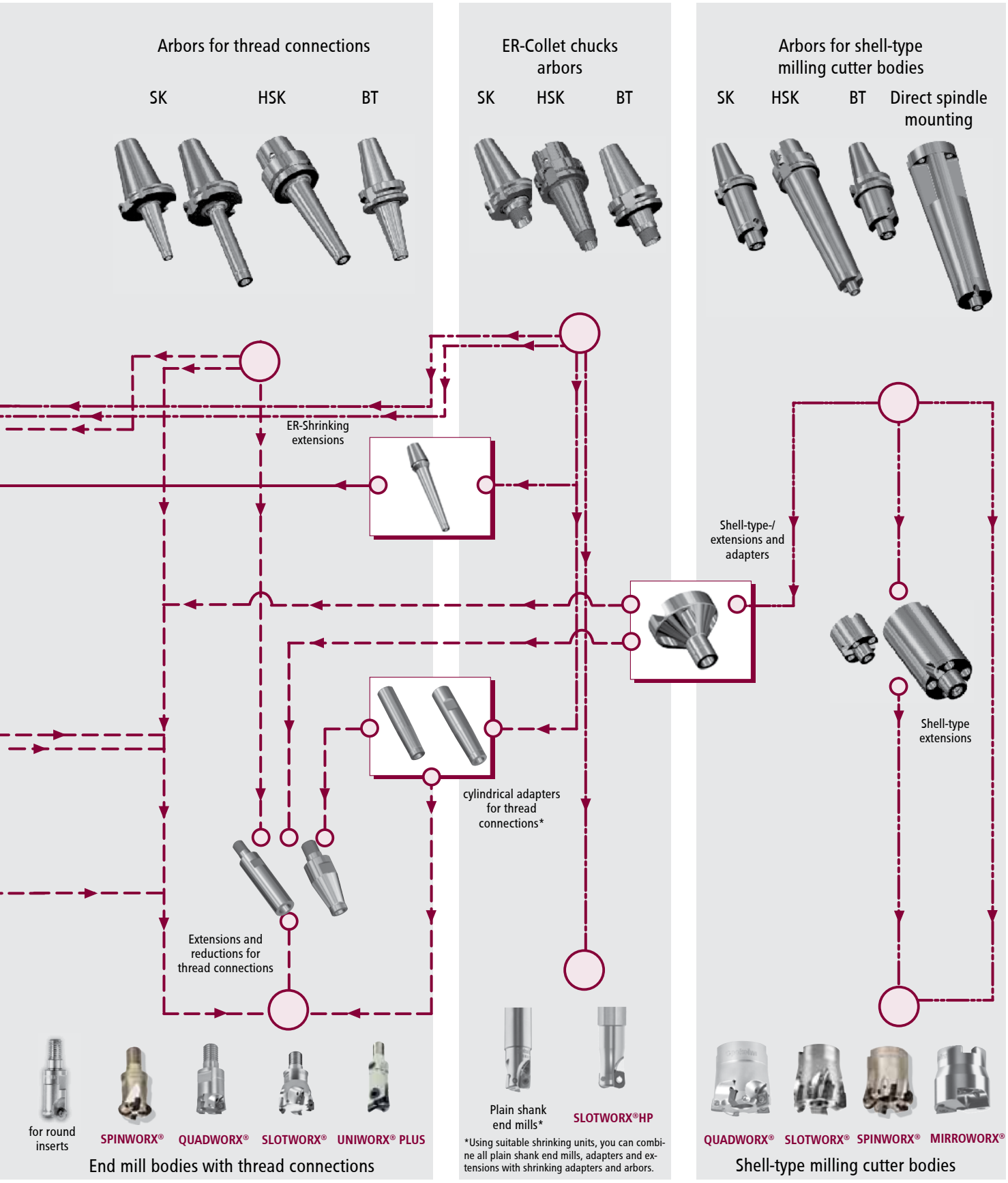
THE POKOLM TOOL SYSTEM

over 500000 combination possibilities



Shrinking combinations
Morse taper combinations
Thread connected combinations
Shell-type combinations
ER-Collet combinations
DUOPLUG®-combinations

The listed options are applications examples. Do not hasitate to contact our technical field service for a huge number of further possible combinations.



TECHNOLOGICAL COMPARISON

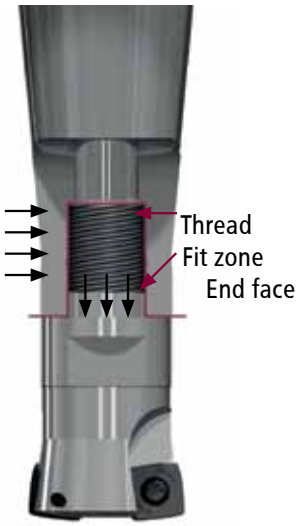
Thread Connection vs. Pokolm DUOPLUG® Connection

WHERE THE DIFFERENCE IS:

Pokolm Thread Connection – our high-performance standard

Pokolm Thread Connection

The black arrows show the retention and supporting forces.

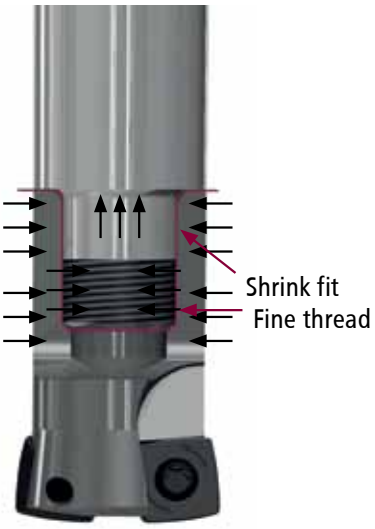


This standard thread connection is produced with the best tolerances possible using the latest technology. We maximize the efficiency of our Pokolm thread connections by optimizing our design of arbors, adapters, and milling cutter bodies.

Our patented protected DUOPLUG® System – the perfect increase

Pokolm DUOPLUG®= Shrink and Screw

The black arrows show the retention and supporting forces.



Our Pokolm **DUOPLUG®** system offers optimum rigidity and extremely high precision and concentricity. As a supplement to conventional thread connections, the retention and supporting forces between cutting tool and adapter act along the entire surface of the shrink fit and a large part of the shrink thread.For more information, please see the assembling and dismantling instructions for our **DUOPLUG®** system in the related chapter.

The fact is:

DUOPLUG® perfects the thread connection by means of greatly increased retention forces, resulting in the highest possible precision for extremely slim dimensions.

Pokolm Thread Connection – our high-performance standard

Performance

- no undercut, thus avoiding a rated break-point
- extremely precise fit zone and extremely precise flange contact surface
- better tensile strength and heat resistance because of the special materials and extra-hard coating
- for hundreds of tool changes
- optimized chamfers on arbors and adapters

Your Advantages

- increased process reliability
- universally applicable for all roughing and finishing operations
- better fatigue strength and red hardness
- lower tool costs because of longer tool life
- considerable increase in stability because of larger flange contact surface

Ideal Applications

- low-cost standard equipment for milling operations in shallow and medium-deep cavities
- especially for deep machining applications without vertical walls

Our patent protected DUOPLUG® System – the perfect increase

Performance

- maximum precision and concentricity
- optimum stability
- absutely backlash-free class of fits by screwed connection
- extremely precise and consistant connection
- clearly increased retention forces compared to conventional thread connection
- better tensile strength and heat resistance because of special materials and extra-hard coating

Your Advantages

- longer tool life
- absolutely minimal vibrations with long overhangs
- renders top precision in finishing operations
- increased availability of tool system and increased process reliability
- improved performance in roughing operations
- better fatigue strength and red hardness

Ideal Applications

- for maximum precision in finishing operations
- roughing and finishing applications with long overhangs
- ideal for applications on vertical walls because of extremely slim arbor/adapter system

MILLING CUTTER BODIES

Well incorporated:

For multiple advantages in milling.

For Pokolm-milling cutter systems, all bodies are completed by a fine tuned insert-range, leading to an extensive choice of tooling, covering about 90% of every possible application in mould- and die-Making.

Our patent protected, specially incorporated insert seats offer optimum support and insert-life during all milling operations by outstanding rigidity, in particular, when using high feed rates.

Tools with 0° axial rake angle (neutral) and with a variety of positive rake angles offer optimum cutting conditions for a wide range of all possible materials to be machined.

The latest Pokolm **DUOPLUG®**-adapter- and milling cutter system eliminates the looseness between adapter and cutter body. Together with the enormous retention forces and adhesive strength through the shrinking process, you reach a high quality surface finish, even for extreme milling operations and long reach overhang.

Reliability in case of roughing operations. The shims have 2 functions: shock absorber and protection at the same time. Increased process reliability with positive influences to smooth running are further characteristics of this product feature.

For machining non-ferrous materials of all kinds, we offer specially designed tools with special insert geometries and optimum coatings with lubricating additives.

In keeping latest state-of-the-art developments: Nearly all the tools in the Pokolm range are equipped with an internal coolant supply.

Milling cutters with our special 2-point contact milling design can be used for 90° plunge angles.

Optimized tool-geometries, carbide grades and coatings, specially developed for the characteristics of stainless-, acid- and heat-resistant materials, guarantee excellent machining results.

Further information about special features of our POKOLM-tooling systems are indicated on following pages.

TECHNOLOGY OVERVIEW
MILLING CUTTER BODIES

Increased economic efficiency

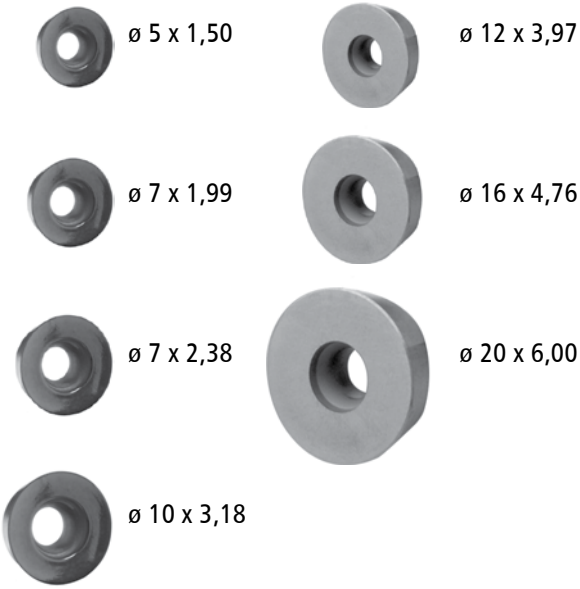
Our seven different diameters for round inserts alone, plus numerous additional geometries and sizes – combined with five different rake angles in our milling cutter bodies – provide optimum cutting conditions for almost every application you can think of.

Large variaty of rake angles for every special application.

negativ rake angle for maximum stability and smooth running

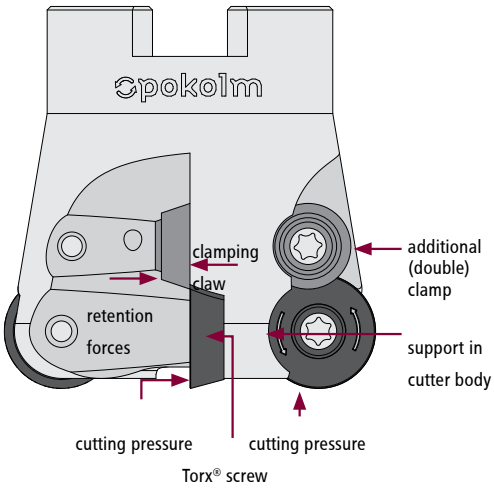
0° rake angle, the best solution for high accurate contur millung and machining hardened materials

milling cutter bodies with positive rake angles are suitable for nearly every application, together with inserts with concave molding they are the best solution for machining RSH materials



Optimum load distribution

The patent-protected, specially developed insert seats in our milling cutter bodies absorb all axial and radial milling forces, because the insert is not only fixed with a Torx® screw, it is also supported by being embedded into the cutter body. Thus, the cutting pressure no longer acts on the screw alone, but is also absorbed by our milling cutter bodies.
Compared to open insert seats, our incorporated insert seats allow stronger teeth, clearly improving the rigidity of our milling cutters. This results in longer tool life and allows higher feed rates. Additional double clamps provide excellent support, even under extreme cutting conditions.

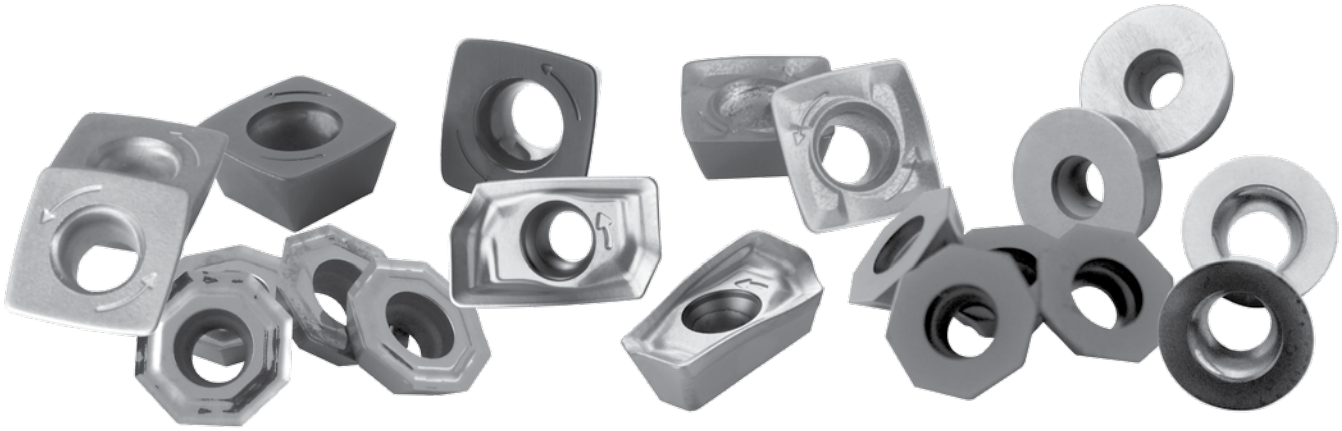


Reduced wear

Our chip spaces were specially designed for exceptionally easy chip flow, thus protecting both body and workpiece from damage. The supply channels for the coolant in arbors and cutter bodies are precisely coordinated with each other so that the coolant is conducted directly onto the cutting edge even under difficult cutting conditions.

Specially selected materials and extra-hard coatings offer higher tensile strength and heat resistance, making Pokolm tools and arbor systems unbeatable in durability and long-life-cycles.

INDEXABLE INSERTS



The complete range.

Our carefully planned, wide variety of indexable inserts is one of the highlights of the Pokolm program.

A perfect complement to our milling cutter program, it offers a wide selection of carbide grades, geometries, and different application possibilities. The range provides an optimum solution for every task:

Diameters from 5 to 20 mm (radii of 2.5 to 10 mm), different shapes, carbide grades, and coatings – along with a great variety of milling cutter bodies, our patent-protected insert seats, and arbor systems – allow every individual combination.

All Pokolm inserts have been developed based on shop-tested applications by our customers, and we improve our inserts to meet every new challenge.

This constant and innovative developmental process, and a remarkably intensive cooperation with our carbide suppliers and coating partners, guarantee state-of-the-art types of inserts at all times.

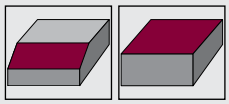
BASEWORX® FACE MILLING CUTTER

Economic quiet cutter for face milling operations

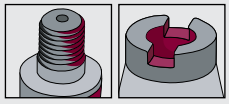
Properties

- Embedded indexable inserts = increases tooth stability
- Eight reliably usable cutting edges for a cutting depth ap < 2.2 mm
- Cutting edge angle ~ 43° for chamfering
- Ideally suitable for preparing for finishing with **MIRROWORX®**
- Easy cutting due to 20° positive holder
- Low power requirement and highly smooth running

Machining types



Connection types



Sizes	Page
diam. 35 - 125 mm	24

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
K10 polished	–	–	–	▼	–	–	0.08 - 0.3	0.1 - 3.5	12.7	3.77	0.5
P40 PVTi	▼	–	▽	–	–	–	0.1 - 0.5	0.2 - 3.0	12.7	3.77	1.0

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

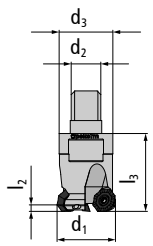
BASEWORX®

diam. 35 - 125 mm

Remarkably economic face milling cutters for highly efficient milling with medium depths of cut.
These tools stand out on account of their reduced power consumption.
These milling cutters can also be used for chamfering.

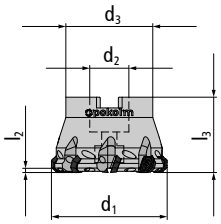
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
3 35 288	35	12.7		42	3.5	-	M 16	29	3	A, C, D, E, F	☑

Shell type milling cutter bodies

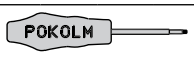


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 40 388	40	12.7		42	3.5	-	diam. 16	35	4	A, B, C, D, E, F	?
4 42 388	42	12.7		42	3.5	-	diam. 16	35	4	A, B, C, D, E, F	☑
5 50 388	50	12.7		52	3.5	-	diam. 22	40	5	A, C, D, E, F	?
5 52 388	52	12.7		52	3.5	-	diam. 22	40	5	A, C, D, E, F	☑
7 63 388	63	12.7		52	3.5	-	diam. 27	48	7	A, C, D, E, F	?
7 66 388	66	12.7		52	3.5	-	diam. 27	48	7	A, C, D, E, F	☑
8 80 388	80	12.7		52	3.5	-	diam. 27	60	8	A, C, D, E, F	☑
9 100 388	100	12.7		52	3.5	-	diam. 32	70	9	A, C, D, E, F	☑
12 125 388	125	12.7		52	3.5	-	diam. 40	90	12	A, C, D, E, F	☑

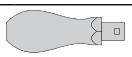
Accessories

40 505 K
Torx screw
A > Page 195

GWSTPS8ISK
hexagon socket set screw
B > Page 196



15 500 P
Torx-screwdriver (Tor-x-Plus)
C > Page 196

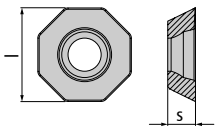


TV 2-8
Screwdriver torque Vario®-S with window scale, D > Page 197

T15 500 P
Torx interchangeable bit for Torque Vario®
E > Page 197

T15 502 P, Torx MagicSpring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
03 88 831P	OFET 05T310 FN	K10	polished	12.7	3.77	-	M 4.0
03 88 840	OFMW 05T310 SN	P40	PVTi	12.7	3.77	-	M 4.0

NEW latest items!
⚠ available as long as stock lasts
? on request
☑ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

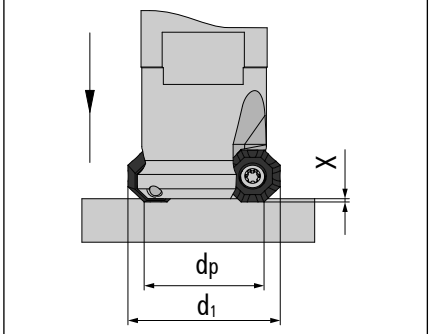
Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,08-0,3 0,1-3,5	-	-
P40 PVTi	f_z (mm) a_p (mm)	0,1-0,5 0,2-3	-	0,1-0,5 0,2-3	-	-	-

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 100 **450** 800	-	-
P40 PVTi	roughing pre finishing finishing	100 **160** 220 100 **175** 250 140 **200** 260	-	100 **130** 160 100 **130** 160 -	-	-	-

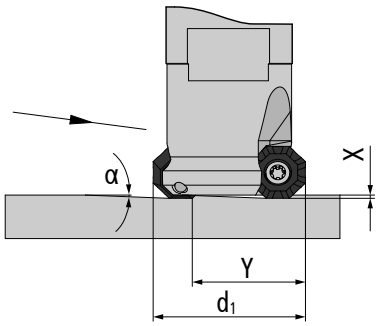
Extended operation data

Plunging



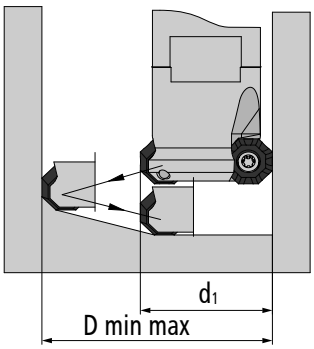
Cutter diam. d1	X_{max}
35-125	3.5

Ramping



Cutter diam. d1	α°	y
35	<16	11.6
40	<11	16.6
42	<10	18.6
50	<7	26.6
52	<6,5	28.6
63	<4,5	39.6
66	<4	42.6
80	<3	56.6
100	<2	76.6
125	<1,5	101.6

Helix



Cutter diam. d1	D_{min}	D_{max}
35	46.6	70
40	56.6	80
42	60.6	84
50	76.6	100
52	80.6	104
63	102.6	126
66	108.6	132
80	136.6	160
100	176.6	200
125	226.6	250

major application *minor application* roughing pre-finishing finishing

pokolm
PREMIUMTOOLS. WE KNOW HOW.

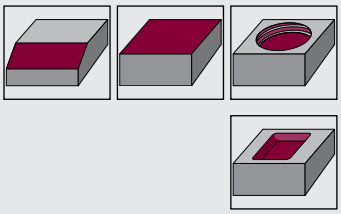
PLANWORX® FACE MILLING CUTTERS

Highly economic with large cutting depth and outstandingly smooth running

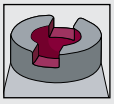
Properties

- Negative, therefore extremely stable basic form
- Eight reliably usable cutting edges
- Easy cutting due to highly positive indexable insert geometry
- Non-uniform indexing for less vibrations
- Coolant drillhole for fluids up to tool diameter of 125 mm
- Outstandingly smooth running
- Approach angle Kappa ~45°

Machining types



Connection types



Practical video

- Planworx in 1.0570 / 1015 / St 52 - 3

Sizes	Page
diam. 40 - 250 mm	28

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
P40 PVSR	▼						0.08 - 0.55	0.1 - 6.0	13	5.4	0.8
K10 PVTi			▼				0.1 - 0.55	0.1 - 6.0	13	5.4	0.8
M40 PVST		▼			▼		0.08 - 0.3	0.1 - 4.0	13	5.4	0.8

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

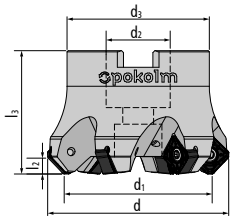
PLANWORX®

diam 40 - 250 mm

Face-milling cutter with maximum chipping depth of 6 mm, negative axial rake angle for square inserts with eight cutting edges. Internal coolant supply up to tool diameter 125mm. Differential pitch for smooth running.

Milling cutter bodies

Shell type milling cutter bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 40 331	40	13	0.8	42	6.7	-	diam. 22	40	4	A, B, C, D, E	
5 50 331	50	13	0.8	52	6.7	-	diam. 27	48	5	A, B, C, D, E	
6 63 331	63	13	0.8	52	6.7	-	diam. 27	60	6	A, B, C, D, E	
8 80 331	80	13	0.8	52	6.7	-	diam. 32	70	8	A, B, C, D, E	
10 100 331	100	13	0.8	52	6.7	-	diam. 40	90	10	A, B, C, D, E	
12 125 331	125	13	0.8	52	6.7	-	diam. 40	90	12	A, B, C, D, E	
14 160 331	160	13	0.8	52	6.7	-	diam. 40	120	14	A, B, C, D, E	
16 200 331	200	13	0.8	52	6.7	-	diam. 60	160	16	A, B, C, D, E	
20 250 331	250	13	0.8	52	6.7	-	diam. 60	160	20	A, B, C, D, E	

Accessories

40 505 P
Torx screw
A > Page 195

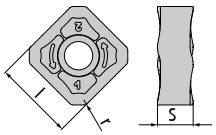
15 500 P
Torx-screwdriver (Tor-x-Plus)
B > Page 196

TV 2-8
Screwdriver torque Vario®-S with window scale, +C > Page 197

T15 500 P
Torx interchangeable bit for Torque Vario®
D > Page 197

T15 502 P
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
05 31 842	SNMX 135408 ER	P40	PVSR	13	5.4	0.8	M 4.0
05 31 862	SNMX 135408 ER	K10	PVTi	13	5.4	0.8	M 4.0
05 31 896	SNMX 135408 ER	M40	PVST	13	5.4	0.8	M 4.0

Feed per tooth (fz) | d.o.c. (ap)

Material

Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVSR	f_z (mm) a_p (mm)	0,08-0,55 0,1-6	-	-	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	0,1-0,55 0,1-6	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,08-0,3 0,1-4	-	-	0,08-0,2 0,1-3	-

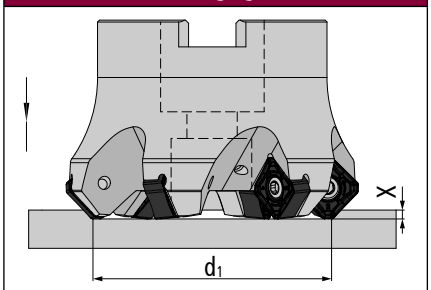
NEW latest items! | ⚠ available as long as stock lasts | ? on request | ✔ stock item, subject to confirmation

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVSR	roughing pre finishing finishing	100 **200** 300 100 **200** 300 -	-	-	-	-	-
K10 PVTi	roughing pre finishing finishing	-	-	150 **175** 200 150 **175** 200 150 **200** 250	-	-	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 120 **185** 250	-	-	30 **55** 80 40 **65** 90 60 **90** 120	-

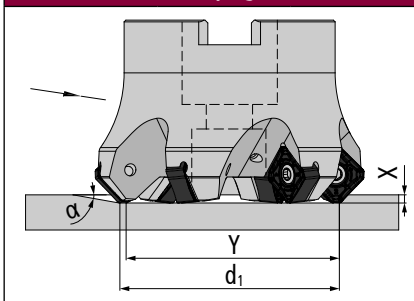
Extended operation data

Plunging



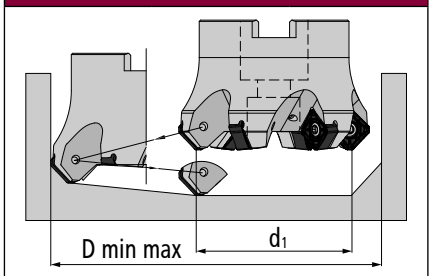
Cutter diam. d1	X_{max}
40-125	4
160-250	-

Ramping



Cutter diam. d1	α°	y
40	<11	29.5
50	<8	39.5
63	<6,5	52.5
80	<4	69.5
100	<3,5	89.5
125	<2,5	114.5
160	-	-
200	-	-
250	-	-

Helix



Cutter diam. d1	D_{min}	D_{max}
40	89.5	93.5
50	109.5	113.5
63	135.5	139.5
80	169.5	173.5
100	209.5	213.5
125	259.5	263.5
160	-	-
200	-	-
250	-	-

major application *minor application* roughing pre-finishing finishing

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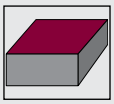
MIRROWORX® FACE MILLING CUTTERS

Milling/cutting instead of grinding - smooth surfaces with maximum economic efficiency

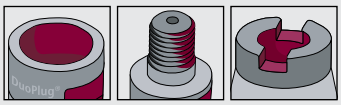
Properties

- Surface qualities of Rz < 2.5 µm, the grinding process can be omitted completely
- Particularly smooth running
- Fine adjustment controls absolute axial runout within the µm range
- Also suitable for unstable components
- All three cutting edges can be used reliably

Machining types



Connection types



Practical example

- Mirror-like surface after finishing 1.2063 with **MIRROWORX®**

Practical video

- **MIRROWORX®** in 1.2312

Sizes

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
S: HSC 05 PVTi HSC 05 PVTiH	▼	▼	▼	▼	▼	▽	0,1 - 1,5	0,02 - 0,2	8,2	3	0,5
M: HSC 05 PVTi	▼	▽	▼	▼	▽	▼	0,2 - 2,0	0,05 - 0,25	14,32	4	-

▼ ***major application*** ▽ ***minor application*** ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

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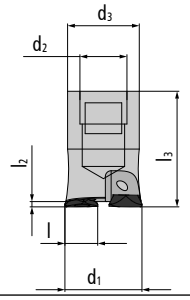
MIRROWORX®

Size S - diam. 16 - 35 mm

Milling instead of grinding is our slogan for these finishing milling cutters.
Developed for producing smooth and levelled surfaces with enormous feed rates.
These tools enter into grinding domains.

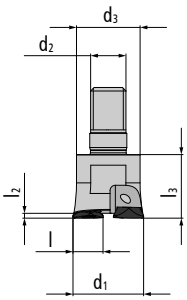
Milling cutter bodies

DuoPlug®



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
1 16 283 SG	16	8.2	0.5	25	1	-	M 10	15	1	A, B, C, D, E, F	☑
2 20 283 SG	20	8.2	0.5	27	1	-	M 12	18.6	2	A, B, C, D, E, F	☑
2 25 283 SG	25	8.2	0.5	32	1	-	M 16	23.5	2	A, B, C, D, E, F	☑

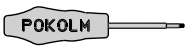
Threaded shank end mill bodies



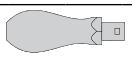
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
1 16 283	16	8.2	0.5	18	1	-	M 8	13.8	1	A, B, C, D, E, F	☑
2 20 283	20	8.2	0.5	18	1	-	M 10	18	2	A, B, C, D, E, F	☑
2 25 283	25	8.2	0.5	22.5	1	-	M 12	21	2	A, B, C, D, E, F	☑
2 30 283	30	8.2	0.5	28	1	-	M 12	29	2	A, B, C, D, E, F	☑
2 32 283	32	8.2	0.5	28	1	-	M 16	29	2	A, B, C, D, E, F	☑
2 35 283	35	8.2	0.5	28	1	-	M 16	29	2	A, B, C, D, E, F	☑

Accessories

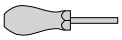
25 500
Torx screw
A > Page 195



07 500
Torx-screwdriver
B > Page 196



TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

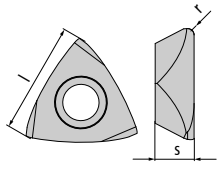


TV 500
Torque Vario® setter adjusting tool
D > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
E > Page 197

T7 502, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
03 83 835	TOHX 063005 ER	HSC 05	PVTi	8.2	3	0.5	M 2.5
03 83 836	TOHX 063005 ER	HSC 05	PVTiH	8.2	3	0.5	M 2.5

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,2-1 0,02-0,15	0,1-0,8 0,02-0,1	0,2-1 0,02-0,15	0,1-1,5 0,02-0,2	0,1-0,7 0,02-0,1	0,1-1 0,02-0,15
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,2-1 0,02-0,15	0,1-0,8 0,02-0,1	0,2-1 0,02-0,15	0,1-1,5 0,02-0,2	0,1-0,7 0,02-0,1	0,1-1 0,02-0,15

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- - 150 **275** 400	- - 100 **150** 200	- - 200 **275** 350	- - 100 **450** 800	- - 40 **70** 100	- - 100 **175** 250
HSC 05 PVTiH	roughing pre finishing finishing	- - 150 **275** 400	- - 100 **150** 200	- - 200 **275** 350	- - 200 **500** 800	- - 40 **70** 100	- - 100 **175** 250

major application ***minor application*** roughing pre-finishing finishing

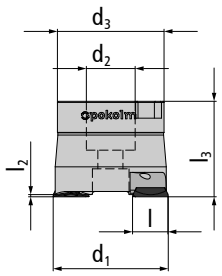
MIRROWORX®

Size M - diam. 42 - 100 mm

Milling instead of grinding is our slogan for these finishing milling cutters. Developed for producing smooth and levelled surfaces with enormous feed rates.
These tools enter into grinding domains.

Milling cutter bodies

Shell-type milling cutter bodies



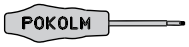
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 42 384	42	14.32		43	1	-	diam. 16	35	2	A,B,C,D,E,F,G,H	☑
2 52 384	52	14.32		43	1	-	diam. 22	48	2	A,B,D,E,F,G,H	☑
2 66 384	66	14.32		53	1	-	diam. 27	60	2	A,B,D,E,F,G,H	☑
2 80 384	80	14.32		53	1	-	diam. 27	60	2	A,B,D,E,F,G,H	☑
2 100 384	100	14.32		53	1	-	diam. 32	70	2	A,B,D,E,F,G,H	☑

Accessories

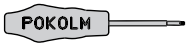
35 500 L
Torx screw
A > Page 195

45 500 L
Torx screw
B > Page 195

GWSTPS8ISK
hexagon socket set screw
C > Page 196



15 500
Torx-screwdriver
D > Page 196



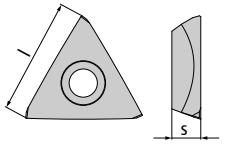
20 500
Torx-screwdriver
E > Page 196

TV 2-8, Screwdriver torque Vario®-S with window scale. F > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
G > Page 197

T15 502
Torx MagicSpring compatible bit f. Torque Vario®, H > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
04 84 835	TEHX 16T3 ZF	HSC 05	PVTi	14.32	4	-	M 3.5

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,5-2 0,05-0,2	0,5-1 0,05-0,1	0,5-2 0,05-0,2	0,5-2 0,05-0,25	0,2-1 0,05-0,1	0,2-1 0,05-0,1

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing	-	-	-	-	-	-
	pre finishing	-	-	-	-	-	-
	finishing	150 **275** 400	100 **150** 200	200 **275** 350	100 **450** 800	40 **70** 100	35 **143** 250

major application ***minor application*** roughing pre-finishing finishing

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PREMIUMTOOLS. WE KNOW HOW.

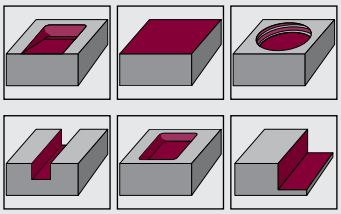
SLOTWORX® SQUARE SHOULDER FACE MILLING AND SLOTTING CUTTER BODIES

With highly modern cutting edge geometry for universal applications

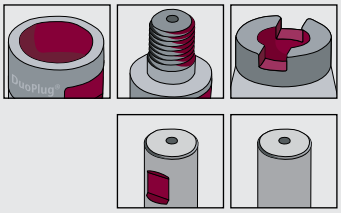
Properties

- Universal use options: Roughing and finishing of steel, aluminium, graphite, plastic, hardened materials, cast iron and stainless as well as high-temperature resistant materials
- Optimised coolant supply up to the cutting edge
- Integrated finishing land achieves outstanding surface qualities
- Corner radii from 0.4 - 5 mm

Machining types



Connection types



Practical video

- **SLOTWORX®** M / zero reach adapters DuoPlug SK50 / 1.2344 ESU 48 HRC / X40CrMoV

Sizes		Page
HP-S:	diam. 10 - 32 mm	38
S:	diam. 10 - 20 mm	40
M:	diam. 16 - 52 mm	42
L:	diam. 25 - 100 mm	46

Cutting materials

Size	ISO Standard						feed per tooth | d.o.c.		length	Size, radius (mm), Carbide grade						
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	0.4	0.8	1.0	2.0	3.0	4.0	5.0
HP-S	▼	▽	▼	▼	▽	▼	0.05 - 0.3	0.3 - 2.0	6.2	-	HSC05					
S	▼	▽	▽	-	-	-	0.02 - 0.17	0.1 - 3.0	6.9	-	P40	-	-	-	-	-
M	▼	▼	▼▽	▼	▼	▼	0.05 - 0.35	0.1 - 9.0	10	K10	K10, HSC05, P40, M40, M35	K10, HSC05, P40, PKD, M40	K10, M40	K10, M40	K10, M40	-
L	▼▽	▼	▼▽	▼	▼▽	-	0.08 - 0.5	0.1 - 14	15	-	-	K10, P40, M40	K10, M40	K10, M40	K10, M40	K10, M40

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

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SLOTWORX® - K90°

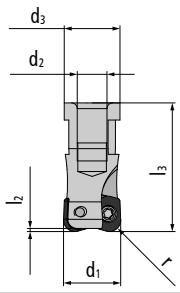
SLOTWORX®HP - Size S - diam. 10 - 32 mm

Outstandingly capable for using on high-speed milling machines and smaller machining centres.

- the increased no. of teeth allows for very large feed-rates

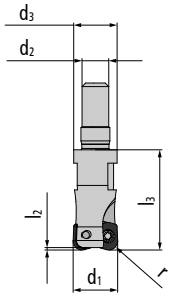
Milling cutter bodies

DuoPlug®



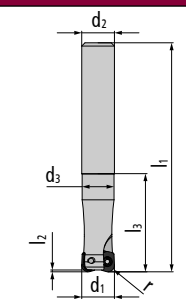
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
3 12 266 SG	12	6.2	0.8	28	0.7	-	M 7	10.8	3	A, B, C, D, E, F	
4 16 266 SG	16	6.2	0.8	31	0.7	-	M 10	15	4	A, B, C, D, E, F	
5 20 266 SG	20	6.2	0.8	33	0.7	-	M 12	18.6	5	A, B, C, D, E, F	
5 25 266 SG	25	6.2	0.8	35	0.7	-	M 16	23.5	5	A, B, C, D, E, F	

Threaded shank end mill body



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 10 266 M6	10	6.2	0.8	22.5	0.7	-	M 6	9.75	2	A, B, C, D, E, F	
3 12 266 M6	12	6.2	0.8	22.5	0.7	-	M 6	11.5	3	A, B, C, D, E, F	
4 16 266	16	6.2	0.8	27.5	0.7	-	M 8	13.8	4	A, B, C, D, E, F	
5 20 266	20	6.2	0.8	27.5	0.7	-	M 10	18	5	A, B, C, D, E, F	
5 25 266	25	6.2	0.8	32	0.7	-	M 12	21	5	A, B, C, D, E, F	
7 32 266	32	6.2	0.8	32	0.7	-	M 16	29	7	A, B, C, D, E, F	

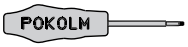
Shank cutters



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 30 10 166 G	10	6.2	0.8	30	0.7	70	diam. 10	9.75	2	A, B, C, D, E, F	
3 36 12 166 G	12	6.2	0.8	36	0.7	81	diam. 12	11.5	3	A, B, C, D, E, F	
4 48 16 166 G	16	6.2	0.8	48	0.7	96	diam. 16	15.5	4	A, B, C, D, E, F	

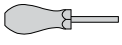
Accessories

21 500 P
Torx screw
A > Page 195



06 500 P
Torx-screwdriver
B > Page 196

TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

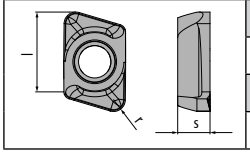


TV 500
Torque Vario® setter adjusting tool
D > Page 197

T6 500 P
Torx interchangeable bit for Torque Vario®
E > Page 197

T6 502 P, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	02 66 835 R08	XCHT 062208 SR	HSC 05	PVTi	6.2	2.2	0.8	M 2.0
	02 66 835 R08 D	XCHT 062208 SR	HSC 05	PVDiaN	6.2	2.2	0.8	M 2.0

Feed per tooth (fz) | d.o.c. (ap)

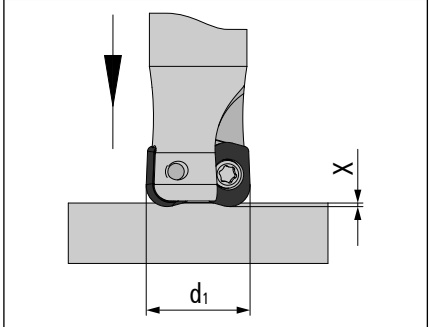
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,05-0,3 0,3-2	0,05-0,25 0,3-2	0,05-0,3 0,3-2	-	0,05-0,25 0,3-2	0,05-0,25 0,3-2
HSC 05 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,05-0,3 0,3-2	-	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- - 150 **275** 400	- - 100 **150** 200	- - 200 **275** 350	-	- - 40 **70** 100	- - 35 **143** 250
HSC 05 PVDiaN	roughing pre finishing finishing	-	-	-	- - 200 **500** 800	-	-

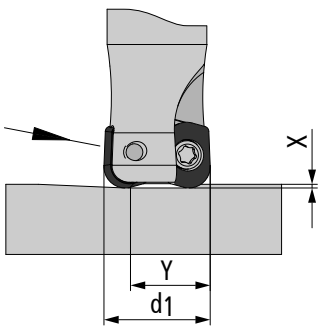
Extended operation data

Plunging



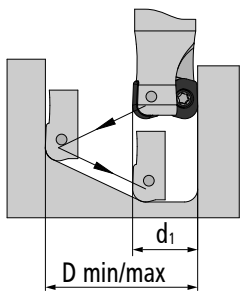
Cutter diam. d1	X_{max}
10-32	0.7

Ramping



Cutter diam. d1	α°	y
10	<2,5	4
12	<2	6
16	<1,6	10
20	<1,2	14
25	<1	19
32	<1	26

Helix



Cutter diam. d1	D_{min}	D_{max}
10	13	20
12	17	24
16	25	32
20	33	39
25	43	49
32	57	63

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

SLOTWORX® - K90°

SLOTWORX® - Size S - diam. 10 - 20 mm

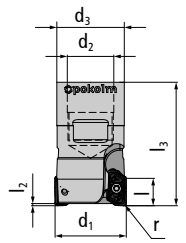
Outstandingly capable for using on high-speed milling machines and smaller machining centres.

- the increased no. of teeth allows for very large feed-rates

Milling cutter bodies

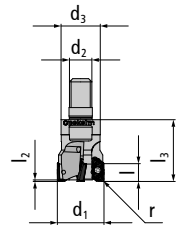
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features

DuoPlug®



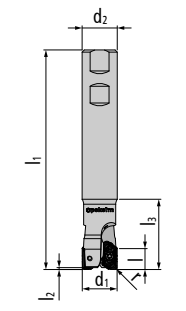
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 16 256 SG	16	6.9	0.8	34.4	1.3	-	M 10	15	4	A, B, C, D, E	
5 20 256 SG	20	6.9	0.8	32.4	1.3	-	M 12	18.5	5	A, B, C, D, E	

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 10 256 M6	10	6.9	0.8	22.5	0.7	-	M 6	9.75	2	A, B, C, D, E	
3 12 256 M6	12	6.9	0.8	27.5	0.7	-	M 6	11.5	3	A, B, C, D, E	
4 16 256	16	6.9	0.8	27.5	1.3	-	M 8	13.8	4	A, B, C, D, E	
5 20 256	20	6.9	0.8	27.5	1.3	-	M 10	18	5	A, B, C, D, E	

End mill bodies with plain shanks and flats



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
15 10 156	10	6.9	0.8	16.7	0.7	55.6	diam. 10	-	2	A, B, C, D, E	
15 12 156	12	6.9	0.8	17.5	0.7	60.5	diam. 12	-	3	A, B, C, D, E	
40 16 156	16	6.9	0.8	42.5	1.3	90.5	diam. 16	-	4	A, B, C, D, E	

Accessories

18 500
Torx screw
A > Page 195

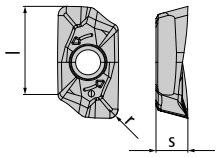
06 500
Torx-screwdriver
B > Page 196

TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T6 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T6 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	02 71 840 R08	XOMX 060208	P40	PVML	6.9	2.45	0.8	M 1.8

Feed per tooth (fz) | d.o.c. (ap)

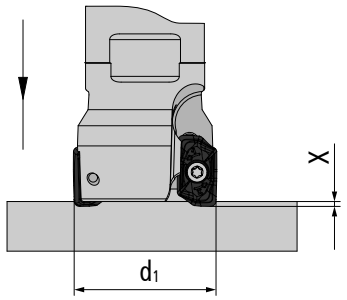
Material							
Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVML	f_z (mm) a_p (mm)	0,05-0,17 0,2-3	0,02-0,17 0,1-2,5	0,05-0,17 0,2-2	-	-	-

Cutting speed (Vc in m/min)

Material							
Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVML	roughing pre finishing finishing	100 **200** 300 100 **200** 300 -	- 80 **130** 180 -	- 140 **170** 200 -	-	-	-

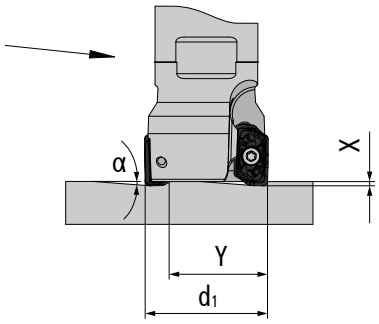
Extended operation data

Plunging



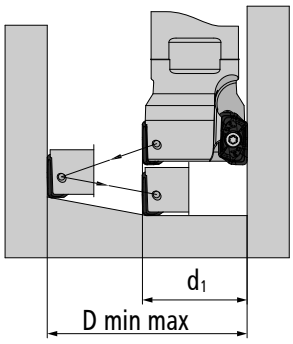
Cutter diam. d1	X_{max}
10-12	0.7
16-20	1.3

Ramping



Cutter diam. d1	α°	y
10	<10	3
12	<6,5	5
16	<4	9
20	<2,5	13

Helix



Cutter diam. d1	D_{min}	D_{max}
10	13	20
12	17	24
16	25	32
20	33	40

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

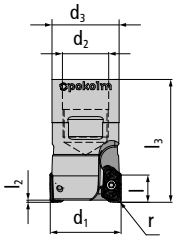
SLOTWORX® - K90°

SLOTWORX® - Size M - diam. 16 - 52 mm

This range is the all-purpose solution for square shoulder face milling and slotting. Can be used with indexable inserts of the Slotworx®-M range up to a corner radius of 2 mm. Modified standard bodies for the use of indexable inserts with a corner radius >= 3 mm have additional R+ marking.

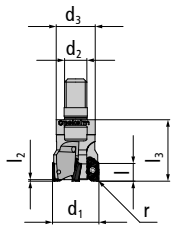
Milling cutter bodies

DuoPlug®



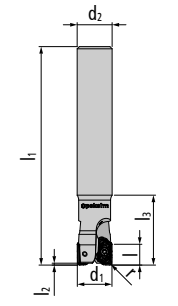
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 267 SG	16	10	0.8-2	38	2.5	-	M 10	15	2	A, C, D, E, F	
2 16 267 SG R+	16	10	3|4	38	2.5	-	M 10	15	2	A, C, D, E, F	
2 20 267 SG	20	10	0.4-2	40	2.5	-	M 12	18.6	2	A, C, D, E, F	
2 20 267 SG R+	20	10	3|4	40	2.5	-	M 12	18.6	2	A, C, D, E, F	
3 25 267 SG	25	10	0.4-2	43	2.5	-	M 16	23.5	3	A, C, D, E, F	
3 25 267 SG R+	25	10	3|4	43	2.5	-	M 16	23.5	3	A, C, D, E, F	

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 267	16	10	0.4-2	29	2.5	-	M 8	13.8	2	A, C, D, E, F	
2 16 267 R+	16	10	3|4	29	2.5	-	M 8	13.8	2	A, C, D, E, F	
2 20 267	20	10	0.4-2	29	2.5	-	M 10	18	2	A, C, D, E, F	
2 20 267 R+	20	10	3|4	29	2.5	-	M 10	18	2	A, C, D, E, F	
3 20 267	20	10	0.4-2	29	2.5	-	M 10	18	3	A, C, D, E, F	
3 20 267 R+	20	10	3|4	29	2.5	-	M 10	18	3	A, C, D, E, F	
3 25 267	25	10	0.4-2	33	2.5	-	M 12	21	3	A, C, D, E, F	
3 25 267 R+	25	10	3|4	33	2.5	-	M 12	21	3	A, C, D, E, F	
4 25 267	25	10	0.4-2	33	2.5	-	M 12	21	4	A, C, D, E, F	
4 25 267 R+	25	10	3|4	33	2.5	-	M 12	21	4	A, C, D, E, F	
4 32 267	32	10	0.4-2	43	2.5	-	M 16	29	4	B, C, D, E, F	
4 32 267 R+	32	10	3|4	43	2.5	-	M 16	29	4	B, C, D, E, F	
5 32 267	32	10	0.4-2	43	2.5	-	M 16	29	5	B, C, D, E, F	
5 32 267 R+	32	10	3|4	43	2.5	-	M 16	29	5	B, C, D, E, F	
5 42 267	42	10	0.4-2	43	2.5	-	M 16	29	5	B, C, D, E, F	
5 42 267 R+	42	10	3|4	43	2.5	-	M 16	29	5	B, C, D, E, F	

Plain shank end mill bodies

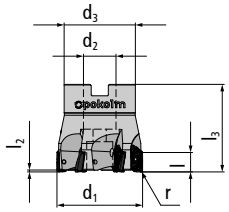


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 32 16 167 G	16	10	0.4-2	32	2.5	165	diam. 16	-	2	A, C, D, E, F	
2 32 16 167 G R+	16	10	3|4	32	2.5	165	diam. 16	-	2	A, C, D, E, F	
3 40 20 167 G	20	10	0.4-2	40	2.5	165	diam. 20	-	3	A, C, D, E, F	
3 40 20 167 G R+	20	10	3|4	40	2.5	165	diam. 20	-	3	A, C, D, E, F	
3 50 25 167 G	25	10	0.4-2	50	2.5	225	diam. 25	-	3	A, C, D, E, F	
3 50 25 167 G R+	25	10	3|4	50	2.5	225	diam. 25	-	3	A, C, D, E, F	
4 50 25 167 G	25	10	0.4-2	50	2.5	225	diam. 25	-	4	A, C, D, E, F	
4 50 25 167 G R+	25	10	3|4	50	2.5	225	diam. 25	-	4	A, C, D, E, F	

NEW latest items! ⚠ available as long as stock lasts ? on request ✓ stock item, subject to confirmation

Milling cutter bodies

Shell type milling cutter bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
5 42 367	42	10	0.4-2	43	2.5	-	diam. 16	35	5	B, C, D, E, F	
5 42 367 R+	42	10	3|4	43	2.5	-	diam. 16	35	5	B, C, D, E, F	
6 52 367	52	10	0.4-2	53	2.5	-	diam. 22	40	6	B, C, D, E, F	
6 52 367 R+	52	10	3|4	53	2.5	-	diam. 22	40	6	B, C, D, E, F	

Accessories

25 505 KP
Torx screw
A > Page 195

25 505 P
Torx screw for Slotworx
M
B > Page 195

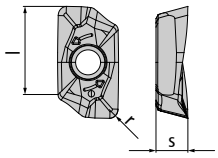
08 500 P
Torx-screwdriver (Tor-x-Plus)
C > Page 196

TV 08-2
Screwdriver torque Vario®-S with window scale, D > Page 197

T8 500 P
Torx interchangeable bit for Torque Vario®
E > Page 197

T8 502 P, Torx Magic-Spring compatible bit f. Torque Vario®,
F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
04 67 820 R04	XDHT 10T304 FR	K10	polished	10	3.58	0.4	M 2.5
04 67 820 R08	XDHT 10T308 FR	K10	polished	10	3.58	0.8	M 2.5
04 67 837 R08	XDMT 10T308 ER	HSC 05	PVFN	10	3.58	0.8	M 2.5
04 67 848 R08	XDMT 10T308 ER	P40	PVGO	10	3.58	0.8	M 2.5
04 67 896 R08	XDMT 10T308 ER	M40	PVST	10	3.58	0.8	M 2.5
04 67 8099 R08	XDMT 10T308 ER	M35	PCTC	10	3.58	0.8	M 2.5
04 67 820	XDHT 10T310 ER	K10	polished	10	3.58	1	M 2.5
04 67 837	XDMT 10T310 ER	HSC 05	PVFN	10	3.58	1	M 2.5
04 67 844	XDHT 10T310 ER	P40	PVGO	10	3.58	1	M 2.5
04 67 848	XDMT 10T310 ER	P40	PVGO	10	3.58	1	M 2.5
04 67 860	XDHT 10T310 ER	K10	PVTi	10	3.58	1	M 2.5
04 67 860 D	XDHT 10T310 ER	K10	PVDiaN	10	3.58	1	M 2.5
04 67 894	XDHT 10T310 ER	PCD	uncoated	10	3.58	1	M 2.5
04 67 896	XDMT 10T310 ER	M40	PVST	10	3.58	1	M 2.5
04 67 820 R20	XDHT 10T320 FR	K10	polished	10	3.58	2	M 2.5
04 67 896 R20	XDMT 10T320 ER	M40	PVST	10	3.58	2	M 2.5
04 67 820 R30	XDHT 10T330 FR	K10	polished	10	3.58	3	M 2.5
04 67 896 R30	XDMT 10T330 ER	M40	PVST	10	3.58	3	M 2.5
04 67 820 R40	XDHT 10T340 FR	K10	polished	10	3.58	4	M 2.5
04 67 896 R40	XDMT 10T340 ER	M40	PVST	10	3.58	4	M 2.5

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

Feed per tooth (fz) | d.o.c. (ap)

Material / Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
r=0,4 mm							
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-9	-	-
r=0,8 mm							
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-9	-	-
HSC 05 PVFN	f_z (mm) a_p (mm)	0,05-0,25 0,1-5	-	0,05-0,25 0,1-4	-	-	0,08-0,25 0,1-5
P40 PVGO	f_z (mm) a_p (mm)	0,05-0,25 0,1-6	0,05-0,25 0,1-3	0,05-0,25 0,1-6	-	0,05-0,25 0,1-3	-
M40 PVST	f_z (mm) a_p (mm)	0,05-0,25 0,1-6	0,08-0,35 0,1-9	-	-	0,08-0,25 0,1-9	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,08-0,35 0,1-9	-	-	0,08-0,25 0,1-9	-
r=1 mm							
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-9	-	-
HSC 05 PVFN	f_z (mm) a_p (mm)	0,05-0,25 0,1-5	-	0,05-0,25 0,1-4	-	-	0,08-0,25 0,1-5
P40 PVGO	f_z (mm) a_p (mm)	0,05-0,25 0,1-6	0,05-0,25 0,1-3	0,05-0,25 0,1-6	-	0,05-0,25 0,1-3	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-9	0,08-0,12 0,1-3	0,08-0,15 0,1-1
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-9	-	-
PCD uncoated	f_z (mm) a_p (mm)	-	-	-	0,08-0,2 0,1-4	-	-
M40 PVST	f_z (mm) a_p (mm)	0,05-0,25 0,1-6	0,08-0,35 0,1-9	-	-	0,08-0,25 0,1-9	-
r=2 mm							
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-9	-	-
M40 PVST	f_z (mm) a_p (mm)		0,08-0,35 0,1-9	-	-	0,08-0,25 0,1-9	-
r=3 mm							
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-9	-	-
M40 PVST	f_z (mm) a_p (mm)		0,08-0,35 0,1-9	-	-	0,08-0,25 0,1-9	-
r=4 mm							
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-9	-	-
M40 PVST	f_z (mm) a_p (mm)		0,08-0,35 0,1-9	-	-	0,08-0,25 0,1-9	-

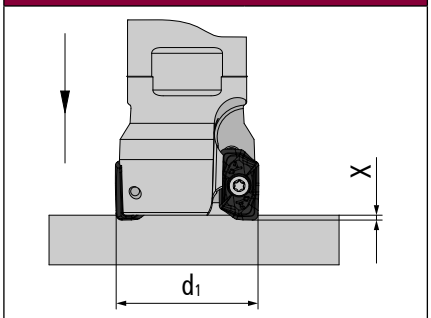
NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 100 **450** 800	-	-
HSC 05 PVFN	roughing pre finishing finishing	120 **160** 200 120 **160** 200 -	-	100 **150** 200 100 **150** 200 -	-	-	80 **150** 220 40 **130** 220 40 **130** 220
P40 PVGO	roughing pre finishing finishing	100 **150** 200 100 **150** 200 160 **205** 250	90 **110** 130 90 **110** 130 110 **135** 160	110 **130** 150 110 **130** 150 120 **150** 180	-	60 **80** 100 60 **80** 100 80 **100** 120	-
M40 PVST	roughing pre finishing finishing	80 **140** 200 100 **150** 200 -	80 **130** 180 100 **155** 210 120 **185** 250	-	-	30 **55** 80 40 **65** 90 60 **90** 120	-
M35 PCTC	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 160 **220** 280	-	-	30 **65** 100 40 **75** 110 60 **100** 140	-
K10 PVTi	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 100 **450** 800	- - 35 **68** 100	- - 35 **143** 250
K10 PVDiaN	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 100 **450** 800	-	-
PCD uncoated	roughing pre finishing finishing	-	-	-	200 **400** 600 400 **600** 800 600 **800** 1000	-	-

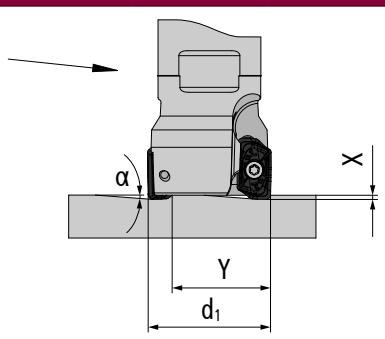
Extended operation data

Plunging



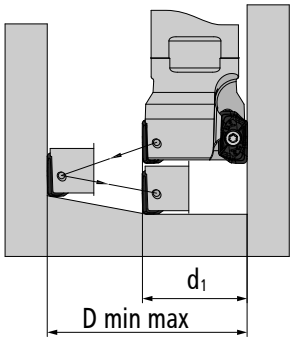
Cutter diam. d1	X_{max}
16-52	2.5

Ramping



Cutter diam. d1	α°	y
16	<24,5	5.3
20	<14,5	9.3
25	<8	14.3
32	<5	21.3
42	<3	31.3
52	<2,5	41.3

Helix



Cutter diam. d1	D_{min}	D_{max}
16	21.3	32
20	29.3	40
25	39.3	50
32	53.3	64
42	73.3	84
52	93.3	104

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

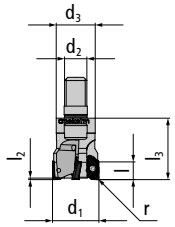
SLOTWORX® - K90°

SLOTWORX® - Size L - diam. 25 - 100 mm

Universally applicable for maximum cutting depths. These tools stand out due to low energy consumption and maximum rigidity. Usable with indexable inserts of the Slotworx®-L-range with a corner radius of up to 3.0 mm.
Modified standard bodies for the use of indexable inserts with a corner radius >= 4 mm have additional R+ marking.

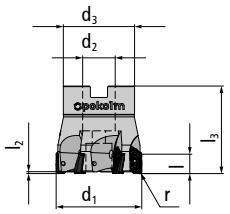
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 25 268	25	15	1-3	35	3	-	M 12	21	2	A, B, C, D, E	
2 25 268 R+	25	15	4|5	35	3	-	M 12	21	2	A, B, C, D, E	
3 32 268	32	15	1-3	43	3	-	M 16	29	3	A, B, C, D, E	
3 32 268 R+	32	15	4|5	43	3	-	M 16	29	3	A, B, C, D, E	
4 40 268	40	15	1-3	43	3	-	M 16	29	4	A, B, C, D, E	
4 40 268 R+	40	15	4|5	43	3	-	M 16	29	4	A, B, C, D, E	
4 42 268	42	15	1-3	43	3	-	M 16	29	4	A, B, C, D, E	
4 42 268 R+	42	15	4|5	43	3	-	M 16	29	4	A, B, C, D, E	

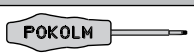
Shell type milling cutter bodies



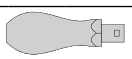
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 40 368	40	15	1-3	43	3	-	diam. 16	35	4	A, B, C, D, E	
4 40 368 R+	40	15	4|5	43	3	-	diam. 16	35	4	A, B, C, D, E	
4 42 368	42	15	1-3	43	3	-	diam. 16	35	4	A, B, C, D, E	
4 42 368 R+	42	15	4|5	43	3	-	diam. 16	35	4	A, B, C, D, E	
5 50 368	50	15	1-3	53	3	-	diam. 22	40	5	A, B, C, D, E	
5 50 368 R+	50	15	4|5	53	3	-	diam. 22	40	5	A, B, C, D, E	
5 52 368	52	15	1-3	53	3	-	diam. 22	40	5	A, B, C, D, E	
5 52 368 R+	52	15	4|5	53	3	-	diam. 22	40	5	A, B, C, D, E	
6 63 368	63	15	1-3	53	3	-	diam. 27	48	6	A, B, C, D, E	
6 63 368 R+	63	15	4|5	53	3	-	diam. 27	48	6	A, B, C, D, E	
6 66 368	66	15	1-3	53	3	-	diam. 27	48	6	A, B, C, D, E	
6 66 368 R+	66	15	4|5	53	3	-	diam. 27	48	6	A, B, C, D, E	
7 80 368	80	15	1-3	53	3	-	diam. 27	60	7	A, B, C, D, E	
7 80 368 R+	80	15	4|5	53	3	-	diam. 27	60	7	A, B, C, D, E	
9 100 368	100	15	1-3	53	3	-	diam. 32	70	9	A, B, C, D, E	
9 100 368 R+	100	15	4|5	53	3	-	diam. 32	70	9	A, B, C, D, E	

Accessories

35 500
Torx screw
A > Page 195



15 500
Torx-screwdriver
B > Page 196

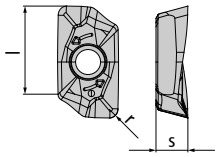


TV 2-8
Screwdriver torque Vario®-S with window scale, C > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T15 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	05 68 820	XDHT 155210	K10	polished	15	5.2	1	M 3.5
	05 68 848	XDMT 155210 ER	P40	PVGO	15	5.2	1	M 3.5
	05 68 862	XDMT 155210 ER	K10	PVTi	15	5.2	1	M 3.5
	05 68 896	XDMT 155210 ER	M40	PVST	15	5.2	1	M 3.5
	05 68 820 R20	XDHT 155230 FR	K10	polished	15	5.2	2	M 3.5
	05 68 896 R20	XDMT 155220 ER	M40	PVST	15	5.2	2	M 3.5
	05 68 820 R30	XDHT 155230 FR	K10	polished	15	5.2	3	M 3.5
	05 68 896 R30	XDMT 155230 ER	M40	PVST	15	5.2	3	M 3.5
	05 68 820 R40	XDHT 155240 FR	K10	polished	15	5.2	4	M 3.5
	05 68 896 R40	XDMT 155240 ER	M40	PVST	15	5.2	4	M 3.5
	05 68 820 R50	XDHT 155250 FR	K10	polished	15	5.2	5	M 3.5
	05 68 896 R50	XDMT 155250 ER	M40	PVST	15	5.2	5	M 3.5

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,08-0,35 0,1-14	-	-
P40 PVGO	f_z (mm) a_p (mm)	0,1-0,5 0,2-14	-	0,1-0,5 0,2-14	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	0,1-0,4 4-14	-	0,1-0,4 0,2-14	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,08-0,5 0,1-14	-	-	0,08-0,25 0,1-14	-

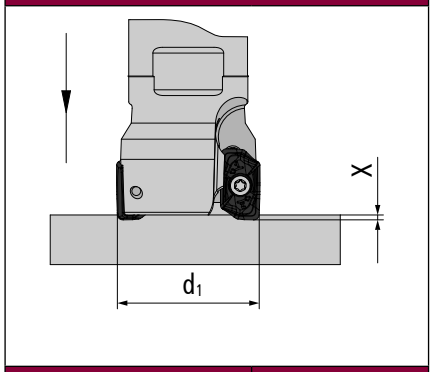
Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 100 **450** 800	-	-
P40 PVGO	roughing pre finishing finishing	100 **150** 200 100 **150** 200 160 **205** 250	-	110 **130** 150 110 **130** 150 120 **150** 180	-	-	-
K10 PVTi	roughing pre finishing finishing	130 **170** 210 150 **185** 220 -	-	150 **175** 200 150 **175** 200 150 **200** 250	-	-	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 120 **185** 250	-	-	30 **55** 80 40 **65** 90 60 **90** 120	-

major application *minor application* roughing pre-finishing finishing

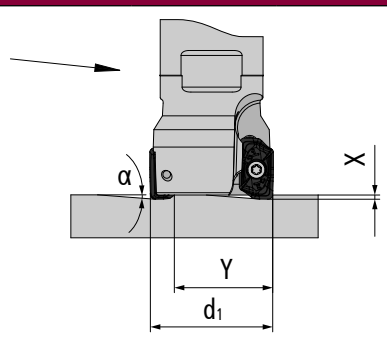
Extended operation data

Plunging



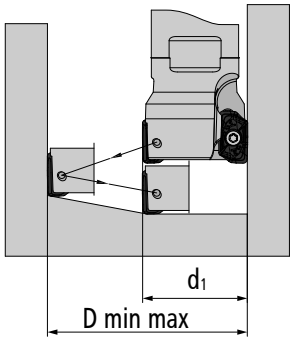
Cutter diam. d1	X_{max}
25-100	3

Ramping



Cutter diam. d1	α°	y
25	<8,3	17
32	<5,9	24
40	<4,4	32
42	<4,2	34
50	<3,3	42
52	<3,2	44
63	<2,5	55
66	<2,4	58
80	<1,9	72
100	<1,5	92

Helix



Cutter diam. d1	D_{min}	D_{max}
25	42	50
32	56	64
40	72	80
42	76	84
50	92	100
52	96	104
63	118	126
66	124	132
80	152	160
100	192	200

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

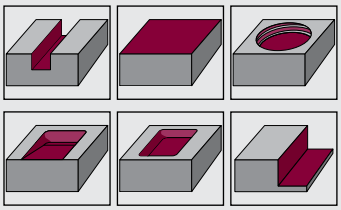
QUADWORX® XL SQUARE SHOULDER FACE MILLING + SLOTTING CUTTERS

The quadrature of the insert - maximum efficiency for all uses

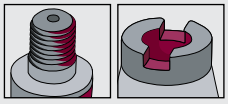
Properties

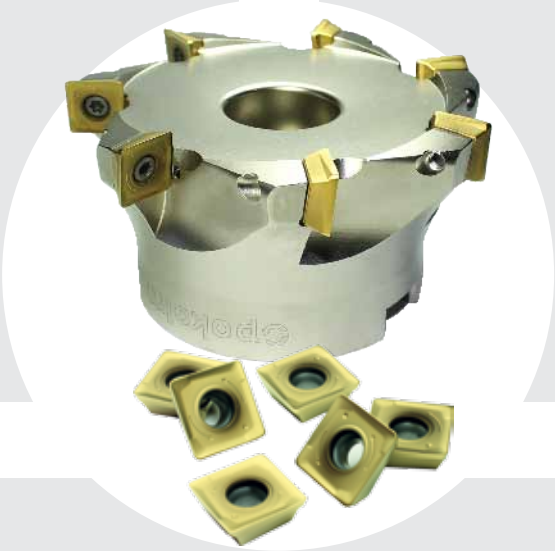
- Universal use as square shoulder face milling and slotting cutters
- Exceptional cutting rates and ultra-light cutting for increased machine capacity
- 4 cutting edges / inserts for efficient use
- The insert position above a second clearance surface and 90° configuration eliminates twisting
- A maximum of process safety in discontinuous cutting thanks to secure positioning of the cutting inserts

Machining types



Connection types





Sizes

Cutting materials

Size	ISO standard						feed per tooth | d.o.c.		length	corner radius	Carbide grade | coating
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	r (mm)	
XL	▼▽	▼▽	▼▽	–	▼▽	–	0.05 - 0,5	0.05 - 8	13	1	P40 PVGO P25 PVGO M40 PVST

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

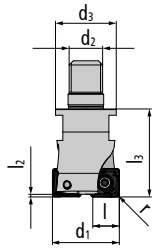
QUADWORX® XL - K90°

Size XL - diam. 32 - 100 mm

- four cutting edges per insert for extremely efficient operations
- very big metal removal rates and extremely easy cutting
- as a standard, every tool has internal coolant supply
- allows extremely high feed rates per tooth up to fz = 2.8 mm

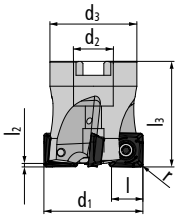
Milling cutter bodies

Threaded shank end mill body



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 32 251	32	13	1	42	1.5	-	M 16	29	2	A, B, C, D, E, F	
3 35 251	35	13	1	42	1.5	-	M 16	29	3	A, B, C, D, E, F	

Shell-type milling cutter body



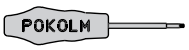
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 40 351	40	13	1	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	
4 42 351	42	13	1	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	
4 50 351	50	13	1	50	2.5	-	diam. 22	40	4	A, D, E, F, G	
5 50 351	50	13	1	50	2.5	-	diam. 22	40	5	A, D, E, F, G	
4 50 351	52	13	1	50	2.5	-	diam. 22	48	4	A, D, E, F, G	
5 52 351	52	13	1	50	2.5	-	diam. 22	48	5	A, D, E, F, G	
6 63 351	63	13	1	53	2.5	-	diam. 27	48	6	A, D, E, F, G	
6 66 351	66	13	1	53	2.5	-	diam. 27	48	6	A, D, E, F, G	
6 80 351	80	13	1	53	2.5	-	diam. 27	60	6	A, D, E, F, G	
8 80 351	80	13	1	53	2.5	-	diam. 27	60	8	A, D, E, F, G	
7 100 351	100	13	1	53	2.5	-	diam. 32	70	7	A, B, D, E, F, G	
9 100 351	100	13	1	53	2.5	-	diam. 32	70	9	A, B, D, E, F, G	

Accessories

40 505 K
Torx screw
A > Page 195

M16X35
screw short head
B > Page 196

GWSTPS8ISK
hexagon socket set screw
C > Page 196



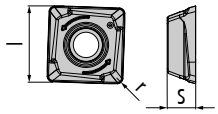
15 500 P
Torx-screwdriver (Tor-x-Plus)
D > Page 196

TV 2-8
Screwdriver torque Va-rio®-S with window scale
E > Page 197

T15 500 P
Torx interchangeable bit for Torque Vario®
F > Page 197

T15 502 P
Torx MagicSpring compati-ble bit f. Torque Vario®
G > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	05 51 848	SDMT 135010 SN	P40	PVGO	13	5	1	M 4.0
	05 51 858	SDMT 135010 SN	P25	PVGO	13	5	1	M 4.0
	05 51 896	SDMT 135020 EN	M40	PVST	13	5	1	M 4.0

Feed per tooth (fz) | d.o.c. (ap)

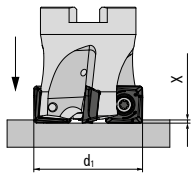
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVGO	f_z (mm) a_p (mm)	0,1-0,5 0,2-8	-	0,1-0,5 0,2-8	-	-	-
P25 PVGO	f_z (mm) a_p (mm)	0,1-0,5 0,2-8	-	0,1-0,5 0,2-8	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,05-0,3 0,1-6	-	-	0,05-0,25 0,05-6	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVGO	roughing pre finishing finishing	100 **150** 200 100 **150** 200 160 **205** 250	-	110 **130** 150 110 **130** 150 120 **150** 180	-	-	-
P25 PVGO	roughing pre finishing finishing	110 **165** 220 120 **185** 250 150 **225** 300	-	120 **145** 170 130 **150** 170 135 **193** 250	-	-	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 120 **185** 250	-	-	30 **55** 80 40 **65** 90 60 **90** 120	-

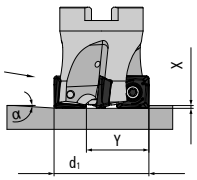
Extended operation data

Plunging



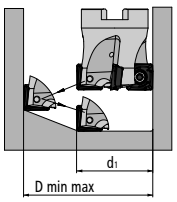
Cutter diam. d1	X_{max}
32-35	1.5
40-100	2.5

Ramping



Cutter diam. d1	α°	y
32	<9	8.8
35	<7,0	11.8
40	<6,5	16.8
42	<5,8	18.8
50	<4,1	26.8
52	<3,7	28.8
63	<2,6	39.8
66	<2,4	42.8
80	<1,8	56.8
100	<1,2	72.8

Helix



Cutter diam. d1	D_{min}	D_{max}
32	40.8	62
35	46.8	68
40	56.8	78
42	60.8	82
50	76.8	98
52	80.8	102
63	102.8	124
66	108.8	130
80	136.8	158
100	176.8	198

major application *minor application* roughing pre-finishing finishing

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pokolm
PREMIUMTOOLS. WE KNOW HOW.

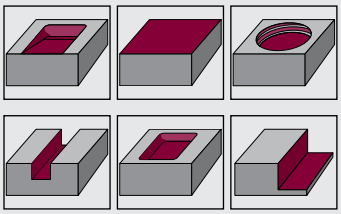
ADEW® SQUARE SHOULDER FACE MILLING AND SLOTTING CUTTER BODIES

Universal cutter with particularly low power requirement

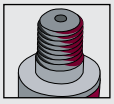
Properties

- Low power requirement
- Particularly suitable for mechanical engineering and toolmaking
- Very good for use in residual material removal

Machining types



Connection types



Sizes	Page
diam. 15 - 32 mm	54

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
HSC 05 PVTi	▼	▽	▼	▽	–	▼	0.1 - 0.25	0.1 - 2.0	9.52	2.38	0.8
P25 PVTi	▼	–	▽	–	–	–	0.1 - 0.25	0.1 - 2.0	9.52	2.38	0.8
K10 PVDiaN	–	–	–	▼	–	–	0.1 - 0.25	0.1 - 2.0	9.52	2.38	0.8

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

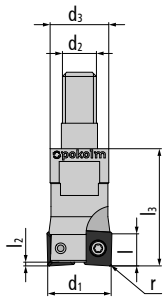
ADEW - K90°

diam. 15 - 32 mm

These universal milling cutters for machine building and toolmaking are characterized for their low energy consumption.

Milling cutter bodies

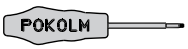
Threaded Shank End Mill Bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
15 242 A	15	9.52	0.8	27.5	0.9	-	M 8	13.8	2	A, B, C, D, E	☑
20 242 A	20	9.52	0.8	27.5	0.9	-	M 10	18	3	A, B, C, D, E	☑
25 242 A	25	9.52	0.8	32.5	0.9	-	M 12	21	4	A, B, C, D, E	☑
32 242 A	32	9.52	0.8	37.5	0.9	-	M 16	29	5	A, B, C, D, E	☑

Accessories

25 500
Torx screw
A > Page 195



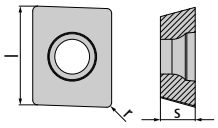
07 500
Torx-screwdriver
B > Page 196

TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T7 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
02 78 835	ADEW 090208 TR	HSC 05	PVTi	9.52	2.38	0.8	M 2.5
02 78 850	ADEW 090208 TR	P25	PVTi	9.52	2.38	0.8	M 2.5
02 78 860 D	ADEW 090208 TR	K10	PVDiaN	9.52	2.38	0.8	M 2.5

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,18 0,1-1,05	0,1 0,1	0,1-0,25 0,1-2	0,1-0,18 0,1-1,05	-	0,1-0,18 0,1-1,05
P25 PVTi	f_z (mm) a_p (mm)	0,1-0,25 0,1-2	-	0,1-0,18 0,1-1,05	-	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,25 0,1-2	-	-

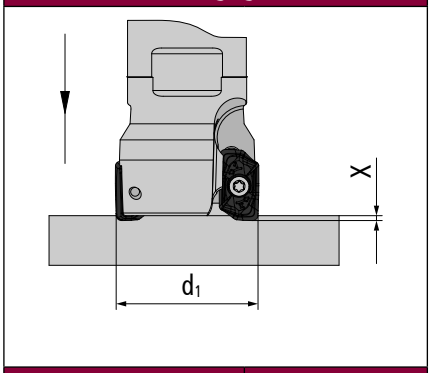
NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 150 **275** 400	- - 100 **150** 200	100 **150** 200 150 **225** 300 200 **275** 350	- 200 **500** 800 100 **450** 800	-	- 35 **143** 250 35 **143** 250
P25 PVTi	roughing pre finishing finishing	100 **200** 300 100 **125** 150 150 **250** 350	-	- 130 **150** 170 150 **200** 250	-	-	-
K10 PVDiaN	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 100 **450** 800	-	-

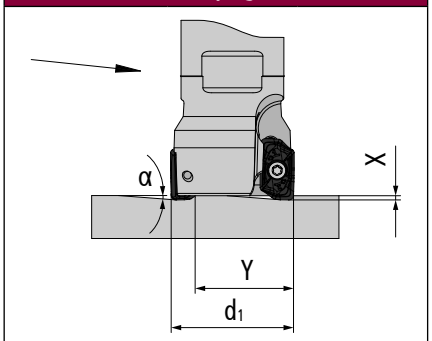
Extended operation data

Plunging



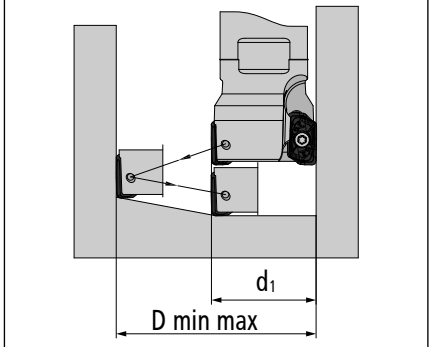
Cutter diam. d1	X_{max}
15-32	0.9

Ramping



Cutter diam. d1	α°	y
15	4,5	11
20	3	16
25	2	21
32	1,5	28

Helix



Cutter diam. d1	D_{min}	D_{max}
15	26	29
20	36	39
25	46	49
32	60	63

major application *minor application* roughing pre-finishing finishing

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PREMIUMTOOLS. WE KNOW HOW.

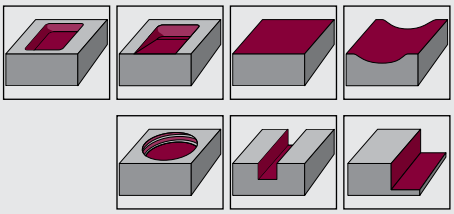
SPINWORX® INNOVATIVE COPY CUTTING SYSTEM

for reduced manning operation with self-rotating inserts

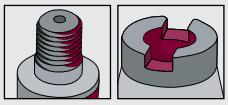
Properties

- 100% use of the complete cutting edge
- Minimised tooling-up times, manual adjustment of the inserts is no longer necessary
- Far higher tool lives and chip volume without stopping the production process
- Optimally suitable for roughing and stock material removing
- Reduced chip compression leads to lower power consumption, which also protects your machine spindle.

Machining types



Connection types



Practical video

- SPINWORX® in 1.2738 / Tool life 13 hours / P20 / 40CrMnNiMo8-6-4

Sizes		Page
r 3,5	diam. 16 - 35 mm	58
r 5	diam. 20 - 52 mm	64
r 6	diam. 32 - 66 mm	68
r 8	diam. 40 - 100 mm	72

Cutting materials

Size	ISO standard						Insert diam. d (mm)	Carbide grade | coating					
	P	M	K	N	S	H		0	1	3	4	6	7
r3,5	▼	▼	▼	▼	▼	▼	7	C, E	D, E	B, D	C, E, F	C, E, F	B, C
r5	▼	▼	▼	▼	▼	▼	10	C, E	D	B, D	C, E, F	C, E, F	B, C
r6	▼	▼	▼	▽	▼	▼	12	C, E	D	B, D	C, E, F	C, E, F	B
r8	▼	▼	▼	▽	▼	▼	16	-	-	B, D	C, E, F, T	C, E, F, T	B

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

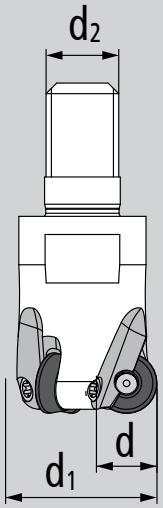
SPINWORX® COPY CUTTERS

The order number keys for milling cutter bodies and inserts

Order number key: SPINWORX® Milling cutter bodies

Example: **DR10-025-E12-03**

- Tool type
  DR - SPINWORX®
- Tool type diam. mm [d]
- Nominal diameter mm [d_1]
- Type of connection
  E - Threaded shank end mill body
  A - Shell-type milling cutter body
- Connection size diam. mm [d_2]
- No. of teeth



Order number key: SPINWORX® Inserts

Example:: **DR 10 - 8 C 7 - P**

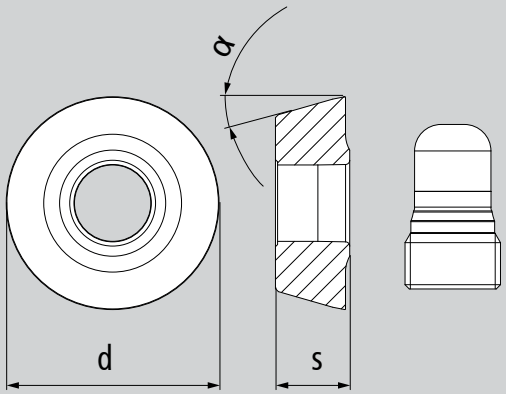
- Tool type
  DR - SPINWORX®
- Insert size
  [diam. mm]
- Identification feature
- Code | Quality | Material suitability

B	M35	stainless steel / high-temperature alloys
C	K10	steel / cast iron / hardened steel < 60 HRC
D	M40	stainless steel / high-temperature alloys
E	P25	steel / casst iron
F	P40	steel / casst iron
T	P25	steel / casst iron / hardened steel < 48 HRC

- Geometry

α 11°	α 15°	Clearance angle / Design
0	4	sintered without chip-breaker groove
1	5	sintered with chip-breaker groove
2	6	grinded without chip-breaker groove
3	7	grinded with chip-breaker groove

- P - polished rake face for machining of Non-ferrous materials



NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

SPINWORX®

r3.5 - diam. 16 - 35 mm, 7° positive rake angle

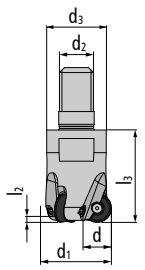
The SPINWORX system in its smallest version

- effective use of cutting edge and machining of smaller workpieces
- wide range of use for almost all areas of application
- effective use of the cutting edge
- with specially adapted coolant supply
- low power consumption, high chip removal rate

CAUTION - PLEASE NOTE!
For optimum results with the SPINWORX®-tooling system we recommend using internal coolant supply air, emulsion or MQL for chip removal from the tool! Wet machining up to max speed Vc of 140 m/min!

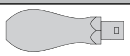
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
DR07-016-E08-02	16	7	3.5	28.5	1.2	-	M 8	13.8	2	A, B, C, D	
DR07-020-E10-05	20	7	3.5	28.5	1.2	-	M 10	18	5	A, B, C, D	
DR07-025-E12-06	25	7	3.5	28.5	1.2	-	M 12	21	6	A, B, C, D	
DR07-030-E12-07	30	7	3.5	28.5	1.2	-	M 12	21	7	A, B, C, D	
DR07-035-E16-08	35	7	3.5	28.5	1.2	-	M 16	29	8	A, B, C, D	

Accessories



T6-0,5NM
Torque Fix® - S torque screwdriver
A > Page 197

T6 500
Torx interchangeable bit for Torque Vario®
B > Page 197

T6 502
Torx MagicSpring compatible bit f. Torque Vario®
C > Page 198

Z 00043
HTC ceramic paste WS 600 005
D > Page 198

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

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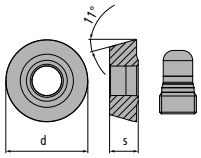
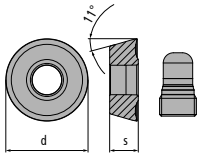
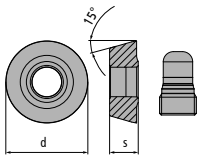
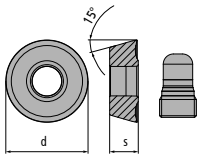
Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	DR07-8C0	RORA 0727 M0SN	C0		7	2.7	3.5	
	DR07-8E0	RORA 0727 M0SN	E0		7	2.7	3.5	
	DR07-8E1	RORM 0727 M0EN	E1		7	2.7	3.5	
	DR07-8B3	RORM 0727 M0EN	B3		7	2.7	3.5	
	DR07-8D1	RORM 0727 M0EN	D1		7	2.7	3.5	
	DR07-8D3	RORM 0727 M0EN	D3		7	2.7	3.5	
	DR07-8C4	RDRA 0727 M0SN	C4		7	2.7	3.5	
	DR07-8C6	RDRA 0727 M0SN	C6		7	2.7	3.5	
	DR07-8E4	RDRA 0727 M0SN	E4		7	2.7	3.5	
	DR07-8F4	RDRA 0727 M0SN	F4		7	2.7	3.5	
	DR07-8E6	RDRA 0727 M0SN	E6		7	2.7	3.5	
	DR07-8F6	RDRA 0727 M0SN	F6		7	2.7	3.5	
	DR07-8B7	RDRM 0727 M0EN	B7		7	2.7	3.5	
	DR07-8C7-P	RDRM 0727 M0EN	C7-P		7	2.7	3.5	

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
C0	f_z (mm) a_p (mm)	0,1-0,4 0,1-0,5	-	0,1-0,3 0,1-0,7	-	-	0,1-0,15 0,1-0,2
E0	f_z (mm) a_p (mm)	0,1-0,4 0,1-0,5	-	0,1-0,3 0,1-0,4	-	-	-
E1	f_z (mm) a_p (mm)	0,1-0,3 0,05-0,4	0,1-0,5 0,1-0,75	-	-	0,1-0,4 0,1-1	-
B3	f_z (mm) a_p (mm)	-	0,1-0,5 0,1-0,75	-	-	0,1-0,4 0,1-1	-
D1	f_z (mm) a_p (mm)	-	0,1-0,5 0,1-0,75	-	-	0,1-0,4 0,1-1	-
D3	f_z (mm) a_p (mm)	-	0,1-0,5 0,1-0,75	-	0,1-0,3 0,2-1	0,1-0,4 0,1-1	-
C4	f_z (mm) a_p (mm)	0,1-0,4 0,1-0,5	-	0,1-0,3 0,1-0,7	-	-	0,1-0,15 0,1-0,2
C6	f_z (mm) a_p (mm)	0,1-0,4 0,1-0,5	-	0,1-0,3 0,1-0,7	-	-	0,1-0,15 0,1-0,2
E4	f_z (mm) a_p (mm)	0,1-0,4 0,1-0,5	-	0,1-0,3 0,1-0,4	-	-	-
F4	f_z (mm) a_p (mm)	0,1-0,5 0,1-0,8	-	0,1-0,3 0,1-0,7	-	-	-
E6	f_z (mm) a_p (mm)	0,1-0,4 0,1-0,5	-	0,1-0,2 0,1-0,4	-	-	-
F6	f_z (mm) a_p (mm)	0,1-0,5 0,1-0,8	-	0,1-0,3 0,1-0,7	-	-	-
B7	f_z (mm) a_p (mm)	-	0,1-0,5 0,1-0,75	-	-	0,1-0,4 0,1-1	-
C7-P	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,2-1	-	-

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

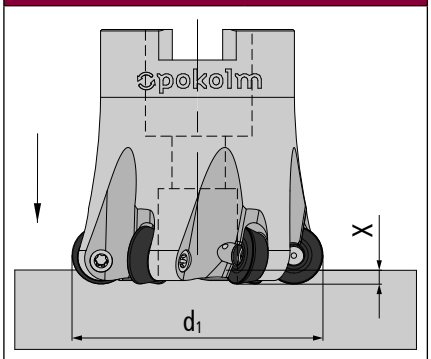
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
C0	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
E0	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
E1	roughing pre finishing finishing	80 **155** 230 75 **163** 250 -	70 **110** 150 80 **130** 180 -	-	-	20 **45** 70 20 **50** 80 -	-
B3	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 -	-	-	30 **65** 100 40 **75** 110 -	-
D1	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	-	30 **55** 80 40 **65** 90 -	-
D3	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	100 **250** 400 200 **400** 600 -	30 **55** 80 40 **65** 90 -	-
C4	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
C6	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
E4	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
F4	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	110 **130** 150 140 **180** 220 -	-	-	-
E6	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
F6	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	110 **130** 150 140 **180** 220 -	-	-	-
B7	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 -	-	-	30 **65** 100 40 **75** 110 -	-
C7-P	roughing pre finishing finishing	-	-	-	100 **350** 600 200 **500** 800 -	-	-

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

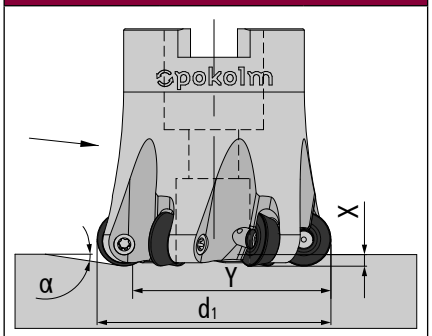
Extended operation data

Plunging



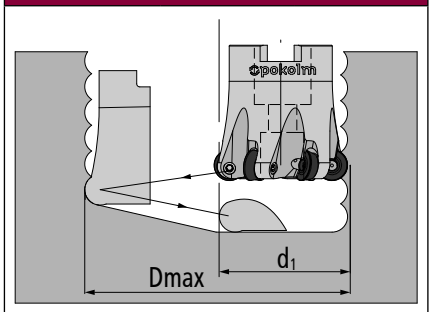
Cutter diam. d1	X_{max}
16-35	1.2

Ramping



Cutter diam. d1	α°	y
16	<16,0	4
20	<8,5	8
25	<5,0	13
30	<3,5	18
35	<3,0	23

Helix



Cutter diam. d1	D_{min}	D_{max}
16	20	30
20	28	38
25	38	48
30	48	58
35	58	68

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

SPINWORX®

r5 - diam. 20 - 52 mm, 7° positive rake angle

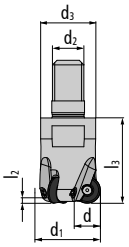
The all-rounders in the SPINWORX series.

- wide range of use for almost all areas of application
- effective use of the cutting edge
- with specially adapted primary and secondary coolant supply.
- low power consumption, high chip removal rate.

CAUTION! PLEASE NOTE!

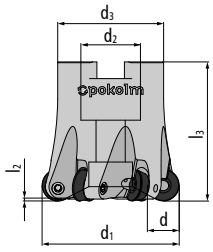
For optimum results with the SPINWORX®-tooling system we recommend using internal coolant supply air, emulsion or MQL for chip removal in the tool! Wet machining up to max speed Vc of 140 m/min!

Threaded shank end mill bodies



Milling cutter bodies – Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
DR10-020-E10-02	20	10	5	29	2.5	-	M 10	18	2	A, B, C, D	
DR10-025-E12-03	25	10	5	32.5	1.5	-	M 12	21	3	A, B, C, D	
DR10-025-E12-04	25	10	5	32.5	1.5	-	M 12	21	4	A, B, C, D	
DR10-030-E12-04	30	10	5	33	2.5	-	M 12	21	4	A, B, C, D	
DR10-030-E16-04	30	10	5	43	2.5	-	M 16	29	4	A, B, C, D	
DR10-032-E16-04	32	10	5	43	2.5	-	M 16	29	4	A, B, C, D	
DR10-032-E16-05	32	10	5	43	2.5	-	M 16	29	5	A, B, C, D	
DR10-035-E16-05	35	10	5	43	2.5	-	M 16	29	5	A, B, C, D	
DR10-042-E16-06	42	10	5	43	2.5	-	M 16	29	6	A, B, C, D	

Shell-type milling cutter bodies



Shell-type milling cutter bodies – Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
DR10-040-A16-05	40	10	5	43	2.5	-	diam. 16	35	5	A, B, C, D	
DR10-042-A16-05	42	10	5	43	2.5	-	diam. 16	35	5	A, B, C, D	
DR10-042-A16-06	42	10	5	43	2.5	-	diam. 16	35	6	A, B, C, D	
DR10-052-A22-07	52	10	5	52	2.5	-	diam. 22	40	7	A, B, C, D	

Accessories

T10-1,4NM
Torque Fix® - S torque screwdriver
A > Page 197

T10 500
Torx interchangeable bit for Torque Vario®
B > Page 197

T10 502
Torx MagicSpring compatible bit f. Torque Vario®
C > Page 198

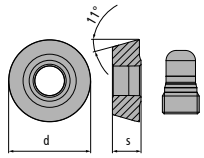
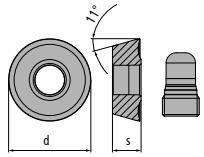
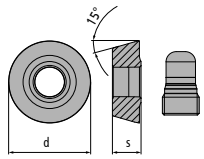
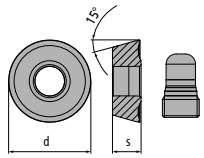
Z 00043
HTC ceramic paste WS 600 005
D > Page 198

NEW latest items!

⚠ available as long as stock lasts

? on request

✔ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	DR10-8C0	RORA 1035 M0SN	C0		10	3.5	5	
	DR10-8E0	RORA 1035 M0SN	E0		10	3.5	5	
	DR10-8B3	RORM 1035 M0EN	B3		10	3.5	5	
	DR10-8D1	RORM 1035 M0EN	D1		10	3.5	5	
	DR10-8D3	RORM 1035 M0EN	D3		10	3.5	5	
	DR10-8C4	RDRA 1035 M0SN	C4		10	3.5	5	
	DR10-8C6	RDRA 1035 M0SN	C6		10	3.5	5	
	DR10-8E4	RDRA 1035 M0SN	E4		10	3.5	5	
	DR10-8F4	RDRA 1035 M0SN	F4		10	3.5	5	
	DR10-8E6	RDRA 1035 M0SN	E6		10	3.5	5	
	DR10-8F6	RDRA 1035 M0SN	F6		10	3.5	5	
	DR10-8B7	RDRM 1035 M0EN	B7		10	3.5	5	
	DR10-8C7-P	RDRM 1035 M0EN	C7-P		10	3.5	5	

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
C0	f_z (mm) a_p (mm)	0,1-0,45 0,2-1	-	0,15-0,35 0,1-1	-	-	0,1-0,15 0,1-0,3
E0	f_z (mm) a_p (mm)	0,1-0,45 0,2-1	-	0,15-0,25 0,1-0,55	-	-	-
B3	f_z (mm) a_p (mm)	-	0,15-0,6 0,2-2	-	-	0,1-0,4 0,15-2	-
D1	f_z (mm) a_p (mm)	-	0,15-0,6 0,2-2	-	-	0,1-0,4 0,15-2	-
D3	f_z (mm) a_p (mm)	-	0,15-0,6 0,2-2	-	0,2-0,3 0,2-1,7	0,1-0,4 0,15-2	-
C4	f_z (mm) a_p (mm)	0,1-0,45 0,2-1	-	0,15-0,35 0,1-1	-	-	0,1-0,15 0,1-0,3
C6	f_z (mm) a_p (mm)	0,1-0,45 0,2-1	-	0,15-0,35 0,1-1	-	-	0,1-0,15 0,1-0,3
E4	f_z (mm) a_p (mm)	0,1-0,45 0,2-1	-	0,15-0,25 0,1-0,55	-	-	-
F4	f_z (mm) a_p (mm)	0,1-0,5 0,2-1,5	-	0,15-0,35 0,1-1	-	-	-
E6	f_z (mm) a_p (mm)	0,1-0,45 0,2-1	-	0,15-0,25 0,1-0,55	-	-	-
F6	f_z (mm) a_p (mm)	0,1-0,5 0,2-1,5	-	0,15-0,35 0,1-1	-	-	-
B7	f_z (mm) a_p (mm)	-	0,15-0,6 0,2-2	-	-	0,1-0,4 0,15-2	-
C7-P	f_z (mm) a_p (mm)	-	-	-	0,2-0,3 0,2-1,7	-	-

major application *minor application* roughing pre-finishing finishing

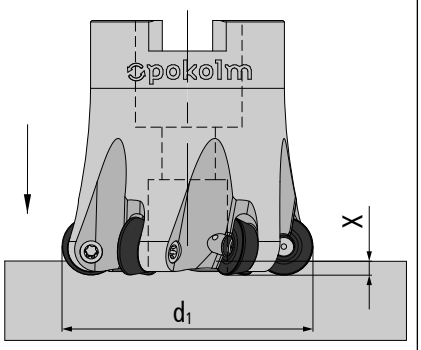
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
C0	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
E0	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
B3	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 -	-	-	30 **65** 100 40 **75** 110 -	-
D1	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	-	30 **55** 80 40 **65** 90 -	-
D3	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	100 **250** 400 200 **400** 600 -	30 **55** 80 40 **65** 90 -	-
C4	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
C6	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
E4	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
F4	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	110 **130** 150 140 **180** 220 -	-	-	-
E6	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
F6	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	110 **130** 150 140 **180** 220 -	-	-	-
B7	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 -	-	-	30 **65** 100 40 **75** 110 -	-
C7-P	roughing pre finishing finishing	-	-	-	100 **350** 600 200 **500** 800 -	-	-

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

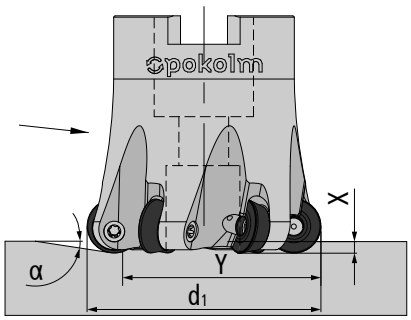
Extended operation data

Plunging



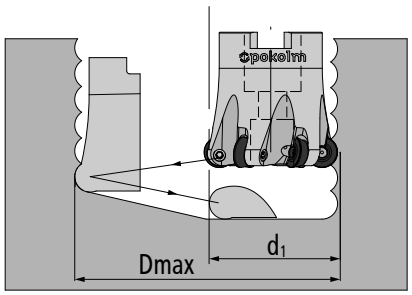
Cutter diam. d1	X_{max}
20-52	2.5

Ramping



Cutter diam. d1	α°	y
20	<17,0	2
25	<19,5	7
30	<11,5	12
32	<10,0	14
35	<8,0	17
40	<6,0	22
42	<5,5	24
52	<4,0	34

Helix



Cutter diam. d1	D_{min}	D_{max}
20	22	38
25	32	48
30	42	58
32	46	62
35	52	68
40	62	78
42	66	82
52	86	102

▼ ***major application*** ▽ ***minor application*** ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

SPINWORX®

r6 - diam. 32 - 66 mm, 7° positive rake angle

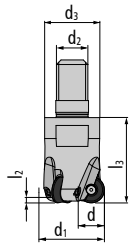
Highly efficient SPINWORX systems also available in intermediate sizes.

- wide range of use for almost all areas of application
- effective use of the cutting edge
- with specially adapted primary and secondary coolant supply.
- unrivalled in terms of machining volume and tool life.

CAUTION! PLEASE NOTE!

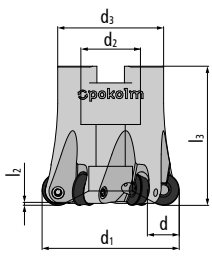
For optimum results with the SPINWORX®-tooling system we recommend using internal coolant supply air, emulsion or MQL for chip removal in the tool! Wet machining up to max speed Vc of 140 m/min!

Threaded shank end mill bodies



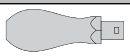
Milling cutter bodies Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
DR12-032-E16-04	32	12	6	42.5	2.8	-	M 16	29	4	B, C, D, E	
DR12-035-E16-03	35	12	6	42.5	2.8	-	M 16	29	3	B, C, D, E	
DR12-035-E16-04	35	12	6	42.5	2.8	-	M 16	29	4	B, C, D, E	
DR12-035-E16-05	35	12	6	42.5	2.8	-	M 16	29	5	B, C, D, E	

Shell-type milling cutter bodies

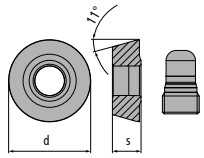
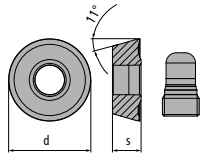
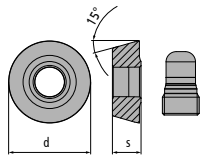
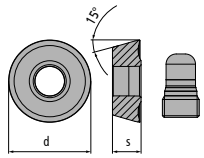


DR12-040-A16-05	40	12	6	42.5	2.8	-	diam. 16	35	5	A, B, C, D, E	
DR12-042-A16-05	42	12	6	42.5	2.8	-	diam. 16	35	5	A, B, C, D, E	
DR12-050-A22-06	50	12	6	52.5	2.8	-	diam. 22	40	6	B, C, D, E	
DR12-052-A22-06	52	12	6	52.5	2.8	-	diam. 22	40	6	B, C, D, E	
DR12-063-A27-06	63	12	6	52.5	2.8	-	diam. 27	48	6	B, C, D, E	
DR12-066-A27-07	66	12	6	52.5	2.8	-	diam. 27	48	7	B, C, D, E	

Accessories

 GWSTPS8ISK hexagon socket set screw A > Page 196	 T10-1,4NM Torque Fix® - S torque screwdriver B > Page 197	 T10 500 Torx interchangeable bit for Torque Vario® C > Page 197	 T10 502 Torx MagicSpring compatible bit f. Torque Vario®, D > Page 198	 Z 00043 HTC ceramic paste WS 600 005 E > Page 198	

NEW latest items! ⚠ available as long as stock lasts ? on request ✓ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	DR12-8C0	RORA 1245 M0SN	C0		12	4.5	6	
	DR12-8E0	RORA 1245 M0SN	E0		12	4.5	6	
	DR12-8B3	RORM 1245 M0EN	B3		12	4.5	6	
	DR12-8D1	RORM 1245 M0EN	D1		12	4.5	6	
	DR12-8D3	RORM 1245 M0EN	D3		12	4.5	6	
	DR12-8C4	RDRA 1245 M0SN	C4		12	4.5	6	
	DR12-8C6	RDRA 1245 M0SN	C6		12	4.5	6	
	DR12-8E4	RDRA 1245 M0SN	E4		12	4.5	6	
	DR12-8F4	RDRA 1245 M0SN	F4		12	4.5	6	
	DR12-8E6	RDRA 1245 M0SN	E6		12	4.5	6	
	DR12-8F6	RDRA 1245 M0SN	F6		12	4.5	6	
	DR12-8B7	RDRM 1245 M0EN	B7		12	4.5	6	

Feed per tooth (fz) | d.o.c. (ap)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
C0	f_z (mm) a_p (mm)	0,1-0,5 0,2-1,5	-	0,15-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
E0	f_z (mm) a_p (mm)	0,1-0,5 0,2-1,5	-	0,15-0,3 0,1-0,8	-	-	-
B3	f_z (mm) a_p (mm)	-	0,2-0,65 0,3-2,5	-	-	0,1-0,5 0,2-2,5	-
D1	f_z (mm) a_p (mm)	-	0,2-0,65 0,3-2,5	-	-	0,1-0,5 0,2-2,5	-
D3	f_z (mm) a_p (mm)	-	0,2-0,65 0,3-2,5	-	0,25-0,4 0,3-2	0,1-0,5 0,2-2,5	-
C4	f_z (mm) a_p (mm)	0,1-0,5 0,2-1,5	-	0,15-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
C6	f_z (mm) a_p (mm)	0,1-0,5 0,2-1,5	-	0,15-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
E4	f_z (mm) a_p (mm)	0,1-0,5 0,2-1,5	-	0,15-0,3 0,1-0,8	-	-	-
F4	f_z (mm) a_p (mm)	0,1-0,6 0,2-2	-	0,15-0,4 0,1-1,5	-	-	-
E6	f_z (mm) a_p (mm)	0,1-0,5 0,2-1,5	-	0,15-0,3 0,1-0,8	-	-	-
F6	f_z (mm) a_p (mm)	0,1-0,6 0,2-2	-	0,15-0,4 0,1-1,5	-	-	-
B7	f_z (mm) a_p (mm)	-	0,2-0,65 0,3-2,5	-	-	0,1-0,5 0,2-2,5	-

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

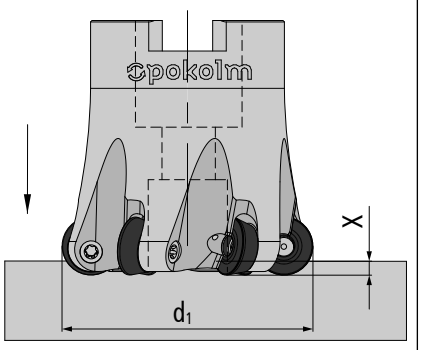
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
C0	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
E0	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
B3	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 -	-	-	30 **65** 100 40 **75** 110 -	-
D1	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	-	30 **55** 80 40 **65** 90 -	-
D3	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	100 **250** 400 200 **400** 600 -	30 **55** 80 40 **65** 90 -	-
C4	roughing pre finishing finishing	150 **180** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
C6	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
E4	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
F4	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	110 **130** 150 140 **180** 220 -	-	-	-
E6	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
F6	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	110 **130** 150 140 **180** 220 -	-	-	-
B7	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 -	-	-	30 **65** 100 40 **75** 110 -	-

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

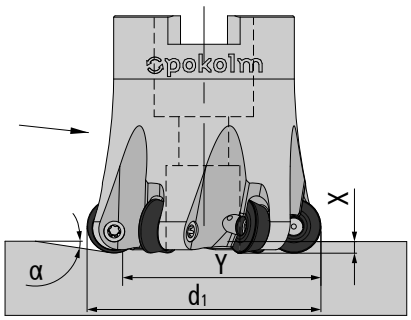
Extended operation data

Plunging



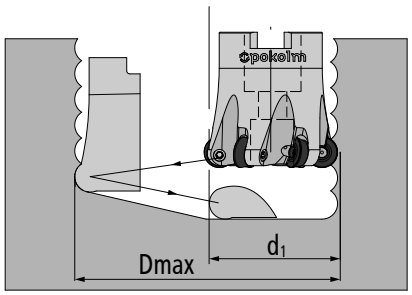
Cutter diam. d1	X_{max}
32-66	2.8

Ramping



Cutter diam. d1	α°	y
32	<15,5	10
35	<12,0	13
40	<8,5	18
42	<7,5	20
50	<5,5	28
52	<5,0	30
63	<3,5	41
66	<3,5	44

Helix



Cutter diam. d1	D_{min}	D_{max}
32	42	62
35	48	68
40	58	78
42	62	82
50	78	98
52	82	102
63	104	124
66	110	130

major application *minor application* roughing pre-finishing finishing

SPINWORX®

r8 - diam. 40 - 100 mm, 7° positive rake angle

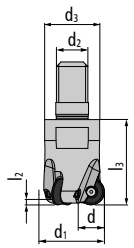
Highly efficient SPINWORX systems also available in intermediate sizes.

- wide range of use for almost all areas of application
- effective use of the cutting edge
- with specially adapted primary and secondary coolant supply.
- unrivalled in terms of machining volume and tool life.

CAUTION! PLEASE NOTE!

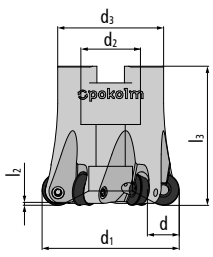
For optimum results with the SPINWORX®-tooling system we recommend using internal coolant supply air, emulsion or MQL for chip removal in the tool! Wet machining up to max speed Vc of 140 m/min!

Threaded shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
DR16-040-E16-04	40	16	8	43.5	2.5	-	M 16	29	4	C, D, E, F	

Shell-type milling cutter bodies

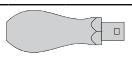


Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
DR16-052-A22-05	52	16	8	53	2.5	-	diam. 22	40	5	B, C, D, E, F	
DR16-063-A27-07	63	16	8	53	2.5	-	diam. 27	48	7	C, D, E, F	
DR16-066-A27-06	66	16	8	53	2.5	-	diam. 27	48	6	C, D, E, F	
DR16-080-A27-07	80	16	8	53	2.5	-	diam. 27	60	7	C, D, E, F	
DR16-100-A32-08	100	16	8	53	2.5	-	diam. 32	70	8	A, C, D, E, F	

Accessories

M16X35
screw short head
A > Page 196

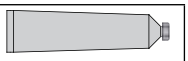
GWSTPS10ISK
hexagon socket set screw
B > Page 196



T20-2,5NM
Torque Fix® - S torque screwdriver
C > Page 197

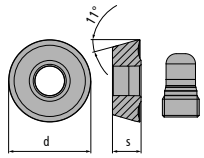
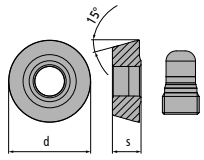
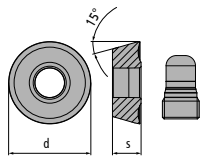
T20 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T20 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198



Z 00043
HTC ceramic paste WS 600 005
F > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	DR16-8D3	RORM 1655 M0EN	D3		16	5.5	8	
	DR16-8B3	RORM 1655 M0EN	B3		16	5.5	8	
	DR16-8C4	RDRA 1655 M0SN	C4		16	5.5	8	
	DR16-8C6	RDRA 1655 M0SN	C6		16	5.5	8	
	DR16-8E4	RDRA 1655 M0SN	E4		16	5.5	8	
	DR16-8T4	RDRA 1655 M0SN	T4		16	5.5	8	
	DR16-8T6	RDRA 1655 M0SN	T6		16	5.5	8	
	DR16-8F4	RDRA 1655 M0SN	F4		16	5.5	8	
	DR16-8E6	RDRA 1655 M0SN	E6		16	5.5	8	
	DR16-8F6	RDRA 1655 M0SN	F6		16	5.5	8	
	DR16-8B7	RDRM 1655 M0EN	B7		16	5.5	8	

Feed per tooth (fz) | d.o.c. (ap)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
D3	f_z (mm) a_p (mm)	- -	0,2-0,7 0,5-3	- -	0,25-0,4 0,3-2,5	0,1-0,5 0,2-3	-
B3	f_z (mm) a_p (mm)	- -	0,2-0,7 0,5-3	- -	- -	0,15-0,5 0,2-3	-
C4	f_z (mm) a_p (mm)	0,2-0,7 0,2-2,5	-	0,2-0,5 0,2-3	-	-	0,15-0,22 0,2-0,55
C6	f_z (mm) a_p (mm)	0,2-0,7 0,2-2,5	-	0,2-0,5 0,2-3	-	-	0,15-0,22 0,2-0,55
E4	f_z (mm) a_p (mm)	0,2-0,7 0,2-2,5	-	0,2-0,35 0,2-1,6	-	-	-
T4	f_z (mm) a_p (mm)	0,2-0,8 0,2-3	-	0,2-0,5 0,2-3	-	-	0,1-0,2 0,2-0,45
T6	f_z (mm) a_p (mm)	0,2-0,8 0,2-3	-	0,2-0,5 0,2-3	-	-	0,1-0,2 0,2-0,45
F4	f_z (mm) a_p (mm)	0,2-0,8 0,2-3	-	0,2-0,5 0,2-3	-	-	-
E6	f_z (mm) a_p (mm)	0,2-0,7 0,2-2,5	-	0,2-0,35 0,2-1,6	-	-	-
F6	f_z (mm) a_p (mm)	0,2-0,8 0,2-3	-	0,2-0,5 0,2-3	-	-	-
B7	f_z (mm) a_p (mm)	- -	0,2-0,7 0,5-3	- -	- -	0,15-0,5 0,2-3	-

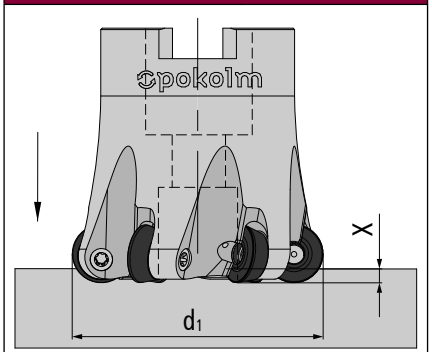
major application *minor application* roughing pre-finishing finishing

Cutting speed (Vc in m/min)

Material: Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
D3	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	100 **250** 400 200 **400** 600 -	30 **55** 80 40 **65** 90 -	-
B3	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 -	-	-	30 **65** 100 40 **75** 110 -	-
C4	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
C6	roughing pre finishing finishing	90 **150** 210 110 **165** 220 -	-	150 **195** 240 140 **205** 270 -	-	-	- 35 **108** 180 -
E4	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
T4	roughing pre finishing finishing	100 **165** 230 100 **190** 280 -	-	140 **180** 220 160 **205** 250 -	-	-	- 70 **110** 150 -
T6	roughing pre finishing finishing	100 **165** 230 100 **190** 280 -	-	140 **180** 220 160 **205** 250 -	-	-	- 70 **110** 150 -
F4	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	110 **130** 150 140 **180** 220 -	-	-	-
E6	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	- 130 **165** 200 -	-	-	-
F6	roughing pre finishing finishing	100 **175** 250 100 **200** 300 -	-	110 **130** 150 140 **180** 220 -	-	-	-
B7	roughing pre finishing finishing	-	110 **155** 200 120 **175** 230 -	-	-	30 **65** 100 40 **75** 110 -	-

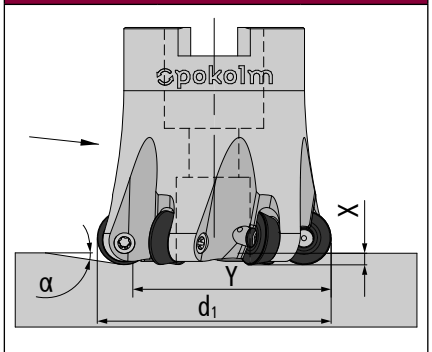
Extended operation data

Plunging



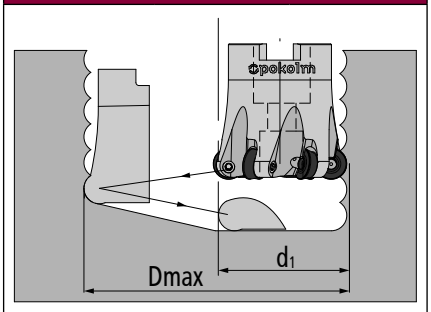
Cutter diam. d1	X_{max}
40-100	2.5

Ramping



Cutter diam. d1	α°	y
40	<14,0	10
52	<6,0	22
63	<4,0	33
66	<3,5	36
80	<2,5	50
100	<2,0	70

Helix



Cutter diam. d1	D_{min}	D_{max}
40	50	78
52	74	102
63	96	124
66	102	130
80	130	158
100	170	198

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

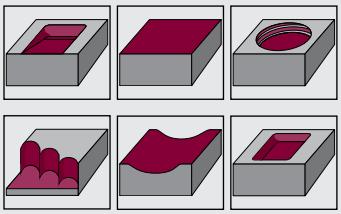
ROUND INSERT CUTTER k0-90° COPYING CUTTER

the universal geniuses for all standard jobs and the most unusual tasks

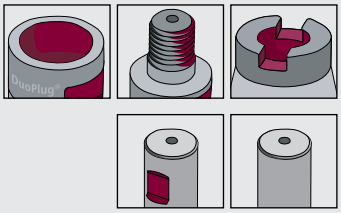
Properties

- Tool diameter 8 - 160 mm
- 0° axial angle for maximum contour accuracy
- in conjunction with **DUOPLUG®** maximum stability
- 7° axial angle ensures low power consumption
- Stable toolholder due to embedded indexable inserts
- 8 different hard metal qualities with 9 adapted high-performance coatings

Machining types



Connection types



Practical video

- Indexable round insert 02 10 896 in 1.4301 / 304 / X5CrNi18-10

Sizes

Cutting materials

Carbide grade | coating	ISO standard						Insert diam. d (mm) - thickness (s mm)						
	P	M	K	N	S	H	5	7 - s1,99	7 - s2,38	10	12	16	20
HSC05 | PVTi; HSC05 | PVFN	▼	▼	▼	▽	-	▼	○	○	○	○	○	○	○
K10 | PVTi	▽	▼	▼	-	▽	▽	-	○	○	○	○	○	○
K10 | PVTi (RDHX - concave moulding)	-	▽	-	▼	▽	-	-	○	○	○	○	○	-
P25 | PVTi	▼	-	▽	-	-	-	-	-	○	○	○	○	○
P25 | PVGO	-	▼	-	-	▼	-	-	-	○	○	○	○	-
P25 | PVSR	▼	-	▽	-	-	▽	-	-	-	○	○	○	-
P40 | PVTi	▼	-	-	-	-	-	-	○	○	○	○	○	○
P40 | PVGO	▼	-	▽	-	-	-	-	-	○	○	○	○	-
P40 | PVSR	▼	-	▽	-	-	▽	-	○	○	○	○	○	-
P40 | PVML	▼	-	▽	-	-	▽	-	-	○	○	○	○	-
CBN C	-	-	▼	-	-	-	-	-	-	○	-	-	-
CBN S	-	-	-	-	-	▼	-	-	○	○	-	-	-
K10 | polished	-	-	-	▼	-	-	-	○	○	○	○	○	○
K10 | PVDiaN	-	-	-	▼	-	-	-	○	○	○	○	-	-
M40 | PVST	▽	▼	-	-	▼	-	-	-	-	○	○	-	-
HSC03 | PPGH	▼	▼	▼	-	-	▼	-	-	○	○	○	-	-
M35 | PCTC		▼			▼	-	-	-	○	○	○	○	-

▼ *major application* ▽ *minor application* ▼ ▽ roughing ▼ ▽ pre-finishing ▼ ▽ finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

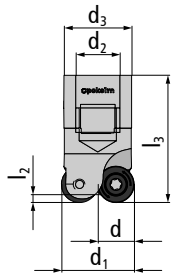
CUTTERS FOR ROUND INSERTS - K0-90°

r2.5 - diam. 8 - 20 mm

Tools especially suitable for milling small dies and engraving.
The larger number of teeth allows much higher feed rates.

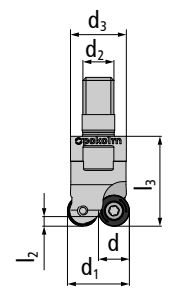
Milling cutter bodies

DuoPlug®



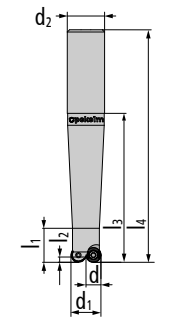
Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
3 12 225 SG	12	5	2.5	24.5	1.3	-	M 7	10.8	3	A, B, C, D, E	☑
4 15 225 SG	15	5	2.5	28	1.3	-	M 10	14	4	A, B, C, D, E	⚠
4 16 225 SG	16	5	2.5	28	1.3	-	M 10	15	4	A, B, C, D, E	?
5 20 225 SG	20	5	2.5	28	1.3	-	M 12	18.5	5	A, B, C, D, E	⚠

Threaded shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 10 225 M6	10	5	2.5	19	-	-	M 6	9.75	2	A, B, C, D, E	☑
3 12 225 M6	12	5	2.5	20.5	1.3	-	M 6	11.5	3	A, B, C, D, E	☑
4 15 225	15	5	2.5	20.5	1.3	-	M 8	13.8	4	A, B, C, D, E	☑
5 20 225	20	5	2.5	25.5	1.3	-	M 10	18	5	A, B, C, D, E	☑

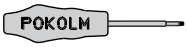
Plain shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
30 08 125	8	5	2.5	30	-	18	diam. 10	-	1	A, B, C, D, E	⚠
30 10 125	10	5	2.5	30	-	24	diam. 10	-	2	A, B, C, D, E	☑
30 12 125	12	5	2.5	30	1.3	24	diam. 12	-	3	A, B, C, D, E	☑
30 16 125	16	5	2.5	30	1.3	23.5	diam. 16	-	5	A, B, C, D, E	☑

Accessories

21 500
Torx screw
A > Page 195



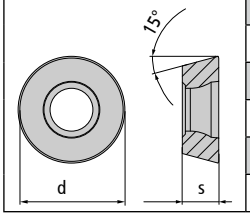
06 500
Torx-screwdriver
B > Page 196

TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T6 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T6 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	01 05 835	RDHX 0501 M0T	HSC 05	PVTi	5	1.5	2.5	M 2.0

Feed per tooth (fz) | d.o.c. (ap)

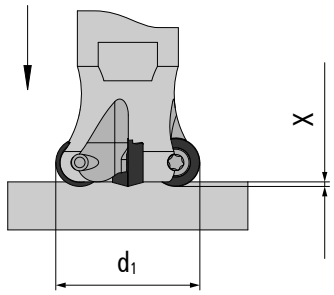
Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,2	0,1 0,1	0,1-0,15 0,1-0,2	0,1-0,15 0,1-0,2	-	0,1-0,12 0,1-0,15

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 150 **275** 400	- - 100 **150** 200	- 150 **225** 300 200 **275** 350	- 200 **500** 800 100 **450** 800	-	- 35 **143** 250 35 **143** 250

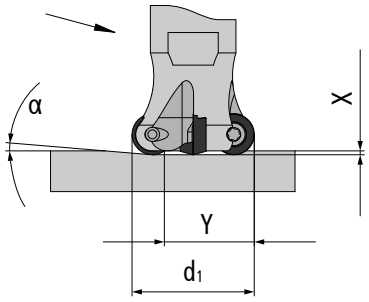
Extended operation data

Plunging



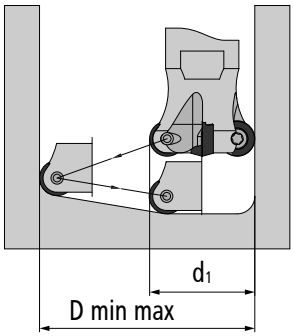
Cutter diam. d1	X_{max}
8-20	1

Ramping



Cutter diam. d1	α°	y
8	-	-
10	-	-
12	< 14,0	4
15	< 8,1	7
16	< 7,1	8
20	< 4,7	24

Helix



Cutter diam. d1	D_{min}	D_{max}
8	10	16
10	12	20
12	16	24
15	22	30
16	24	32
20	32	40

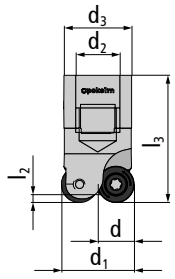
▼ ***major application*** ▽ ***minor application*** ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

CUTTERS FOR ROUND INSERTS - K0-90°

r3.5 - diam. 12 - 30 mm, s 1.99 mm

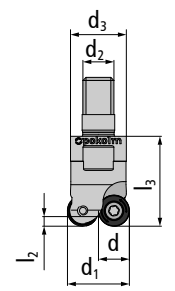
Tools especially suitable for milling small dies or engraving.
The larger number of teeth allows much higher feed rates.

DuoPlug®



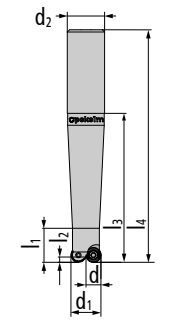
Milling cutter bodies – Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 12 235 SG	12	7	3.5	24.5	-	-	M 7	10.8	2	B, C, D, E, F	☑
3 15 235 SG	15	7	3.5	28	1.5	-	M 10	14	3	A, C, D, E, F	☑
5 25 235 SG	25	7	3.5	30	1.5	-	M 16	23.5	5	A, C, D, E, F	⚠

Threaded shank end mill bodies



12 200 M6	12	7	3.5	28.5	-	-	M 6	11.5	2	B, C, D, E, F	☑
12 200	12	7	3.5	28.5	-	-	M 8	11.8	2	B, C, D, E, F	☑
3 15 235	15	7	3.5	28.5	1.5	-	M 8	13.8	3	A, C, D, E, F	☑
4 20 235	20	7	3.5	28.5	1.5	-	M 10	18	4	A, C, D, E, F	☑
5 25 235	25	7	3.5	28.5	1.5	-	M 12	21	5	A, C, D, E, F	☑
6 30 235	30	7	3.5	28.5	1.5	-	M 16	29	6	A, C, D, E, F	⚠

Plain shank end mill bodies

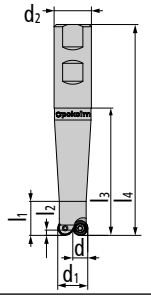


30 12 100	12	7	3.5	30	-	23	diam. 12	-	2	B, C, D, E, F	☑

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Milling cutter bodies

End mill bodies with plain shanks and flats



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
40 12 100	12	7	3.5	40	-	19.5	diam. 16	-	2	B, C, D, E, F	
60 12 100	12	7	3.5	60	-	19.5	diam. 16	-	2	B, C, D, E, F	
80 12 100	12	7	3.5	80	-	19.5	diam. 16	-	2	B, C, D, E, F	
30 15 100	15	7	3.5	30	1.2	19.5	diam. 12	-	3	A, C, D, E, F	

Accessories

25 500
Torx screw
A > Page 195

25 500 K
Torx screw
B > Page 195

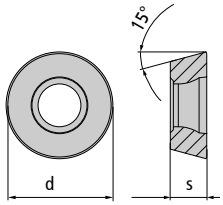
07 500
Torx-screwdriver
C > Page 196

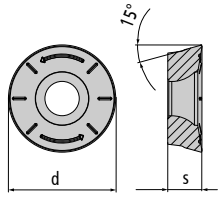
TV 04-1
Screwdriver torque Vario®-S with window scale, D > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
E > Page 197

T7 502, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts





Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
01 07 835	RDHX 07T1 M0T	HSC 05	PVTi	7	1.99	3.5	M 2.5
01 07 840	RDHX 07T1 M0T	P40	PVTi	7	1.99	3.5	M 2.5
01 07 842	RDEX 07T1 M0T	P40	PVSR	7	1.99	3.5	M 2.5
01 07 8042	RDEX 07T1 M0T	P40	PCSR	7	1.99	3.5	M 2.5
01 07 860	RDHX 07T1 M0T	K10	PVTi	7	1.99	3.5	M 2.5
01 07 831P	RDHX 07T1 M0E	K10	polished	7	1.99	3.5	M 2.5
01 07 880 D	RDHX 07T1 M0E	K10	PVDiaN	7	1.99	3.5	M 2.5
01 07 880	RDHX 07T1 M0E	K10	PVTi	7	1.99	3.5	M 2.5

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,3	0,1 0,1	0,1-0,3 0,1-0,5	0,1-0,2 0,1-0,4	-	0,1-0,12 0,1-0,15
P40 PVTi	f_z (mm) a_p (mm)	0,1-0,3 0,1-0,5	-	-	-	-	-
P40 PVSR	f_z (mm) a_p (mm)	0,1-0,3 0,1-0,7	-	0,1-0,3 0,1-0,5	-	-	0,1-0,15 0,1-0,2
P40 PCSR	f_z (mm) a_p (mm)	0,05-0,45 0,05-0,7	-	0,1-0,4 0,05-0,65	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	0,1 0,1	0,1 0,1	0,1-0,3 0,1-0,5		0,1-0,15 0,1-0,3	0,1-0,12 0,1-0,15
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,1-0,7	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,1-0,7	-	-

major application ***minor application*** roughing pre-finishing finishing

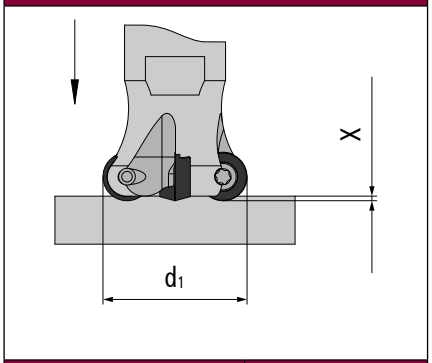
pokolm PREMIUMTOOLS. WE KNOW HOW.

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing	-	-	100 **150** 200	-	-	-
	pre finishing	150 **275** 400	-	150 **225** 300	200 **500** 800		35 **143** 250
	finishing	150 **275** 400	100 **150** 200	200 **275** 350	100 **450** 800		35 **143** 250
P40 PVTi	roughing	100 **160** 220					
	pre finishing	100 **175** 250	-	-	-	-	-
	finishing	-					
P40 PVSR	roughing	100 **200** 300		160 **190** 220			-
	pre finishing	100 **200** 300	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
P40 PCSR	roughing	130 **190** 250		120 **170** 220			
	pre finishing	150 **225** 300	-	150 **200** 250	-	-	-
	finishing	-		180 **230** 280			
K10 PVTi	roughing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	-
	pre finishing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	35 **108** 180
	finishing	140 **220** 300	120 **150** 180	150 **200** 250	100 **450** 800	35 **43** 50	-
K10 polished	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
K10 PVDiaN	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		

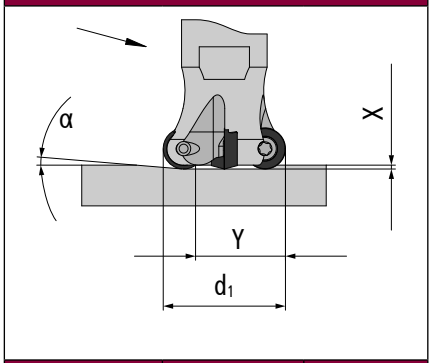
Extended operation data

Plunging



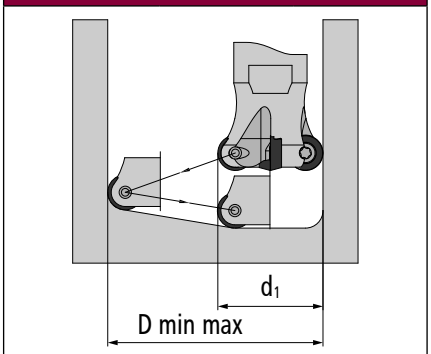
Cutter diam. d1	X_{max}
12-30	1.2

Ramping



Cutter diam. d1	α°	y
12	-	-
15	<26,5	2
20	<8,5	8
25	<5,3	13
30	<3,8	18

Helix



Cutter diam. d1	D_{min}	D_{max}
12	14	24
15	17	30
20	28	40
25	38	50
30	48	60

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

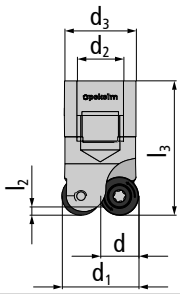
CUTTERS FOR ROUND INSERTS - K0-90°

r3.5 - diam. 15 - 42 mm, s 2.38 mm

Our all-purpose milling cutter:
- for high-speed machining centres
- for roughing and finishing applications

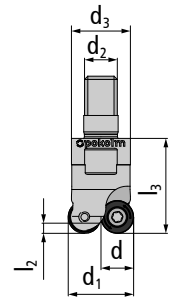
Milling cutter bodies

DuoPlug®



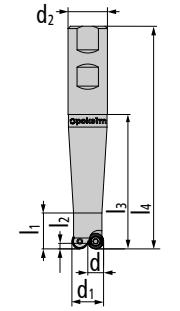
Catalogue no.	d1	d	r	l3	l2	l1	d2	d3	z	Accessories	Features
2 16 200 SG	16	7	3.5	28.5	1.5	-	M 10	15	2	A, B, C, D, E	
3 16 200 SG	16	7	3.5	28.5	1.5	-	M 10	15	3	A, B, C, D, E	
4 20 200 SG	20	7	3.5	28.5	1.5	-	M 12	18.6	4	A, B, C, D, E	
5 25 200 SG	25	7	3.5	30	1.5	-	M 16	23.5	5	A, B, C, D, E	

Threaded shank end mill bodies



15 200	15	7	3.5	28.5	1.5	-	M 8	13.8	2	A, B, C, D, E	
3 16 200	16	7	3.5	28.5	1.5	-	M 8	13.8	3	A, B, C, D, E	
4 20 200	20	7	3.5	28.5	1.5	-	M 10	18	4	A, B, C, D, E	
5 25 200	25	7	3.5	28.5	1.5	-	M 12	21	5	A, B, C, D, E	
5 30 200	30	7	3.5	28.5	1.5	-	M 16	29	5	A, B, C, D, E	
6 35 200	35	7	3.5	28.5	1.5	-	M 16	29	6	A, B, C, D, E	
7 42 200	42	7	3.5	42.5	1.5	-	M 16	29	7	A, B, C, D, E	

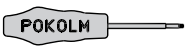
End mill bodies with plain shanks and flats



40 15 100	15	7	3.5	40	2.6	23	diam. 16	-	2	A, B, C, D, E	
60 15 100	15	7	3.5	60	2.6	23	diam. 16	-	2	A, B, C, D, E	
80 15 100	15	7	3.5	80	2.6	22	diam. 20	-	2	A, B, C, D, E	
100 15 100	15	7	3.5	100	2.6	22	diam. 20	-	2	A, B, C, D, E	

Accessories

25 500
Torx screw
A > Page 195



07 500
Torx-screwdriver
B > Page 196

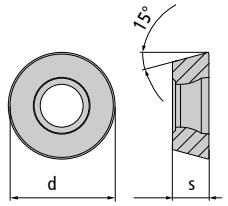
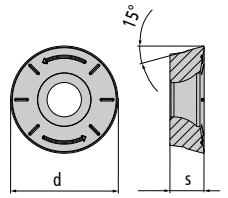
TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T7 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	02 07 835	RDHX 0702 M0T	HSC 05	PVTi	7	2.38	3.5	M 2.5
	02 07 840	RDHX 0702 M0T	P40	PVTi	7	2.38	3.5	M 2.5
	02 07 842	RDEX 0702 M0T	P40	PVSR	7	2.38	3.5	M 2.5
	02 07 8042	RDEX 0702 M0T	P40	PCSR	7	2.38	3.5	M 2.5
	02 07 844	RDHX 0702 M0T	P40	PVML	7	2.38	3.5	M 2.5
	02 07 846	RDMX 0702 M0T	P40	PVGO	7	2.38	3.5	M 2.5
	02 07 850	RDHX 0702 M0T	P25	PVTi	7	2.38	3.5	M 2.5
	02 07 860	RDHX 0702 M0T	K10	PVTi	7	2.38	3.5	M 2.5
	02 07 892	RDHX 0702 M0T	CBN for steel	uncoated	7	2.38	3.5	M 2.5
	02 07 848	RDMX 0702 M0T	P40	PVGO	7	2.38	3.5	M 2.5
	02 07 831P	RDHX 0702 M0E	K10	polished	7	2.38	3.5	M 2.5
	02 07 880	RDHX 0702 M0E	K10	PVTi	7	2.38	3.5	M 2.5
	02 07 880 D	RDHX 0702 M0E	K10	PVDiaN	7	2.38	3.5	M 2.5
	02 07 896	RDMT 0702 M0EN	M40	PVST	7	2.38	3.5	M 2.5
	02 07 8099	RDMT 0702 M0EN	M35	PCTC	7	2.38	3.5	M 2.5
	02 07 897	RDPX 0702 M0T	P25	PVGO	7	2.38	3.5	M 2.5

Feed per tooth (fz) | d.o.c. (ap)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,4	0,1 0,1	0,1-0,3 0,1-0,7	0,1-0,2 0,1-0,55	-	0,1-0,15 0,1-0,2
P40 PVTi	f_z (mm) a_p (mm)	0,2-0,5 0,1-0,75	-	-	-	-	-
P40 PVSR	f_z (mm) a_p (mm)	0,2-0,5 0,1-0,75	-	0,1-0,3 0,1-0,7	-	-	0,1-0,15 0,1-0,2
P40 PCSR	f_z (mm) a_p (mm)	0,1-0,5 0,1-0,75	-	0,1-0,4 0,1-0,7	-	-	-
P40 PVML	f_z (mm) a_p (mm)	0,2-0,5 0,1-0,75	-	0,1-0,3 0,1-0,7	-	-	0,1-0,15 0,1-0,2
P40 PVGO	f_z (mm) a_p (mm)	0,2-0,5 0,1-0,75	-	-	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	0,1-0,3 0,1-0,7	-	0,1-0,2 0,1-0,4	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	0,1 0,1	0,1 0,1	0,1-0,3 0,1-0,7		0,1-0,15 0,1-0,42	0,1-0,15 0,1-0,2
CBN for steel uncoated	f_z (mm) a_p (mm)	-	-	-	-	-	0,1-0,2 0,1
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,1-1	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,1-1	-	-
M40 PVST	f_z (mm) a_p (mm)	0,1-0,5 0,1-0,75	0,05-0,5 0,05-0,75	-	-	0,05-0,4 0,05-0,75	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,05-0,5 0,05-0,75	-	-	0,05-0,4 0,05-0,75	-
P25 PVGO	f_z (mm) a_p (mm)	-	0,1-0,4 0,1-0,7	-	-	0,1-0,3 0,1-0,7	-

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

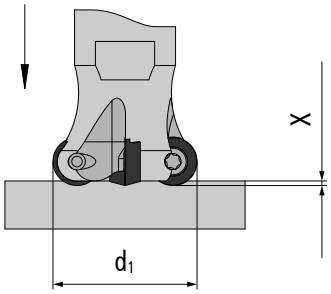
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	**Application**						
HSC 05 PVTi	roughing	-	-	100 **150** 200	-		-
	pre finishing	150 **275** 400	-	150 **225** 300	200 **500** 800	-	35 **143** 250
	finishing	150 **275** 400	100 **150** 200	200 **275** 350	100 **450** 800		35 **143** 250
P40 PVTi	roughing	100 **160** 220					
	pre finishing	100 **175** 250	-	-	-	-	-
	finishing	-					
P40 PVSR	roughing	100 **200** 300		160 **190** 220			-
	pre finishing	100 **200** 300	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
P40 PCSR	roughing	130 **190** 250		120 **170** 220			
	pre finishing	150 **225** 300	-	150 **200** 250	-	-	-
	finishing	-		180 **230** 280			
P40 PVML	roughing	100 **200** 300		140 **215** 290			-
	pre finishing	100 **200** 300	-	140 **170** 200	-	-	70 **110** 150
	finishing	-		-			-
P40 PVGO	roughing	100 **150** 200					
	pre finishing	100 **150** 200	-	-	-	-	-
	finishing	-					
P25 PVTi	roughing	100 **200** 300		-			
	pre finishing	100 **125** 150	-	130 **150** 170	-	-	-
	finishing	150 **250** 350		150 **200** 250			
K10 PVTi	roughing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	-
	pre finishing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	35 **108** 180
	finishing	140 **220** 300	120 **150** 180	150 **200** 250	100 **450** 800	35 **43** 50	-
CBN for steel uncoated	roughing						-
	pre finishing	-	-	-	-	-	-
	finishing						400 **700** 1000
K10 polished	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
K10 PVDiaN	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
M40 PVST	roughing	80 **140** 200	80 **130** 180			30 **55** 80	
	pre finishing	100 **150** 200	100 **155** 210	-	-	40 **65** 90	-
	finishing	110 **180** 250	120 **185** 250			60 **90** 120	
M35 PCTC	roughing		110 **155** 200			30 **65** 100	
	pre finishing	-	120 **175** 230	-	-	40 **75** 110	-
	finishing		160 **220** 280			60 **100** 140	
P25 PVGO	roughing		80 **140** 200			20 **65** 110	
	pre finishing	-	100 **155** 210	-	-	20 **65** 110	-
	finishing		120 **175** 230			30 **70** 110	

major application *minor application* roughing pre-finishing finishing

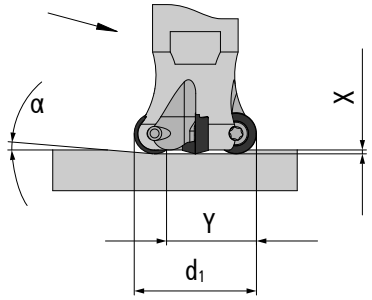
Extended operation data

Plunging



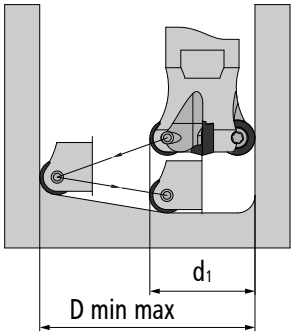
Cutter diam. d1	X_{max}
15-42	1.2

Ramping



Cutter diam. d1	α°	y
15	<26,5	2
16	<14,0	4
20	<8,5	8
25	<5,3	13
30	<3,8	18
35	<3,0	23
42	<2,3	30

Helix



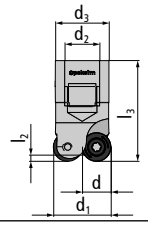
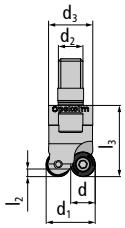
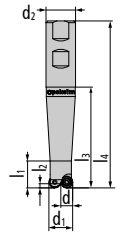
Cutter diam. d1	D_{min}	D_{max}
15	17	30
16	20	32
20	28	40
25	38	50
30	48	60
35	58	70
42	72	84

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

CUTTERS FOR ROUND INSERTS - K0-90°

r5 - diam. 20 - 42 mm, neutral - 0° axial rake angle

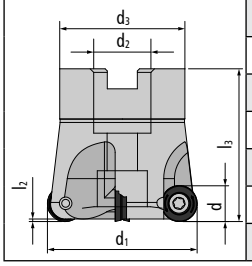
The all-rounder:
Tools are applicable for a wide range of milling operations.

Milling cutter bodies	Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
DuoPlug®												
	20 200 SG	20	10	5	35	-	-	M 12	18.6	2	A, B, C, D, E	
	3 25 200 SG	25	10	5	35	2.8	-	M 16	23.5	3	A, B, C, D, E	
Threaded shank end mill bodies												
	20 200	20	10	5	29	-	-	M 10	18	2	A, B, C, D, E	
	2 25 200	25	10	5	33	2.8	-	M 12	21	2	A, B, C, D, E	
	3 25 200	25	10	5	33	2.8	-	M 12	21	3	A, B, C, D, E	
	4 25 200	25	10	5	33	2.8	-	M 12	21	4	A, B, C, D, E	
	4 30 201	30	10	5	33	2.8	-	M 12	21	4	A, B, C, D, E	
	4 30 200	30	10	5	43	2.8	-	M 16	29	4	A, B, C, D, E	
	5 35 200	35	10	5	43	2.8	-	M 16	29	5	A, B, C, D, E	
	N 5 42 200	42	10	5	43	2.8	-	M 16	29	5	A, B, C, D, E	
	6 42 200	42	10	5	43	2.8	-	M 16	29	6	A, B, C, D, E	
End mill bodies with plain shanks and flats												
	40 20 100	20	10	5	40	-	23	diam. 20	-	2	A, B, C, D, E	
	60 20 100	20	10	5	60	-	23	diam. 20	-	2	A, B, C, D, E	
	80 20 100	20	10	5	80	-	23	diam. 25	-	2	A, B, C, D, E	
	100 20 100	20	10	5	100	-	23	diam. 25	-	2	A, B, C, D, E	
	120 20 100	20	10	5	120	-	23	diam. 25	-	2	A, B, C, D, E	

major application *minor application* roughing pre-finishing finishing

Milling cutter bodies

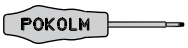
Shell type milling cutter bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
6 42 310	42	10	5	43	2.8	-	diam. 16	35	6	A, B, C, D, E	

Accessories

35 500
Torx screw
A > Page 195



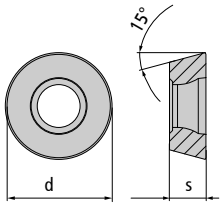
15 500
Torx-screwdriver
B > Page 196

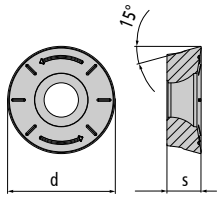
TV 2-8
Screwdriver torque Vario®-S with window scale, C > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T15 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

Indexable inserts





Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
02 10 835	RDHX 1003 M0T	HSC 05	PVTi	10	3.18	5	M 3.5
02 10 837	RDMX 1003 M0T	HSC 05	PVFN	10	3.18	5	M 3.5
02 10 840	RDHX 1003 M0T	P40	PVTi	10	3.18	5	M 3.5
02 10 842	RDEX 1003 M0T	P40	PVSR	10	3.18	5	M 3.5
02 10 8042	RDEX 1003 M0T	P40	PCSR	10	3.18	5	M 3.5
02 10 844	RDHX 1003 M0T	P40	PVML	10	3.18	5	M 3.5
02 10 846	RDMX 1003 MOSN	P40	PVGO	10	3.18	5	M 3.5
02 10 850	RDHX 1003 M0T	P25	PVTi	10	3.18	5	M 3.5
02 10 852	RDEX 1003 M0T	P25	PVSR	10	3.18	5	M 3.5
02 10 860	RDHX 1003 M0T	K10	PVTi	10	3.18	5	M 3.5
02 10 892	RDHX 1003 M0T	CBN for steel	uncoated	10	3.18	5	M 3.5
02 10 893	RDHX 1003 M0T	CBN for cast iron	uncoated	10	3.18	5	M 3.5
02 10 831P	RDHX 1003 M0T	K10	polished	10	3.18	5	M 3.5
02 10 848	RDMX 1003 M0T	P40	PVGO	10	3.18	5	M 3.5
02 10 880	RDHX 1003 M0T	K10	PVTi	10	3.18	5	M 3.5
02 10 880 D	RDHX 1003 M0T	K10	PVDiaN	10	3.18	5	M 3.5
02 10 896	RDMT 1003 M0EN	M40	PVST	10	3.18	5	M 3.5
02 10 897	RDPX 1003 M0T	P25	PVGO	10	3.18	5	M 3.5
02 10 8099	RDMT 1003 M0EN	M35	PCTC	10	3.18	5	M 3.5

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,55	0,15 0,1	0,15-0,3 0,1-1	0,1-0,2 0,1-0,8	-	0,1-0,15 0,1-0,3
HSC 05 PVFN	f_z (mm) a_p (mm)	0,1-0,4 0,1-1	0,1-0,2 0,1-0,3	0,1-0,3 0,1-1	0,1-0,2 0,1-0,3	-	0,1-0,2 0,1-0,5
P40 PVTi	f_z (mm) a_p (mm)	0,2-0,6 0,1-1,5	-	-	-	-	-
P40 PVSR	f_z (mm) a_p (mm)	0,2-0,7 0,2-1,5	-	0,1-0,3 0,1-1	-	-	0,1-0,15 0,1-0,3
P40 PCSR	f_z (mm) a_p (mm)	0,2-1 0,2-1,5	-	0,1-0,8 0,1-1,2	-	-	-
P40 PVML	f_z (mm) a_p (mm)	0,2-0,7 0,2-1,5	-	0,1-0,3 0,1-1	-	-	0,1-0,15 0,1-0,3
P40 PVGO	f_z (mm) a_p (mm)	0,1-0,9 0,1-1,5	-	0,1-0,3 0,1-1	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	0,15-0,3 0,1-1	-	0,15-0,22 0,1-0,55	-	-	-
P25 PVSR	f_z (mm) a_p (mm)	0,2-0,7 0,2-1,5	-	0,1-0,3 0,1-1	-	-	0,1-0,15 0,1-0,3
K10 PVTi	f_z (mm) a_p (mm)	0,15 0,1	0,15 0,1	0,15-0,3 0,1-1		0,1-0,15 0,1-0,55	0,1-0,15 0,1-0,3
CBN for steel uncoated	f_z (mm) a_p (mm)	-	-	-	-	-	0,1-0,2 0,1
CBN for cast iron uncoated	f_z (mm) a_p (mm)	-	-		-	-	-
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,1-1,5	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,1-1,5	-	-
M40 PVST	f_z (mm) a_p (mm)	0,1-0,75 0,1-1	0,05-0,6 0,2-2	-	-	0,05-0,4 0,1-2	-
P25 PVGO	f_z (mm) a_p (mm)	-	0,15-0,6 0,2-1	-	-	0,1-0,4 0,1-1	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,05-0,6 0,2-2	-	-	0,05-0,4 0,1-2	-

major application *minor application* roughing pre-finishing finishing

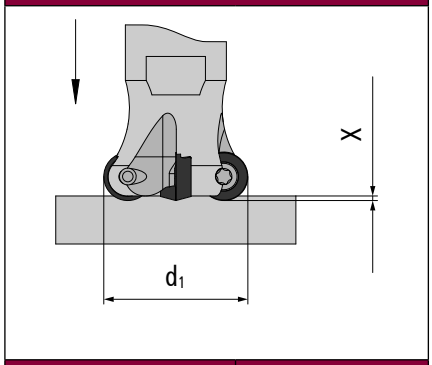
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing	-	-	100 **150** 200	-		-
	pre finishing	150 **275** 400	-	150 **225** 300	200 **500** 800	-	35 **143** 250
	finishing	150 **275** 400	100 **150** 200	200 **275** 350	100 **450** 800		35 **143** 250
HSC 05 PVFN	roughing	-	-	100 **150** 200	-		-
	pre finishing	120 **160** 200	-	100 **150** 200	200 **500** 800	-	40 **130** 220
	finishing	150 **250** 350	100 **150** 200	200 **275** 350	200 **500** 800		40 **130** 220
P40 PVTi	roughing	100 **160** 220					
	pre finishing	100 **175** 250	-	-	-	-	-
	finishing	-					
P40 PVSR	roughing	100 **200** 300		160 **190** 220			-
	pre finishing	100 **200** 300	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
P40 PCSR	roughing	130 **190** 250		120 **170** 220			
	pre finishing	150 **225** 300	-	150 **200** 250	-	-	-
	finishing	-		180 **230** 280			
P40 PVML	roughing	100 **200** 300		140 **215** 290			-
	pre finishing	100 **200** 300	-	140 **170** 200	-	-	70 **110** 150
	finishing	-		-			-
P40 PVGO	roughing	100 **150** 200		110 **130** 150			
	pre finishing	100 **150** 200	-	110 **130** 150	-	-	-
	finishing	-		-			
P25 PVTi	roughing	100 **200** 300		-			
	pre finishing	100 **125** 150	-	130 **150** 170	-	-	-
	finishing	150 **250** 350		150 **200** 250			
P25 PVSR	roughing	100 **160** 220		140 **180** 220			-
	pre finishing	100 **180** 260	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
K10 PVTi	roughing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	-
	pre finishing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	35 **108** 180
	finishing	140 **220** 300	120 **150** 180	150 **200** 250	100 **450** 800	35 **43** 50	-
CBN for steel uncoated	roughing						-
	pre finishing	-	-	-	-	-	-
	finishing						400 **700** 1000
CBN for cast iron uncoated	roughing			-			
	pre finishing	-	-	-	-	-	-
	finishing			-			
K10 polished	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
K10 PVDiaN	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
M40 PVST	roughing	80 **140** 200	80 **130** 180			30 **55** 80	
	pre finishing	100 **150** 200	100 **155** 210	-	-	40 **65** 90	-
	finishing	110 **180** 250	120 **185** 250			60 **90** 120	
P25 PVGO	roughing		80 **140** 200			20 **65** 110	
	pre finishing	-	100 **155** 210	-	-	20 **65** 110	-
	finishing		120 **175** 230			30 **70** 110	
M35 PCTC	roughing		110 **155** 200			30 **65** 100	
	pre finishing	-	120 **175** 230	-	-	40 **75** 110	-
	finishing		160 **220** 280			60 **100** 140	

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

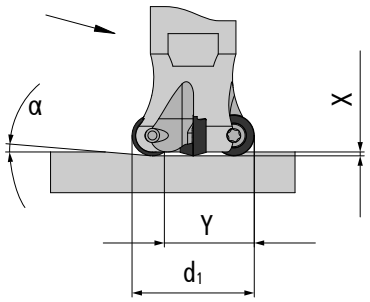
Extended operation data

Plunging



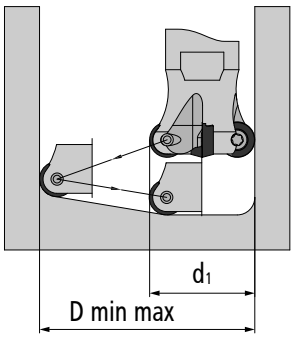
Cutter diam. d1	X_{max}
20-35	2.5
42	3.5

Ramping



Cutter diam. d1	α°	y
20	-	-
25	<19,7	7
30	<11,7	12
35	<8,4	17
42	<5,9	24

Helix



Cutter diam. d1	D_{min}	D_{max}
20	22	40
25	32	50
30	42	60
35	52	70
42	66	84

▼ ***major application*** ▽ ***minor application*** ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

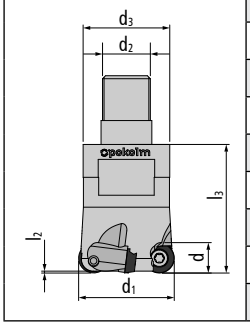
CUTTERS FOR ROUND INSERTS - K0-90°

r5 - diam. 25 - 52 mm, 7° positive rake angle

The all-rounder:
Tools are applicable for a wide range of milling operations.

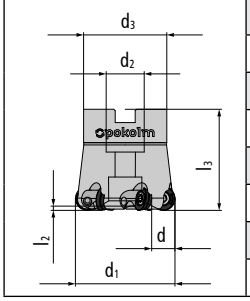
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
3 25 200/7	25	10	5	32.5	2.5	-	M 12	21	3	A, B, C, D, E	
5 35 200/7	35	10	5	43	2.5	-	M 16	29	5	A, B, C, D, E	
6 42 200/7	42	10	5	42.5	2.5	-	M 16	29	6	A, B, C, D, E	

Shell type milling cutter bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
6 42 310/7	42	10	5	42.5	3.5	-	diam. 16	35	6	A, B, C, D, E	
7 52 310/7	52	10	5	52.5	3.5	-	diam. 22	40	7	A, B, C, D, E	

Accessories

35 500
Torx screw
A > Page 195

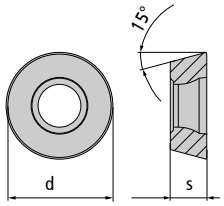
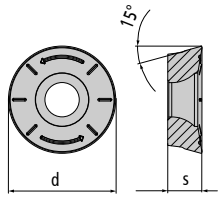
15 500
Torx-screwdriver
B > Page 196

TV 2-8
Screwdriver torque Vario®-S with window scale, C > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T15 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	02 10 835	RDHX 1003 M0T	HSC 05	PVTi	10	3.18	5	M 3.5
	02 10 837	RDMX 1003 M0T	HSC 05	PVFN	10	3.18	5	M 3.5
	02 10 840	RDHX 1003 M0T	P40	PVTi	10	3.18	5	M 3.5
	02 10 842	RDEX 1003 M0T	P40	PVSR	10	3.18	5	M 3.5
	02 10 8042	RDEX 1003 M0T	P40	PCSR	10	3.18	5	M 3.5
	02 10 844	RDHX 1003 M0T	P40	PVML	10	3.18	5	M 3.5
	02 10 846	RDMX 1003 MOSN	P40	PVGO	10	3.18	5	M 3.5
	02 10 850	RDHX 1003 M0T	P25	PVTi	10	3.18	5	M 3.5
	02 10 852	RDEX 1003 M0T	P25	PVSR	10	3.18	5	M 3.5
	02 10 860	RDHX 1003 M0T	K10	PVTi	10	3.18	5	M 3.5
	02 10 892	RDHX 1003 M0T	CBN for steel	uncoated	10	3.18	5	M 3.5
	02 10 893	RDHX 1003 M0T	CBN for cast iron	uncoated	10	3.18	5	M 3.5
	02 10 831P	RDHX 1003 M0T	K10	polished	10	3.18	5	M 3.5
	02 10 848	RDMX 1003 M0T	P40	PVGO	10	3.18	5	M 3.5
	02 10 880	RDHX 1003 M0T	K10	PVTi	10	3.18	5	M 3.5
	02 10 880 D	RDHX 1003 M0T	K10	PVDiaN	10	3.18	5	M 3.5
	02 10 896	RDMT 1003 M0EN	M40	PVST	10	3.18	5	M 3.5
	02 10 897	RDPX 1003 M0T	P25	PVGO	10	3.18	5	M 3.5
	02 10 8099	RDMT 1003 M0EN	M35	PCTC	10	3.18	5	M 3.5

major application ***minor application*** roughing pre-finishing finishing

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,55	0,15 0,1	0,15-0,3 0,1-1	0,1-0,2 0,1-0,8	-	0,1-0,15 0,1-0,3
HSC 05 PVFN	f_z (mm) a_p (mm)	0,1-0,4 0,1-1	0,1-0,2 0,1-0,3	0,1-0,3 0,1-1	0,1-0,2 0,1-0,3	-	0,1-0,2 0,1-0,5
P40 PVTi	f_z (mm) a_p (mm)	0,2-0,6 0,1-1,5	-	-	-	-	-
P40 PVSR	f_z (mm) a_p (mm)	0,2-0,7 0,2-1,5	-	0,1-0,3 0,1-1	-	-	0,1-0,15 0,1-0,3
P40 PCSR	f_z (mm) a_p (mm)	0,2-1 0,2-1,5	-	0,1-0,8 0,1-1,2	-	-	-
P40 PVML	f_z (mm) a_p (mm)	0,2-0,7 0,2-1,5	-	0,1-0,3 0,1-1	-	-	0,1-0,15 0,1-0,3
P40 PVGO	f_z (mm) a_p (mm)	0,1-0,9 0,1-1,5	-	0,1-0,3 0,1-1	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	0,15-0,3 0,1-1	-	0,15-0,22 0,1-0,55	-	-	-
P25 PVSR	f_z (mm) a_p (mm)	0,2-0,7 0,2-1,5	-	0,1-0,3 0,1-1	-	-	0,1-0,15 0,1-0,3
K10 PVTi	f_z (mm) a_p (mm)	0,15 0,1	0,15 0,1	0,15-0,3 0,1-1		0,1-0,15 0,1-0,55	0,1-0,15 0,1-0,3
CBN for steel uncoated	f_z (mm) a_p (mm)	-	-	-	-	-	0,1-0,2 0,1
CBN for cast iron uncoated	f_z (mm) a_p (mm)	-	-		-	-	-
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,1-1,5	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,3 0,1-1,5	-	-
M40 PVST	f_z (mm) a_p (mm)	0,1-0,75 0,1-1	0,05-0,6 0,2-2	-	-	0,05-0,4 0,1-2	-
P25 PVGO	f_z (mm) a_p (mm)	-	0,15-0,6 0,2-1	-	-	0,1-0,4 0,1-1	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,05-0,6 0,2-2	-	-	0,05-0,4 0,1-2	-

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

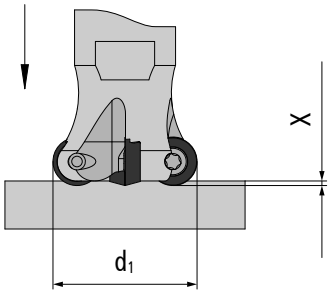
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing	-	-	100 **150** 200	-		-
	pre finishing	150 **275** 400	-	150 **225** 300	200 **500** 800	-	35 **143** 250
	finishing	150 **275** 400	100 **150** 200	200 **275** 350	100 **450** 800		35 **143** 250
HSC 05 PVFN	roughing	-	-	100 **150** 200	-		-
	pre finishing	120 **160** 200	-	100 **150** 200	200 **500** 800	-	40 **130** 220
	finishing	150 **250** 350	100 **150** 200	200 **275** 350	200 **500** 800		40 **130** 220
P40 PVTi	roughing	100 **160** 220					
	pre finishing	100 **175** 250	-	-	-	-	-
	finishing	-					
P40 PVSR	roughing	100 **200** 300		160 **190** 220			-
	pre finishing	100 **200** 300	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
P40 PCSR	roughing	130 **190** 250		120 **170** 220			
	pre finishing	150 **225** 300	-	150 **200** 250	-	-	-
	finishing	-		180 **230** 280			
P40 PVML	roughing	100 **200** 300		140 **215** 290			-
	pre finishing	100 **200** 300	-	140 **170** 200	-	-	70 **110** 150
	finishing	-		-			-
P40 PVGO	roughing	100 **150** 200		110 **130** 150			
	pre finishing	100 **150** 200	-	110 **130** 150	-	-	-
	finishing	-		-			
P25 PVTi	roughing	100 **200** 300		-			
	pre finishing	100 **125** 150	-	130 **150** 170	-	-	-
	finishing	150 **250** 350		150 **200** 250			
P25 PVSR	roughing	100 **160** 220		140 **180** 220			-
	pre finishing	100 **180** 260	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
K10 PVTi	roughing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	-
	pre finishing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	35 **108** 180
	finishing	140 **220** 300	120 **150** 180	150 **200** 250	100 **450** 800	35 **43** 50	-
CBN for steel uncoated	roughing						-
	pre finishing	-	-	-	-	-	-
	finishing						400 **700** 1000
CBN for cast iron uncoated	roughing			-			
	pre finishing	-	-	-	-	-	-
	finishing			-			
K10 polished	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
K10 PVDiaN	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
M40 PVST	roughing	80 **140** 200	80 **130** 180			30 **55** 80	
	pre finishing	100 **150** 200	100 **155** 210	-	-	40 **65** 90	-
	finishing	110 **180** 250	120 **185** 250			60 **90** 120	
P25 PVGO	roughing		80 **140** 200			20 **65** 110	
	pre finishing	-	100 **155** 210	-	-	20 **65** 110	-
	finishing		120 **175** 230			30 **70** 110	
M35 PCTC	roughing		110 **155** 200			30 **65** 100	
	pre finishing	-	120 **175** 230	-	-	40 **75** 110	-
	finishing		160 **220** 280			60 **100** 140	

major application *minor application* roughing pre-finishing finishing

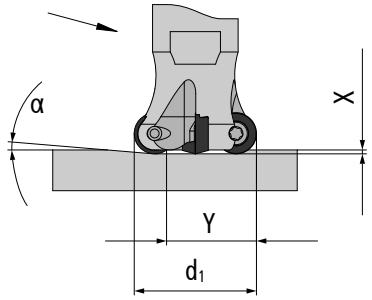
Extended operation data

Plunging



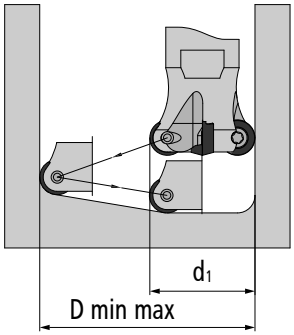
Cutter diam. d1	X_{max}
25-35	2.5
42-52	3.5

Ramping



Cutter diam. d1	α°	y
25	<19,7	7
35	<8,4	17
42	<5,9	24
52	<4,2	34

Helix



Cutter diam. d1	D_{min}	D_{max}
25	32	50
35	52	70
42	66	84
52	86	104

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

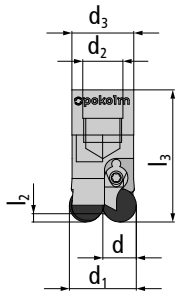
CUTTERS FOR ROUND INSERTS - K0-90°

r5 - diam. 20 - 35 mm, CBN, neutral - 0° axial rake angle

Specially designed for high-speed super-finish milling of hardened steel.

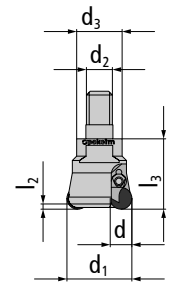
Milling cutter bodies

DuoPlug®



Catalogue no.	d1	d	r	l3	l2	l1	d2	d3	z	Accessories	Features
2 20 294 SG	20	10	5	39.5	-	-	M 12	18.5	2	A, B, C, D, E	
3 25 294 SG	25	10	5	41.5	2.5	-	M 16	23.5	3	A, B, C, D, E	

Threaded shank end mill bodies

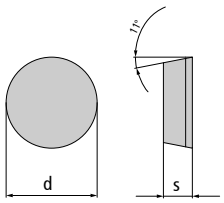


Catalogue no.	d1	d	r	l3	l2	l1	d2	d3	z	Accessories	Features
20 294	20	10	5	28.5	-	-	M 10	18	2	A, B, C, D, E	
25 294	25	10	5	32.5	2.5	-	M 12	21	3	A, B, C, D, E	
30 294	30	10	5	32.5	2.5	-	M 12	21	4	A, B, C, D, E	
35 294	35	10	5	42.5	2.5	-	M 16	29	4	A, B, C, D, E	

Accessories

					
10 500 Torx-screwdriver A > Page 196	TV 2-8 Screwdriver torque Vario®-S with window scale, B > Page 197	T10 500 Torx interchangeable bit for Torque Vario® C > Page 197	T10 502 Torx MagicSpring compatible bit f. Torque Vario®, D > Page 198	10 514 clamping finger for CBN E > Page 198	

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
02 10 092	RPHN 1003 M0	CBN for steel	uncoated	10	3.18	5	
02 10 093	RPHN 1003 M0	CBN for cast iron	uncoated	10	3.18	5	

▼ ***major application*** ▽ ***minor application*** ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

Feed per tooth (fz) | d.o.c. (ap)

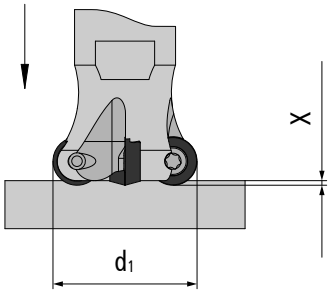
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
CBN for steel uncoated	f_z (mm) a_p (mm)	-	-	-	-	-	0,1-0,2 0,1-0,3
CBN for cast iron uncoated	f_z (mm) a_p (mm)	-	-	0,1-0,2 0,1-0,3	-	-	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
CBN for steel uncoated	roughing pre finishing finishing	-	-	-	-	-	- 400 **700** 1000 400 **700** 1000
CBN for cast iron uncoated	roughing pre finishing finishing	-	-	- 500 **750** 1000 500 **750** 1000	-	-	-

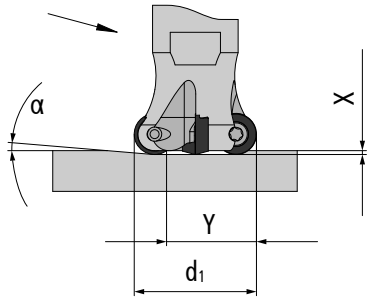
Extended operation data

Plunging



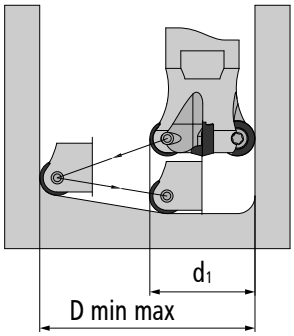
Cutter diam. d1	X_{max}
20-35	2.5

Ramping



Cutter diam. d1	α°	y
20	-	-
25	<19,7	7
30	<11,7	12
35	<8,4	17

Helix



Cutter diam. d1	D_{min}	D_{max}
20	22	40
25	32	50
30	42	60
35	52	70

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

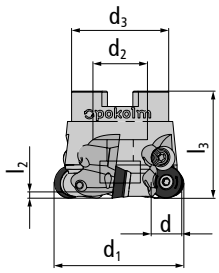
CUTTERS FOR ROUND INSERTS - K0-90°

r6 - diam. 42 - 80 mm, 7° positive rake angle, with shims

- increased reliability against fractures during machining
- optimum protection of milling cutter body by shim
- in case of insert fracture, shims, screws and threaded bushes can be replaced separately, it is not necessary to buy a new body

Milling cutter bodies

Shell type milling cutter bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
42 310/7 HL	42	12	6	42	3.5	-	diam. 16	35	4	A, B, C, D, E, F, G, H, I	
52 310/7 HL	52	12	6	52.5	3.5	-	diam. 22	40	5	A, B, C, D, E, F, G, H, I	
66 310/7 HL	66	12	6	52.5	3.5	-	diam. 27	48	6	A, B, C, D, E, F, G, H, I	
80 310/7 HL	80	12	6	52.5	3.5	-	diam. 27	60	7	A, B, C, D, E, F, G, H, I	

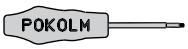
Accessories

35 500 L
Torx screw
A > Page 195

35 510
locking screw
B > Page 195

35 500 I
threaded and tapped bush
C > Page 196

09 511
Shim for RDHX 12T3
D > Page 196



15 500
Torx-screwdriver
E > Page 196

INBUS 3,5 W
Allen key 3,5
F > Page 197

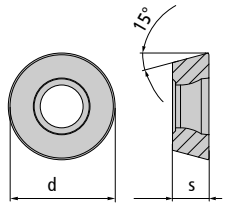
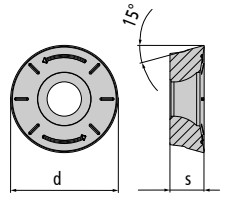
TV 2-8
Screwdriver torque Vario®-S with window scale
G > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
H > Page 197

T15 502
Torx MagicSpring compatible bit f. Torque Vario®
I > Page 198

major application ***minor application*** roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	03 12 835K	RDHX 12T3 M0T	HSC 05	PVTi	12	3.97	6	M 3.5
	03 12 837K	RDMX 12T3 M0T	HSC 05	PVFN	12	3.97	6	M 3.5
	03 12 840K	RDHX 12T3 M0T	P40	PVTi	12	3.97	6	M 3.5
	03 12 842K	RDEX 12T3 M0T	P40	PVSR	12	3.97	6	M 3.5
	03 12 8042K	RDEX 12T3 M0T	P40	PCSR	12	3.97	6	M 3.5
	03 12 844K	RDHX 12T3 M0T	P40	PVML	12	3.97	6	M 3.5
	03 12 846K	RDMX 12T3 M0T	P40	PVGO	12	3.97	6	M 3.5
	03 12 850K	RDHX 12T3 M0T	P25	PVTi	12	3.97	6	M 3.5
	03 12 852K	RDEX 12T3 M0T	P25	PVSR	12	3.97	6	M 3.5
	03 12 860K	RDHX 12T3 M0T	K10	PVTi	12	3.97	6	M 3.5
	03 12 831P	RDHX 12T3 M0T	K10	polished	12	3.97	6	M 3.5
	03 12 848K	RDMX 12T3 M0T	P40	PVGO	12	3.97	6	M 3.5
	03 12 880	RDHX 12T3 M0T	K10	PVTi	12	3.97	6	M 3.5
	03 12 880 D	RDHX 12T3 M0T	K10	PVDiaN	12	3.97	6	M 3.5
	03 12 896K	RDMT 12T3 M0EN	M40	PVST	12	3.97	6	M 3.5
	03 12 897K	RDPX 12T3 M0T	P25	PVGO	12	3.97	6	M 3.5
	03 12 8099K	RDMT 12T3 M0EN	M35	PCTC	12	3.97	6	M 3.5

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,8	0,15 0,1	0,15-0,4 0,1-1,5	0,1-0,25 0,1-1,05	-	0,1-0,18 0,1-0,4
HSC 05 PVFN	f_z (mm) a_p (mm)	0,1-0,4 0,1-1,5	0,12-0,24 0,1-0,3	0,12-0,4 0,1-1,5	0,12-0,24 0,1-0,3	-	0,1-0,25 0,1-0,7
P40 PVTi	f_z (mm) a_p (mm)	0,2-0,7 0,2-2	-	-	-	-	-
P40 PVSR	f_z (mm) a_p (mm)	0,2-0,8 0,2-2	-	0,1-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
P40 PCSR	f_z (mm) a_p (mm)	0,2-1 0,2-2	-	0,15-1 0,2-1,5	-	-	-
P40 PVML	f_z (mm) a_p (mm)	0,2-0,8 0,2-2	-	0,1-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
P40 PVGO	f_z (mm) a_p (mm)	0,12-1 0,1-2	-	0,1-0,4 0,1-1,5	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	0,15-0,4 0,1-1,5	-	0,15-0,28 0,1-0,8		-	-
P25 PVSR	f_z (mm) a_p (mm)	0,2-0,8 0,2-2	-	0,1-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
K10 PVTi	f_z (mm) a_p (mm)		0,15 0,1		0,1-0,4 0,1-2	0,1-0,25 0,1-1	
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,4 0,1-2	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,4 0,1-2	-	-
M40 PVST	f_z (mm) a_p (mm)	0,1-0,8 0,1-2	0,08-0,8 0,1-2,5	-	-	0,08-0,5 0,12-2,5	-
P25 PVGO	f_z (mm) a_p (mm)	-	0,2-0,8 0,25-2	-	-	0,12-0,5 0,12-1,5	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,08-0,65 0,1-2,5	-	-	0,08-0,5 0,12-2,5	-

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

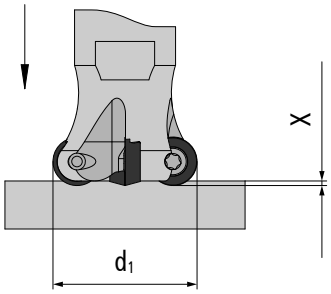
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing	-	-	▼ 100 **150** 200	-		-
	pre finishing	▼ 150 **275** 400	-	▼ 150 **225** 300	▽ 200 **500** 800	-	▼ 35 **143** 250
	finishing	▼ 150 **275** 400	▼ 100 **150** 200	▼ 200 **275** 350	▽ 100 **450** 800		▼ 35 **143** 250
HSC 05 PVFN	roughing	-	-	▼ 100 **150** 200	-		-
	pre finishing	▼ 120 **160** 200	-	▼ 100 **150** 200	▽ 200 **500** 800	-	▼ 40 **130** 220
	finishing	▼ 150 **250** 350	▼ 100 **150** 200	▼ 200 **275** 350	▽ 200 **500** 800		▼ 40 **130** 220
P40 PVTi	roughing	▼ 100 **160** 220					
	pre finishing	▼ 100 **175** 250	-	-	-	-	-
	finishing	-					
P40 PVSR	roughing	▼ 100 **200** 300		▽ 160 **190** 220			-
	pre finishing	▼ 100 **200** 300	-	▽ 160 **190** 220	-	-	▽ 70 **110** 150
	finishing	-		▽ 160 **190** 220			-
P40 PCSR	roughing	▼ 130 **190** 250		▽ 120 **170** 220			
	pre finishing	▼ 150 **225** 300	-	▽ 150 **200** 250	-	-	-
	finishing	-		▽ 180 **230** 280			
P40 PVML	roughing	▼ 100 **200** 300		▽ 140 **215** 290			-
	pre finishing	▼ 100 **200** 300	-	▽ 140 **170** 200	-	-	▽ 70 **110** 150
	finishing	-		-			-
P40 PVGO	roughing	▼ 100 **150** 200		▽ 110 **130** 150			
	pre finishing	▼ 100 **150** 200	-	▽ 110 **130** 150	-	-	-
	finishing	-		-			
P25 PVTi	roughing	▽ 100 **200** 300		-	-		
	pre finishing	▼ 100 **125** 150	-	▽ 130 **150** 170	-	-	-
	finishing	▼ 150 **250** 350		▽ 150 **200** 250	-		
P25 PVSR	roughing	▼ 100 **160** 220		▽ 140 **180** 220			-
	pre finishing	▼ 100 **180** 260	-	▽ 160 **190** 220	-	-	▽ 70 **110** 150
	finishing	-		▽ 160 **190** 220			-
K10 PVTi	roughing	-	-	▽ 150 **175** 200	▼ 100 **450** 800	▽ 35 **43** 50	-
	pre finishing	-	-	▼ 150 **175** 200	▼ 100 **450** 800	▽ 35 **43** 50	▽ 35 **108** 180
	finishing	▽ 140 **220** 300	▼ 120 **150** 180	▼ 150 **200** 250	▼ 100 **450** 800	▽ 35 **43** 50	-
K10 polished	roughing				▼ 100 **450** 800		
	pre finishing	-	-	-	▼ 100 **450** 800	-	-
	finishing				▼ 100 **450** 800		
K10 PVDiaN	roughing				▼ 100 **450** 800		
	pre finishing	-	-	-	▼ 100 **450** 800	-	-
	finishing				▼ 100 **450** 800		
M40 PVST	roughing	▽ 80 **140** 200	▼ 80 **130** 180			▼ 30 **55** 80	
	pre finishing	▽ 100 **150** 200	▼ 100 **155** 210	-	-	▼ 40 **65** 90	-
	finishing	▽ 110 **180** 250	▼ 120 **185** 250			▼ 60 **90** 120	
P25 PVGO	roughing		▼ 80 **140** 200			▼ 20 **65** 110	
	pre finishing	-	▼ 100 **155** 210	-	-	▼ 20 **65** 110	-
	finishing		▽ 120 **175** 230			▽ 30 **70** 110	
M35 PCTC	roughing		▼ 110 **155** 200			▼ 30 **65** 100	
	pre finishing	-	▼ 120 **175** 230	-	-	▼ 40 **75** 110	-
	finishing		▼ 160 **220** 280			▼ 60 **100** 140	

▼ *major application* ▽ *minor application* ▼ ▽ roughing ▼ ▽ pre-finishing ▼ ▽ finishing

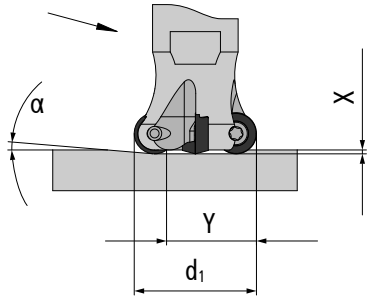
Extended operation data

Plunging



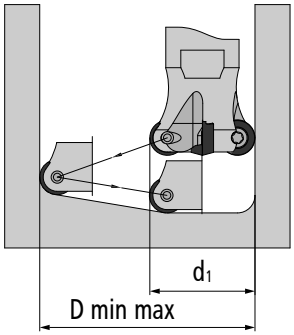
Cutter diam. d1	X_{max}
42-80	3

Ramping



Cutter diam. d1	α°	y
42	<6,5	20
52	<5,7	30
66	<3,9	44
80	<3,0	58

Helix



Cutter diam. d1	D_{min}	D_{max}
42	62	84
52	82	104
66	110	132
80	136	160

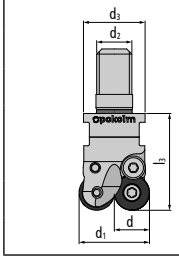
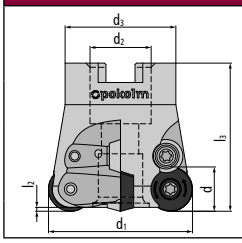
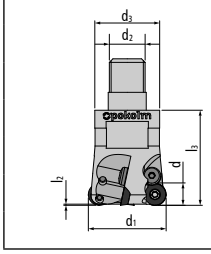
NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

CUTTERS FOR ROUND INSERTS - K0-90°

r6 - diam. 24 - 80 mm, neutral or 7° positive rake angle

The allrounder:

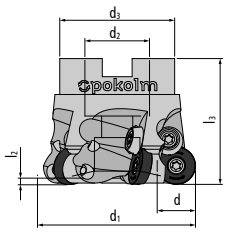
- for high-speed-machining centres
- 7° only for roughing-operations
- 0° for roughing- and finishing-operations

Milling cutter bodies	Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
Threaded shank end mill bodies | 0° axial rake angle												
	24 200	24	12	6	33	-	-	M 12	21	2	A, B, C, D, E, F	
	35 200	35	12	6	43	3	-	M 16	29	3	A, B, C, D, E, F	
	4 35 200	35	12	6	43	3	-	M 16	29	4	A, C, D, E, F	
	42 200	42	12	6	43	3	-	M 16	29	4	A, B, D, E, F	
	5 42 200	42	12	6	43	3	-	M 16	29	5	A, C, D, E, F	
Shell tp. mill. cutt. bodies | 0° axial rake angle												
	4 42 310	42	12	6	43	3	-	diam. 16	35	4	A, B, C, D, E, F	
	5 42 310	42	12	6	43	3	-	diam. 16	35	5	A, C, D, E, F	
	52 310	52	12	6	53	3.5	-	diam. 22	40	5	A, B, C, D, E, F	
Thr. sh. end mill bodies | 7° pos. rake angle												
	3 35 200/7	35	12	6	42.5	3	-	M 16	29	3	A, B, C, D, E, F	
	4 35 200/7	35	12	6	42.5	3	-	M 16	29	4	A, C, D, E, F	

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

Milling cutter bodies

Shell tp. mill. cutt. bodies | 7° pos. rake angle

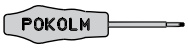


Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
5 42 310/7	42	12	6	42.6	3.8	-	diam. 16	35	5	A, B, C, D, E, F	? 7°
52 310/7	52	12	6	52.5	3.5	-	diam. 22	40	5	A, B, C, D, E, F	✓ 7°
66 310/7	66	12	6	52.5	3.5	-	diam. 27	48	6	A, B, D, E, F	✓ 7°
80 310/7	80	12	6	52.5	3.5	-	diam. 27	60	7	A, B, D, E, F	✓ 7°

Accessories

35 500
Torx screw
A > Page 195

35 510
locking screw
B > Page 195



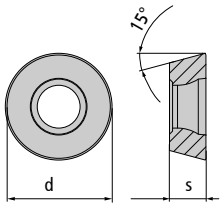
15 500
Torx-screwdriver
C > Page 196

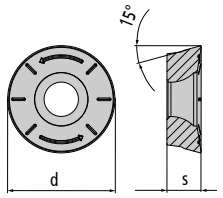
TV 2-8
Screwdriver torque Vario®-S with window scale, D > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
E > Page 197

T15 502, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts





Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
03 12 835K	RDHX 12T3 M0T	HSC 05	PVTi	12	3.97	6	M 3.5
03 12 837K	RDMX 12T3 M0T	HSC 05	PVFN	12	3.97	6	M 3.5
03 12 840K	RDHX 12T3 M0T	P40	PVTi	12	3.97	6	M 3.5
03 12 842K	RDEX 12T3 M0T	P40	PVSR	12	3.97	6	M 3.5
03 12 8042K	RDEX 12T3 M0T	P40	PCSR	12	3.97	6	M 3.5
03 12 844K	RDHX 12T3 M0T	P40	PVML	12	3.97	6	M 3.5
03 12 846K	RDMX 12T3 M0T	P40	PVGO	12	3.97	6	M 3.5
03 12 850K	RDHX 12T3 M0T	P25	PVTi	12	3.97	6	M 3.5
03 12 852K	RDEX 12T3 M0T	P25	PVSR	12	3.97	6	M 3.5
03 12 860K	RDHX 12T3 M0T	K10	PVTi	12	3.97	6	M 3.5
03 12 831P	RDHX 12T3 M0T	K10	polished	12	3.97	6	M 3.5
03 12 848K	RDMX 12T3 M0T	P40	PVGO	12	3.97	6	M 3.5
03 12 880	RDHX 12T3 M0T	K10	PVTi	12	3.97	6	M 3.5
03 12 880 D	RDHX 12T3 M0T	K10	PVDiaN	12	3.97	6	M 3.5
03 12 896K	RDMT 12T3 M0EN	M40	PVST	12	3.97	6	M 3.5
03 12 897K	RDPX 12T3 M0T	P25	PVGO	12	3.97	6	M 3.5
03 12 8099K	RDMT 12T3 M0EN	M35	PCTC	12	3.97	6	M 3.5

NEW latest items! ⚠ available as long as stock lasts ? on request ✓ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,8	0,15 0,1	0,15-0,4 0,1-1,5	0,1-0,25 0,1-1,05	-	0,1-0,18 0,1-0,4
HSC 05 PVFN	f_z (mm) a_p (mm)	0,1-0,4 0,1-1,5	0,12-0,24 0,1-0,3	0,12-0,4 0,1-1,5	0,12-0,24 0,1-0,3	-	0,1-0,25 0,1-0,7
P40 PVTi	f_z (mm) a_p (mm)	0,2-0,7 0,2-2	-	-	-	-	-
P40 PVSR	f_z (mm) a_p (mm)	0,2-0,8 0,2-2	-	0,1-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
P40 PCSR	f_z (mm) a_p (mm)	0,2-1 0,2-2	-	0,15-1 0,2-1,5	-	-	-
P40 PVML	f_z (mm) a_p (mm)	0,2-0,8 0,2-2	-	0,1-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
P40 PVGO	f_z (mm) a_p (mm)	0,12-1 0,1-2	-	0,1-0,4 0,1-1,5	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	0,15-0,4 0,1-1,5	-	0,15-0,28 0,1-0,8		-	-
P25 PVSR	f_z (mm) a_p (mm)	0,2-0,8 0,2-2	-	0,1-0,4 0,1-1,5	-	-	0,1-0,18 0,1-0,4
K10 PVTi	f_z (mm) a_p (mm)		0,15 0,1		0,1-0,4 0,1-2	0,1-0,25 0,1-1	
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,4 0,1-2	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,4 0,1-2	-	-
M40 PVST	f_z (mm) a_p (mm)	0,1-0,8 0,1-2	0,08-0,8 0,1-2,5	-	-	0,08-0,5 0,12-2,5	-
P25 PVGO	f_z (mm) a_p (mm)	-	0,2-0,8 0,25-2	-	-	0,12-0,5 0,12-1,5	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,08-0,65 0,1-2,5	-	-	0,08-0,5 0,12-2,5	-

major application *minor application* roughing pre-finishing finishing

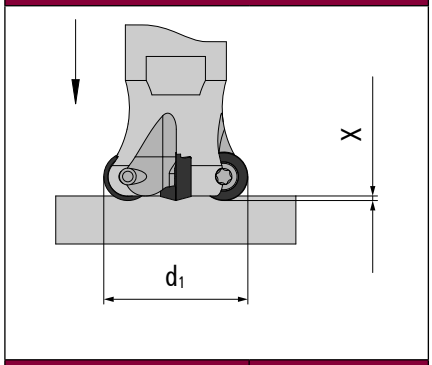
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing	-	-	100 **150** 200	-	-	-
	pre finishing	150 **275** 400	-	150 **225** 300	200 **500** 800		35 **143** 250
	finishing	150 **275** 400	100 **150** 200	200 **275** 350	100 **450** 800		35 **143** 250
HSC 05 PVFN	roughing	-	-	100 **150** 200	-	-	-
	pre finishing	120 **160** 200	-	100 **150** 200	200 **500** 800		40 **130** 220
	finishing	150 **250** 350	100 **150** 200	200 **275** 350	200 **500** 800		40 **130** 220
P40 PVTi	roughing	100 **160** 220	-	-	-	-	-
	pre finishing	100 **175** 250					
	finishing	-					
P40 PVSR	roughing	100 **200** 300	-	160 **190** 220	-	-	-
	pre finishing	100 **200** 300		160 **190** 220			70 **110** 150
	finishing	-		160 **190** 220			-
P40 PCSR	roughing	130 **190** 250	-	120 **170** 220	-	-	-
	pre finishing	150 **225** 300		150 **200** 250			
	finishing	-		180 **230** 280			
P40 PVML	roughing	100 **200** 300	-	140 **215** 290	-	-	-
	pre finishing	100 **200** 300		140 **170** 200			70 **110** 150
	finishing	-		-			-
P40 PVGO	roughing	100 **150** 200	-	110 **130** 150	-	-	-
	pre finishing	100 **150** 200		110 **130** 150			
	finishing	-		-			
P25 PVTi	roughing	100 **200** 300	-	-	-	-	-
	pre finishing	100 **125** 150		130 **150** 170	-		
	finishing	150 **250** 350		150 **200** 250	-		
P25 PVSR	roughing	100 **160** 220	-	140 **180** 220	-	-	-
	pre finishing	100 **180** 260		160 **190** 220			70 **110** 150
	finishing	-		160 **190** 220			-
K10 PVTi	roughing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	-
	pre finishing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	35 **108** 180
	finishing	140 **220** 300	120 **150** 180	150 **200** 250	100 **450** 800	35 **43** 50	-
K10 polished	roughing	-	-	-	100 **450** 800	-	-
	pre finishing				100 **450** 800		
	finishing				100 **450** 800		
K10 PVDiaN	roughing	-	-	-	100 **450** 800	-	-
	pre finishing				100 **450** 800		
	finishing				100 **450** 800		
M40 PVST	roughing	80 **140** 200	80 **130** 180	-	-	30 **55** 80	-
	pre finishing	100 **150** 200	100 **155** 210			40 **65** 90	
	finishing	110 **180** 250	120 **185** 250			60 **90** 120	
P25 PVGO	roughing	-	80 **140** 200	-	-	20 **65** 110	-
	pre finishing		100 **155** 210			20 **65** 110	
	finishing		120 **175** 230			30 **70** 110	
M35 PCTC	roughing	-	110 **155** 200	-	-	30 **65** 100	-
	pre finishing		120 **175** 230			40 **75** 110	
	finishing		160 **220** 280			60 **100** 140	

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

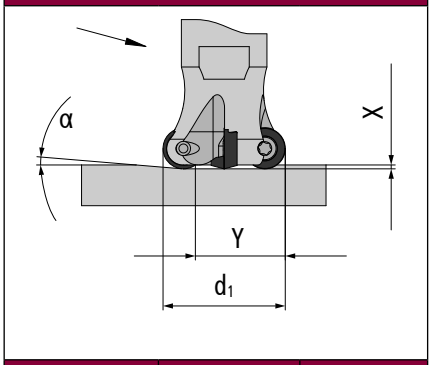
Extended operation data

Plunging



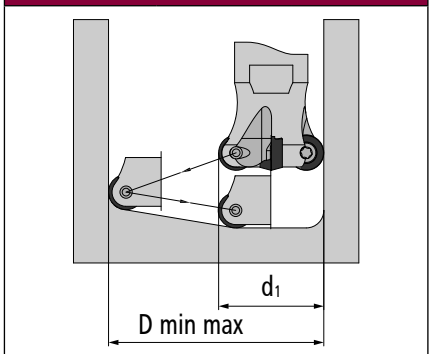
Cutter diam. d1	X_{max}
24-80	3

Ramping



Cutter diam. d1	α°	y
24	-	-
35	<13,0	13
42	<6,5	20
52	<5,7	30
66	<3,9	44
80	<3,0	58

Helix



Cutter diam. d1	D_{min}	D_{max}
24	26	48
35	46	70
42	62	84
52	82	104
66	110	132
80	136	160

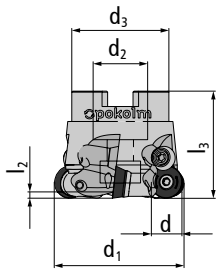
major application *minor application* roughing pre-finishing finishing

CUTTERS FOR ROUND INSERTS - K0-90°

r8 - diam. 52 - 100 mm, 7° positive rake angle, with shims

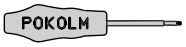
- increased reliability against fractures during machining
- optimum protection of milling cutter body by shim
- in case of insert fracture, shims, screws and threaded bushes can be replaced separately, it is not necessary to buy a new body

Shell type milling cutter bodies

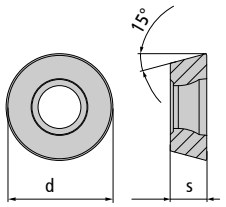
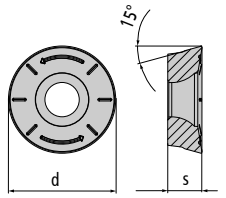


Milling cutter bodies Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
52 300/7 HL	52	16	8	53	4.1	-	diam. 22	40	4	A, B, C, D, E, F, G, H, I, J	
66 300/7 HL	66	16	8	53	4.1	-	diam. 27	48	5	A, B, C, D, E, F, G, H, I, J	
80 300/7 HL	80	16	8	53	4.1	-	diam. 27	60	6	A, B, C, D, E, F, G, H, I, J	
100 300/7 HL	100	16	8	53	4.1	-	diam. 32	70	7	A, B, C, D, E, F, G, H, I, J	

Accessories

 45 500 Torx screw A > Page 195	 45 500 L Torx screw B > Page 195	 45 500 I threaded and tapped bush C > Page 196	 10 510 locking washer D > Page 196	 10 511 Shim for RDHX 1604 E > Page 196	 20 500 Torx-screwdriver F > Page 196
INBUS 4,5 W Allen Key 4,5 G > Page 197	 TV 2-8 Screwdriver torque Vario®-S with window scale, H > Page 197	 T20 500 Torx interchangeable bit for Torque Vario® I > Page 197	 T20 502 Torx MagicSpring compatible bit f. Torque Vario®, J > Page 198		

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	04 16 835	RDHX 1604 M0T	HSC 05	PVTi	16	4.76	8	M 4.5
	04 16 840	RDHX 1604 M0T	P40	PVTi	16	4.76	8	M 4.5
	04 16 842	RDEX 1604 M0T	P40	PVSR	16	4.76	8	M 4.5
	04 16 8042	RDEX 1604 M0T	P40	PCSR	16	4.76	8	M 4.5
	04 16 844	RDHX 1604 M0T	P40	PVML	16	4.76	8	M 4.5
	04 16 850	RDHX 1604 M0T	P25	PVTi	16	4.76	8	M 4.5
	04 16 852	RDEX 1604 M0T	P25	PVSR	16	4.76	8	M 4.5
	04 16 860	RDHX 1604 M0T	K10	PVTi	16	4.76	8	M 4.5
	04 16 831P	RDHX 1604 M0T	K10	polished	16	4.76	8	M 4.5
	04 16 848	RDMX 1604 M0T	P40	PVGO	16	4.76	8	M 4.5
	04 16 880	RDHX 1604 M0T	K10	PVTi	16	4.76	8	M 4.5
	04 16 896	RDMT 1604 M0EN	M40	PVST	16	4.76	8	M 4.5
	04 16 8099	RDMT 1604 M0EN	M35	PCTC	16	4.76	8	M 4.5
	04 16 897	RDPX 1604 M0T	P25	PVGO	16	4.76	8	M 4.5

Feed per tooth (fz) | d.o.c. (ap)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
HSC 05 PVTi	f_z (mm) a_p (mm)	0,2-0,25 0,2-0,85	0,15 0,1	0,2-0,5 0,2-3	0,2-0,35 0,2-2,1	-	0,15-0,22 0,2-0,85
P40 PVTi	f_z (mm) a_p (mm)	0,2-0,9 0,2-4	-	-	-	-	-
P40 PVSR	f_z (mm) a_p (mm)	0,25-1 0,2-3	-	0,2-0,5 0,2-3	-	-	0,15-0,22 0,2-0,85
P40 PCSR	f_z (mm) a_p (mm)	0,25-1 0,25-3	-	0,25-1 0,25-3	-	-	-
P40 PVML	f_z (mm) a_p (mm)	0,25-1 0,2-3	-	0,2-0,5 0,2-3	-	-	0,15-0,22 0,2-0,85
P25 PVTi	f_z (mm) a_p (mm)	0,2-0,5 0,2-3	-	0,2-0,35 0,2-1,6	-	-	-
P25 PVSR	f_z (mm) a_p (mm)	0,25-1 0,2-3	-	0,2-0,5 0,2-3	-	-	0,15-0,22 0,2-0,85
K10 PVTi	f_z (mm) a_p (mm)	0,2 0,2	0,15 0,1	0,2-0,5 0,2-3		0,15-0,22 0,2-1,35	0,15-0,22 0,2-0,85
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,2-0,5 0,2-4	-	-
P40 PVGO	f_z (mm) a_p (mm)	0,16-1,2 0,1-3	-	0,16-0,5 0,1-2	-	-	-
M40 PVST	f_z (mm) a_p (mm)	0,08-1,2 0,1-3	0,08-0,7 0,1-3	-	-	0,08-0,5 0,1-2	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,08-0,7 0,1-3	-	-	0,08-0,5 0,12-3	-
P25 PVGO	f_z (mm) a_p (mm)	-	0,3-1 0,3-3	-	-	0,15-0,5 0,15-2	-

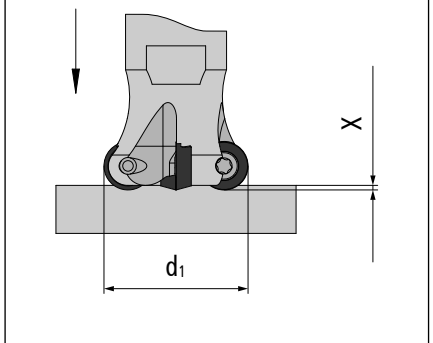
major application *minor application* roughing pre-finishing finishing

Cutting speed (Vc in m/min)

Material: Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing	-	-	100 **150** 200	-		-
	pre finishing	150 **275** 400	-	150 **225** 300	200 **500** 800	-	35 **143** 250
	finishing	150 **275** 400	100 **150** 200	200 **275** 350	100 **450** 800		35 **143** 250
P40 PVTi	roughing	100 **160** 220					
	pre finishing	100 **175** 250	-	-	-	-	-
	finishing	-					
P40 PVSR	roughing	100 **200** 300		160 **190** 220			-
	pre finishing	100 **200** 300	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
P40 PCSR	roughing	130 **190** 250		120 **170** 220			
	pre finishing	150 **225** 300	-	150 **200** 250	-	-	-
	finishing	-		180 **230** 280			
P40 PVML	roughing	100 **200** 300		140 **215** 290			-
	pre finishing	100 **200** 300	-	140 **170** 200	-	-	70 **110** 150
	finishing	-		-			-
P25 PVTi	roughing	100 **200** 300		-			
	pre finishing	100 **125** 150	-	130 **150** 170	-	-	-
	finishing	150 **250** 350		150 **200** 250			
P25 PVSR	roughing	100 **160** 220		140 **180** 220			-
	pre finishing	100 **180** 260	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
K10 PVTi	roughing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	-
	pre finishing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	35 **108** 180
	finishing	140 **220** 300	120 **150** 180	150 **200** 250	100 **450** 800	35 **43** 50	-
K10 polished	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
P40 PVGO	roughing	100 **150** 200		110 **130** 150			
	pre finishing	100 **150** 200	-	110 **130** 150	-	-	-
	finishing	-		-			
M40 PVST	roughing	80 **140** 200	80 **130** 180			30 **55** 80	
	pre finishing	100 **150** 200	100 **155** 210	-	-	40 **65** 90	-
	finishing	110 **180** 250	120 **185** 250			60 **90** 120	
M35 PCTC	roughing		110 **155** 200			30 **65** 100	
	pre finishing	-	120 **175** 230	-	-	40 **75** 110	-
	finishing		160 **220** 280			60 **100** 140	
P25 PVGO	roughing		80 **140** 200			20 **65** 110	
	pre finishing	-	100 **155** 210	-	-	20 **65** 110	-
	finishing		120 **175** 230			30 **70** 110	

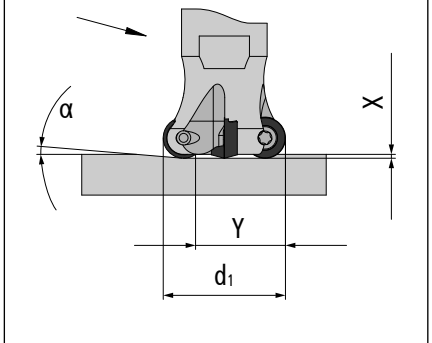
Extended operation data

Plunging



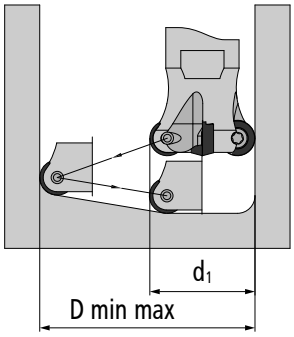
Cutter diam. d1	X_{max}
52-100	4

Ramping



Cutter diam. d1	α°	y
52	<10,3	22
66	<6,4	36
80	<4,6	50
100	<3,3	70

Helix



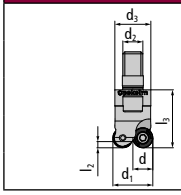
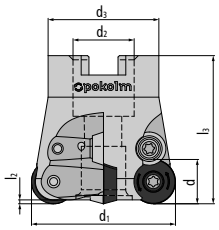
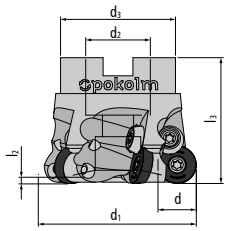
Cutter diam. d1	D_{min}	D_{max}
52	74	104
66	102	132
80	130	160
100	170	200

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

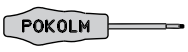
CUTTERS FOR ROUND INSERTS - K0-90°

r8 - diam. 32 - 160 mm, neutral, 7° positive

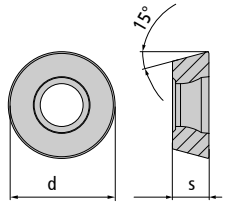
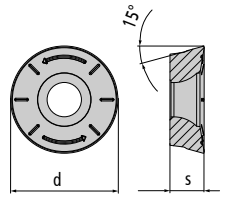
The first choice when using SK 50 machines for medium and heavy milling. Tools with a 7° rake angle are characterized by its low energy consumption.

Milling cutter bodies	Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
Threaded shank end mill bodies												
	32 200	32	16	8	43.5	-	-	M 16	29	2	A, C, D, E, F	
	35 201	35	16	8	43.5	4	-	M 16	29	3	A, C, D, E, F	
Shell tp. mill. cutt. bodies | 0° axial rake angle												
	52 300	52	16	8	53.5	4.7	-	diam. 22	40	4	A, B, C, D, E, F	
	66 300	66	16	8	53.5	5.1	-	diam. 27	48	5	A, B, C, D, E, F	
	80 300	80	16	8	53.5	5.8	-	diam. 27	60	6	A, B, C, D, E, F	
	100 300	100	16	8	53.5	5.8	-	diam. 32	70	7	A, B, C, D, E, F	
Shell tp. mill. cutt. bodies | 7° pos. rake angle												
	5 52 300/7	52	16	8	53	4.1	-	diam. 22	40	5	A, C, D, E, F	
	66 300/7	66	16	8	53	4.6	-	diam. 27	48	5	A, B, C, D, E, F	
	6 66 300/7	66	16	8	53	5.1	-	diam. 27	48	6	A, C, D, E, F	
	80 300/7	80	16	8	53	5.1	-	diam. 27	60	6	A, B, C, D, E, F	
	100 300/7	100	16	8	53	5.1	-	diam. 32	70	7	A, B, C, D, E, F	
	125 300/7	125	16	8	53	5.1	-	diam. 40	90	8	A, B, C, D, E, F	
	160 300/7	160	16	8	53	5.1	-	diam. 40	120	9	A, B, C, D, E, F	

Accessories

					
45 500 Torx screw A > Page 195	10 510 locking washer B > Page 196	20 500 Torx-screwdriver C > Page 196	TV 2-8 Screwdriver torque Vario®-S with window scale, D > Page 197	T20 500 Torx interchangeable bit for Torque Vario® E > Page 197	T20 502, Torx Magic-Spring compatible bit f. Torque Vario® F > Page 198

major application *minor application* roughing pre-finishing finishing

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	04 16 835	RDHX 1604 M0T	HSC 05	PVTi	16	4.76	8	M 4.5
	04 16 840	RDHX 1604 M0T	P40	PVTi	16	4.76	8	M 4.5
	04 16 842	RDEX 1604 M0T	P40	PVSR	16	4.76	8	M 4.5
	04 16 8042	RDEX 1604 M0T	P40	PCSR	16	4.76	8	M 4.5
	04 16 844	RDHX 1604 M0T	P40	PVML	16	4.76	8	M 4.5
	04 16 850	RDHX 1604 M0T	P25	PVTi	16	4.76	8	M 4.5
	04 16 852	RDEX 1604 M0T	P25	PVSR	16	4.76	8	M 4.5
	04 16 860	RDHX 1604 M0T	K10	PVTi	16	4.76	8	M 4.5
	04 16 831P	RDHX 1604 M0T	K10	polished	16	4.76	8	M 4.5
	04 16 848	RDMX 1604 M0T	P40	PVGO	16	4.76	8	M 4.5
	04 16 880	RDHX 1604 M0T	K10	PVTi	16	4.76	8	M 4.5
	04 16 896	RDMT 1604 M0EN	M40	PVST	16	4.76	8	M 4.5
	04 16 8099	RDMT 1604 M0EN	M35	PCTC	16	4.76	8	M 4.5
	04 16 897	RDPX 1604 M0T	P25	PVGO	16	4.76	8	M 4.5

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,2-0,25 0,2-0,85	0,15 0,1	0,2-0,5 0,2-3	0,2-0,35 0,2-2,1	-	0,15-0,22 0,2-0,85
P40 PVTi	f_z (mm) a_p (mm)	0,2-0,9 0,2-4	-	-	-	-	-
P40 PVSR	f_z (mm) a_p (mm)	0,25-1 0,2-3	-	0,2-0,5 0,2-3	-	-	0,15-0,22 0,2-0,85
P40 PCSR	f_z (mm) a_p (mm)	0,25-1 0,25-3	-	0,25-1 0,25-3	-	-	-
P40 PVML	f_z (mm) a_p (mm)	0,25-1 0,2-3	-	0,2-0,5 0,2-3	-	-	0,15-0,22 0,2-0,85
P25 PVTi	f_z (mm) a_p (mm)	0,2-0,5 0,2-3	-	0,2-0,35 0,2-1,6	-	-	-
P25 PVSR	f_z (mm) a_p (mm)	0,25-1 0,2-3	-	0,2-0,5 0,2-3	-	-	0,15-0,22 0,2-0,85
K10 PVTi	f_z (mm) a_p (mm)	0,2 0,2	0,15 0,1	0,2-0,5 0,2-3		0,15-0,22 0,2-1,35	0,15-0,22 0,2-0,85
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,2-0,5 0,2-4	-	-
P40 PVGO	f_z (mm) a_p (mm)	0,16-1,2 0,1-3	-	0,16-0,5 0,1-2	-	-	-
M40 PVST	f_z (mm) a_p (mm)	0,08-1,2 0,1-3	0,08-0,7 0,1-3	-	-	0,08-0,5 0,1-2	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,08-0,7 0,1-3	-	-	0,08-0,5 0,12-3	-
P25 PVGO	f_z (mm) a_p (mm)	-	0,3-1 0,3-3	-	-	0,15-0,5 0,15-2	-

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

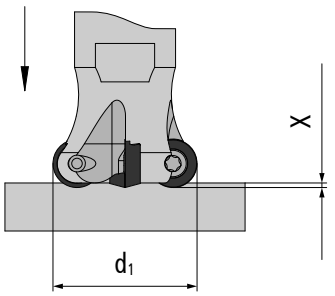
Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing	-	-	100 **150** 200	-		-
	pre finishing	150 **275** 400	-	150 **225** 300	200 **500** 800	-	35 **143** 250
	finishing	150 **275** 400	100 **150** 200	200 **275** 350	100 **450** 800		35 **143** 250
P40 PVTi	roughing	100 **160** 220					
	pre finishing	100 **175** 250	-	-	-	-	-
	finishing	-					
P40 PVSR	roughing	100 **200** 300		160 **190** 220			-
	pre finishing	100 **200** 300	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
P40 PCSR	roughing	130 **190** 250		120 **170** 220			
	pre finishing	150 **225** 300	-	150 **200** 250	-	-	-
	finishing	-		180 **230** 280			
P40 PVML	roughing	100 **200** 300		140 **215** 290			-
	pre finishing	100 **200** 300	-	140 **170** 200	-	-	70 **110** 150
	finishing	-		-			-
P25 PVTi	roughing	100 **200** 300		-			
	pre finishing	100 **125** 150	-	130 **150** 170	-	-	-
	finishing	150 **250** 350		150 **200** 250			
P25 PVSR	roughing	100 **160** 220		140 **180** 220			-
	pre finishing	100 **180** 260	-	160 **190** 220	-	-	70 **110** 150
	finishing	-		160 **190** 220			-
K10 PVTi	roughing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	-
	pre finishing	-	-	150 **175** 200	100 **450** 800	35 **43** 50	35 **108** 180
	finishing	140 **220** 300	120 **150** 180	150 **200** 250	100 **450** 800	35 **43** 50	-
K10 polished	roughing				100 **450** 800		
	pre finishing	-	-	-	100 **450** 800	-	-
	finishing				100 **450** 800		
P40 PVGO	roughing	100 **150** 200		110 **130** 150			
	pre finishing	100 **150** 200	-	110 **130** 150	-	-	-
	finishing	-		-			
M40 PVST	roughing	80 **140** 200	80 **130** 180			30 **55** 80	
	pre finishing	100 **150** 200	100 **155** 210	-	-	40 **65** 90	-
	finishing	110 **180** 250	120 **185** 250			60 **90** 120	
M35 PCTC	roughing		110 **155** 200			30 **65** 100	
	pre finishing	-	120 **175** 230	-	-	40 **75** 110	-
	finishing		160 **220** 280			60 **100** 140	
P25 PVGO	roughing		80 **140** 200			20 **65** 110	
	pre finishing	-	100 **155** 210	-	-	20 **65** 110	-
	finishing		120 **175** 230			30 **70** 110	

major application *minor application* roughing pre-finishing finishing

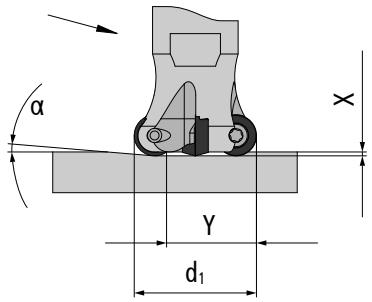
Extended operation data

Plunging



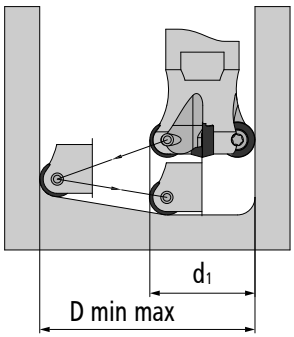
Cutter diam. d1	X_{max}
32-160	4

Ramping



Cutter diam. d1	α°	y
32	-	-
35	<38,7	5
52	<10,3	22
66	<6,4	36
80	<4,6	50
100	<3,3	70
125	<2,4	95
160	<1,5	130

Helix



Cutter diam. d1	D_{min}	D_{max}
32	34	64
35	40	70
52	74	104
66	102	132
80	130	160
100	170	200
125	220	250
160	290	320

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

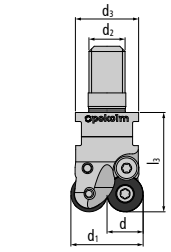
CUTTERS FOR ROUND INSERTS - K0-90°

r10 - diam. 40 - 160 mm, neutral, 7° positive

These tools have extremely rigid inserts, which provide optimal conditions for heavy-duty milling operations under most difficult conditions and allows for very high-performance milling and extremely high feed-rates.

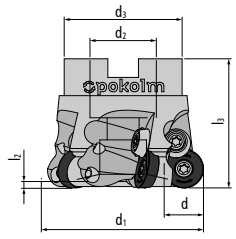
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
40 200	40	20	10	53.5	-	-	M 16	29	2	A, B, C, D, E, F	

Shell tp. mill. cutt. bodies | 7° pos. rake angle



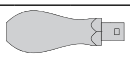
Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
5 66 340/7	66	20	10	53	6.5	-	diam. 27	48	5	A, B, C, D, E, F	7°
80 340/7	80	20	10	53	6.5	-	diam. 27	60	5	A, B, C, D, E, F	7°
100 340/7	100	20	10	53	6.5	-	diam. 32	70	6	A, B, C, D, E, F	7°
125 340/7	125	20	10	53	6.5	-	diam. 40	90	7	A, B, C, D, E, F	7°
160 340/7	160	20	10	53	6.5	-	diam. 40	120	8	A, B, C, D, E, F	7°

Accessories

45 500
Torx screw
A > Page 195

10 510
locking washer
B > Page 196

20 500
Torx-screwdriver
C > Page 196



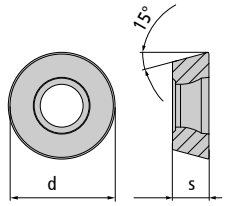
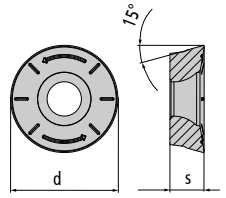
TV 2-8
Screwdriver torque Vario®-S with window scale, D > Page 197

T20 500
Torx interchangeable bit for Torque Vario®
E > Page 197

T20 502, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	06 20 835	RDMX 2006 M0T	HSC 05	PVTi	20	6	10	M 4.5
	06 20 840	RDMX 2006 M0T	P40	PVTi	20	6	10	M 4.5
	06 20 850	RDMX 2006 M0T	P25	PVTi	20	6	10	M 4.5
	06 20 860	RDMX 2006 M0T	K10	PVTi	20	6	10	M 4.5
	06 20 831P	RDHT 2006 M0T	K10	polished	20	6	10	M 4.5
	06 20 880	RDHT 2006 M0T	K10	PVTi	20	6	10	M 4.5

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,25-0,32 0,2-1,1	0,15 0,1	0,25-0,6 0,2-4	0,25-0,42 0,2-5	-	0,2-0,3 0,2-1,1
P40 PVTi	f_z (mm) a_p (mm)	0,25-1,2 0,2-5	-	-	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	0,25-0,6 0,2-4	-	0,25-0,42 0,2-2,1	-	-	-
K10 PVTi	f_z (mm) a_p (mm)		0,15 0,1		0,25-0,6 0,2-5	0,2-0,4 0,2-3	
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,25-0,6 0,2-5	-	-

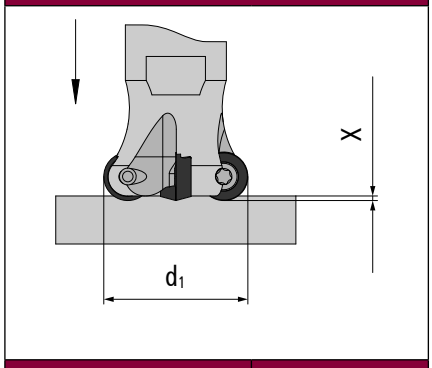
Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 150 **275** 400	- - 100 **150** 200	100 **150** 200 150 **225** 300 200 **275** 350	- 200 **500** 800 100 **450** 800	-	- 35 **143** 250 35 **143** 250
P40 PVTi	roughing pre finishing finishing	100 **160** 220 100 **175** 250 -	-	-	-	-	-
P25 PVTi	roughing pre finishing finishing	100 **200** 300 100 **125** 150 150 **250** 350	-	- 130 **150** 170 150 **200** 250	-	-	-
K10 PVTi	roughing pre finishing finishing	- - 140 **220** 300	- - 120 **150** 180	150 **175** 200 150 **175** 200 150 **200** 250	100 **450** 800 100 **450** 800 100 **450** 800	35 **43** 50 35 **43** 50 35 **43** 50	- 35 **108** 180 -
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 100 **450** 800	-	-

NEW latest items! | ⚠ available as long as stock lasts | ? on request | ✔ stock item, subject to confirmation

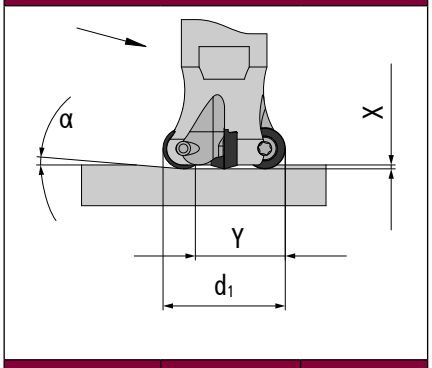
Extended operation data

Plunging



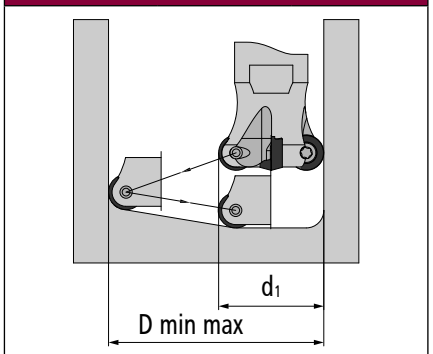
Cutter diam. d1	X_{max}
40-160	5

Ramping



Cutter diam. d1	α°	y
40	-	-
66	<10,1	28
80	<6,8	42
100	<4,6	62
125	<3,3	87
160	<2,3	122

Helix



Cutter diam. d1	D_{min}	D_{max}
40	42	80
66	94	132
80	122	160
100	162	200
125	212	250
160	282	320

major application *minor application* roughing pre-finishing finishing

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pokolm

PREMIUMTOOLS. WE KNOW HOW.

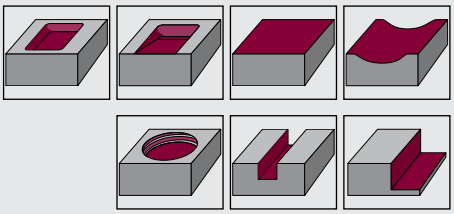
DOUBLETRIGA® FACE-/ SQUARE SHOULDER FACE- / SLOTTING- / COPPY MILLING CUTTERS

State-of-the-art universal milling systems with 2 x 3 cutting edges per insert

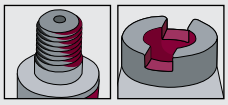
Properties

- Six cutting edges per insert for maximum efficiency
- High cutting rate while maintaining an excellent finish quality
- 3 mm / 1 mm real corner radius
- state-of-the-art insert geometry with a robust cutting edge profile
- secure positioning and fixation with anti-twist protection of the inserts
- long service life and high process reliability

Machining types



Connection types



Sizes	Page
diam. 32 - 80 mm	118

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		diameter	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	d (mm)	s (mm)	r (mm)
P25 PVSR	▼	–	▼	–	–	–	0.15 - 1.5	0.1 - 1.5	12	5	3
K10 PVTi	▼	–	▼	–	–	–	0.15 - 1.5	0.1 - 1.5	12	5	3
P25 PVGO	▼	–	▼	–	–	–	0.15 - 0.6	0.1 - 3.5	12	5	1
M40 PVST	–	▼	–	–	▼	–	0.05 - 0.5	0.1 - 1.5	12	5	3

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

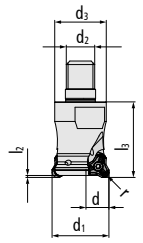
DOUBLETRIGA

Size M

- six cutting edges per insert for maximum efficiency
- high cutting rate while maintaining an excellent finish quality
- all tools feature an internal coolant supply
- high feed rates of up to f_z 1.5 mm are feasible
- secure positioning and fixation with anti-twist protection of the inserts

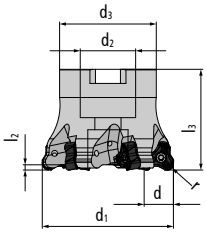
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 32 290	32	12	1 | 3	42.5	1	-	M 16	29	2	A, C, D, E, F	☑
3 35 290	35	12	1 | 3	42.5	1	-	M 16	29	3	A, C, D, E, F	☑

Shell-type milling cutter bodies

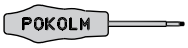


Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 42 390	42	12	1 | 3	40	1	-	diam. 16	35	4	A, B, C, D, E, F	☑
5 52 390	52	12	1 | 3	50	1	-	diam. 22	48	5	A, C, D, E, F	☑
6 66 390	66	12	1 | 3	50	1	-	diam. 27	48	6	A, C, D, E, F	☑
8 80 390	80	12	1 | 3	50	1	-	diam. 27	60	8	A, C, D, E, F	☑

Accessories

35 505 P
Torx screw
A > Page 195

GWSTPS8ISK
hexagon socket set screw
B > Page 196



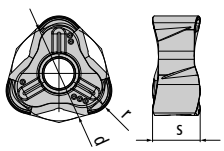
10 500 P
Torx-screwdriver (Torx-Plus)
C > Page 196

TV 1-5
Screwdriver torque Vario®-S with window scale, D > Page 197

T10 500 P
Torx interchangeable bit for Torque Vario®
E > Page 197

T10 502 P, Torx MagicSpring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
05 90 854	WNHX 125010 ER	P25	PVGO	12	5	1	M 3,5
05 90 850 R30	WNHX 125030 SR	P25	PVSR	12	5	3	M 3,5
05 90 860 R30	WNHX 125030 SR	K10	PVTi	12	5	3	M 3,5
05 90 890 R30	WNHX 125030 SR	M40	PVST	12	5	3	M 3,5

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

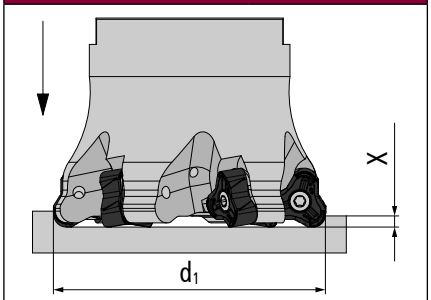
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
r=1 mm							
P25 PVGO	f_z (mm) a_p (mm)	0,07-0,5 0,1-3	0,07-0,2 0,1-1	0,07-0,6 0,1-3,5	-	0,07-0,15 0,1-1	-
r=3 mm							
P25 PVSR	f_z (mm) a_p (mm)	0,15-1,5 0,1-1,5	-	0,15-1,5 0,1-1,5	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	0,15-1,5 0,1-1,5	-	0,15-1,5 0,1-1,5	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,05-0,5 0,1-1,5	-	-	0,08-0,4 0,1-1,2	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P25 PVGO	roughing pre finishing finishing	110 **165** 220 120 **185** 250 150 **225** 300	- - 120 **175** 230	120 **145** 170 130 **150** 170 135 **193** 250	-	- - 30 **70** 110	-
P25 PVSR	roughing pre finishing finishing	100 **160** 220 100 **180** 260 150 **225** 300	-	140 **180** 220 160 **190** 220 160 **190** 220	-	-	-
K10 PVTi	roughing pre finishing finishing	130 **170** 210 150 **185** 220 140 **220** 300	-	150 **175** 200 150 **175** 200 150 **200** 250	-	-	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 120 **185** 250	-	-	30 **55** 80 40 **65** 90 60 **90** 120	-

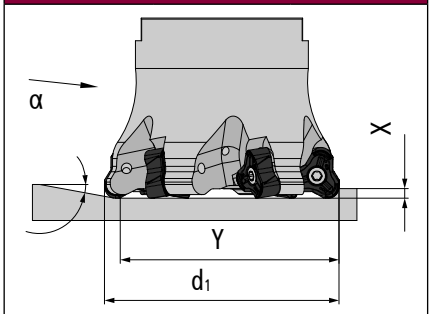
Extended operation data

Plunging



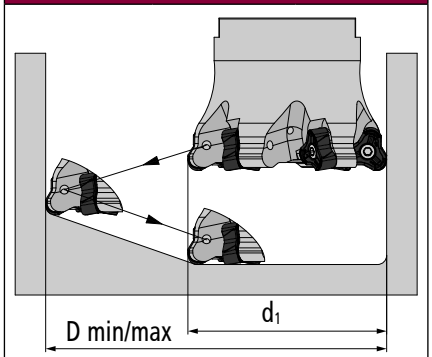
Cutter diam. d1	X_{max}
32-80	1

Ramping



Cutter diam. d1	α°	y
32	<3	17.2
35	<2,8	20.2
42	<2,1	27.2
52	<1,5	37.2
66	<1,1	51.2
80	<0,8	65.2

Helix



Cutter diam. d1	D_{min}	D_{max}
32	49.2	62
35	55.2	68
42	69.2	82
52	89.2	102
66	117.2	130
80	145.2	158

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

pokolm

PREMIUMTOOLS. WE KNOW HOW.

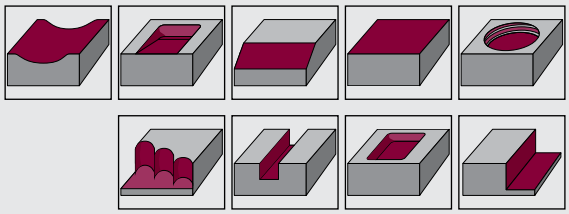
FINWORX® RHOMBIC CUTTER

Economic miracle with 4 flutes

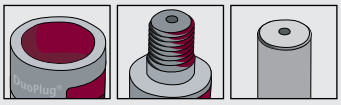
Properties

- Finishing tool for a wide range of applications
- Can be used in steel, hardened steel, cast iron and RSH
- CBN & PCD cutting materials for modern materials
- Contour and copying cutting
- Circular and ramping

Machining types



Connection types



Sizes	Page
diam. 16 - 42 mm	122

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
HSC 05 PVTi	▼	▼	▼	–	–	▼	0,05 - 0,5	0,1 - 1,0	6,5	3	1
HSC 05 PVTiH	▼	▼	▼	–	–	▼	0,05 - 1,0	0,1 - 1,0	6,5	3	1
HSC 05 PVDiaN	–	–	–	▼	–	–	0,05 - 1,0	0,1 - 1,0	6,5	3	1
CBN for steel	–	–	–	–	–	▼	0,05 - 0,2	0,1 - 0,2	6,5	3	1
PCD	–	–	–	▼	–	–	0,05 - 0,2	0,1 - 0,5	6,5	3	1

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

FINWORX®

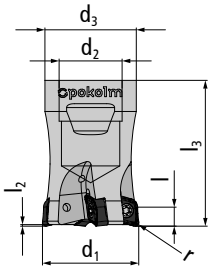
diam. 16 - 42 mm | r1

Universal milling cutters for finishing and profile milling with small radii.

- particularly smooth operating in corners and pockets
- extreme economic due to four effective cutting edges
- low energy consumption

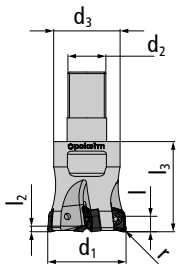
Milling cutter bodies

DuoPlug®



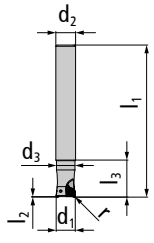
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 285 SG	16	6.5	1	31	0.7	-	M 10	15	2	A, B, C, D, E	
3 20 285 SG	20	6.5	1	32.5	1	-	M 12	18.6	3	A, B, C, D, E	
4 25 285 SG	25	6.5	1	37.5	1	-	M 16	23.5	4	A, B, C, D, E	

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 285	16	6.5	1	28.5	0.7	-	M 8	13.8	2	A, B, C, D, E	
3 20 285	20	6.5	1	28.5	1	-	M 10	18	3	A, B, C, D, E	
4 25 285	25	6.5	1	32.5	1	-	M 12	21	4	A, B, C, D, E	
4 30 285	30	6.5	1	32.5	1	-	M 16	29	4	A, B, C, D, E	
5 32 285	32	6.5	1	32.5	1	-	M 16	29	5	A, B, C, D, E	
5 35 285	35	6.5	1	42.5	1	-	M 16	29	5	A, B, C, D, E	
6 42 285	42	6.5	1	42.5	1	-	M 16	29	6	A, B, C, D, E	

Plain shank end mill bodies

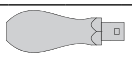


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 32 16 185 G	16	6.5	1	32	0.7	165	diam. 16	15.5	2	A, B, C, D, E	
3 40 20 185 G	20	6.5	1	40	1	165	diam. 20	19.5	3	A, B, C, D, E	

Accessories

25 505
Torx screw for ball nose inserts
A > Page 195

08 500 P
Torx-screwdriver (Tor-x-Plus)
B > Page 196

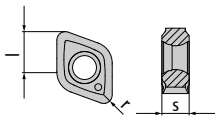


TV 1-5
Screwdriver torque Vario®-S with window scale, C > Page 197

T8 500 P
Torx interchangeable bit for Torque Vario®
D > Page 197

T8 502 P
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	03 85 835	XNHU 063010 EN	HSC 05	PVTi	6.5	3.1	1	
	03 85 836	XNHU 063010 EN	HSC 05	PVTiH	6.5	3.1	1	
	03 85 835 D	XNHU 063010 EN	HSC 05	PVDiaN	6.5	3.1	1	
	03 85 892	XNHU 063010 EN	CBN for steel	uncoated	6.5	3.1	1	
	03 85 894	XNHU 063010 EN	PCD	uncoated	6.5	3.1	1	

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	-	-	-	-	-	-
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,05-0,5 0,1-0,55	0,05-0,15 0,05-0,2	0,05-0,5 0,1-0,55	-	-	0,05-0,2 0,1-0,35
HSC 05 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,05-0,3 0,1-0,7	-	-
CBN for steel uncoated	f_z (mm) a_p (mm)	-	-	-	-	-	0,05-0,1 0,1
PCD uncoated	f_z (mm) a_p (mm)	-	-	-	0,05-0,2 0,1-0,5	-	-

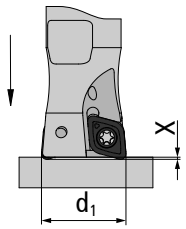
Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	-	-	-	-	-	-
HSC 05 PVTiH	roughing pre finishing finishing	- ▼150 **275** 400 ▼150 **275** 400	- - ▽100 **150** 200	- ▼150 **225** 300 ▼200 **275** 350	-	-	- ▼35 **143** 250 ▼35 **143** 250
HSC 05 PVDiaN	roughing pre finishing finishing	-	-	-	- ▼200 **500** 800 ▼200 **500** 800	-	-
CBN for steel uncoated	roughing pre finishing finishing	-	-	-	-	-	- - ▼400 **700** 1000
PCD uncoated	roughing pre finishing finishing	-	-	-	- ▼400 **600** 800 ▼400 **700** 1000	-	-

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

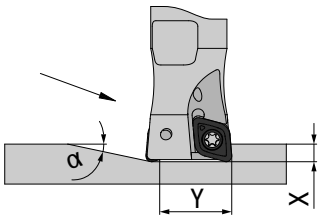
Extended operation data

Plunging



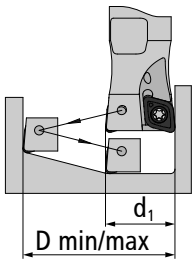
Cutter diam. d1	X_{max}
16	0.7
20-42	1

Ramping



Cutter diam. d1	α°	y
16	<2,8	14
20	<3,2	18
25	<2,5	23
30	<2	28
32	<1,9	30
35	<1,7	33
42	<1,4	40

Helix



Cutter diam. d1	D_{min}	D_{max}
16	30	32
20	38	40
25	48	50
30	58	60
32	62	64
35	68	70
42	82	84

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

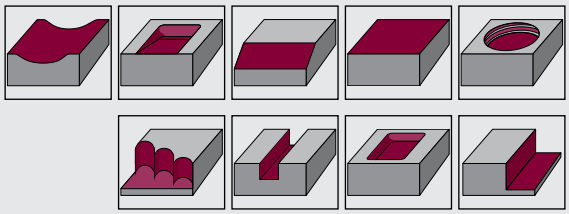
XDHW | XDHT RHOMBIC CUTTERS - SIZES 06 / 10

Universal tool for finishing and contour cutting with small radii

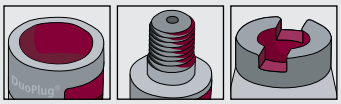
Properties

- Particularly smooth tool running in corners and pockets
- Low power consumption
- Approach angle Kappa
  Size 06: 93°, Size 10: 95°

Machining types



Connection types



Size	Page
06 - diam. 16 - 42 mm | r1	126
06 - diam. 16 - 35 mm | r2	129
10 - diam. 25 - 80 mm | r1	131

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
HSC 05 PVTi	▼	▽	▼	–	–	▼	0.1 - 0.35	0.1 - 1.0	6.5	2.38	1 / 2
							0.1 - 0.4	0.1 - 1.5	10	3.97	1
CBN for steel	–	–	–	–	–	▼	0.1	0.1	6.5	2.38	1
PKD	–	–	–	▼	–	–	0.1 - 0.35	0.1 - 0.1	6.5	2.38	1
K10 polished	–	–	–	▼	–	–	0.1 - 0.35	0.1 - 1.0	6.5	2.38	1
K10 PVTi	–	–	–	▼	–	–	0.1 - 0.35	0.1 - 1.0	6.5	2.38	1
K10 PVDiaN	–	–	–	▼	–	–	0.1 - 0.35	0.1 - 1.0	6.5	2.38	1

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

XDHW | XDHT 06

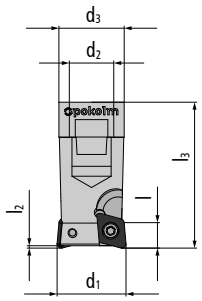
diam. 16 - 42 mm | r1

Universal milling cutters for finishing and profile milling with small radii.

- particularly smooth operating in corners and pockets
- low energy consumption

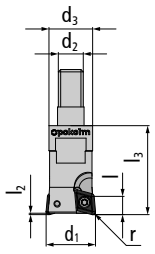
Milling cutter bodies

DuoPlug®



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
16 281 SG	16	6.5	1	31	1.3	-	M 10	15	2	A, B, C, D, E	
20 281 SG	20	6.5	1	31.5	1.3	-	M 12	18.5	3	A, B, C, D, E	
25 281 SG	25	6.5	1	37.5	1.3	-	M 16	23.5	4	A, B, C, D, E	

Threaded shank end mill bodies

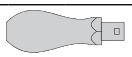


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
16 281	16	6.5	1	28.5	1.3	-	M 8	13.8	2	A, B, C, D, E	
20 281	20	6.5	1	28.5	1.3	-	M 10	18	3	A, B, C, D, E	
25 281	25	6.5	1	32.5	1.3	-	M 12	21	4	A, B, C, D, E	
30 281	30	6.5	1	32.5	1.3	-	M 12	21	5	A, B, C, D, E	
35 281	35	6.5	1	42.5	1.3	-	M 16	29	6	A, B, C, D, E	
42 281	42	6.5	1	42.5	1.3	-	M 16	29	6	A, B, C, D, E	

Accessories

25 500
Torx screw
A > Page 195

07 500
Torx-screwdriver
B > Page 196

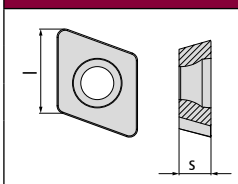
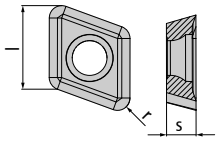


TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T7 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	02 79 835	XDHW 060210 SN	HSC 05	PVTi	6.5	2.38	1	M 2.5
	02 79 892	XDHW 060210 SN	CBN for steel	uncoated	6.5	2.38	1	M 2.5
	02 79 894	XDHW 060210 SN	PCD	uncoated	6.5	2.38	1	M 2.5
	02 79 831P	XDHT 060210 EN	K10	polished	6.5	2.38	1	M 2.5
	02 79 880	XDHT 060210 EN	K10	PVTi	6.5	2.38	1	M 2.5
	02 79 880 D	XDHW 060210 SN	K10	PVDiaN	6.5	2.38	1	M 2.5

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,55	0,1-0,2 0,1-0,25	0,1-0,3 0,1-1	-	-	0,1-0,2 0,1-0,55
CBN for steel uncoated	f_z (mm) a_p (mm)	-	-	-	-	-	0,1 0,1
PCD uncoated	f_z (mm) a_p (mm)	-	-	-	0,1-0,35 0,1-1	-	-
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,2 0,1-0,55	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	-	0,1-0,2 0,1-0,55	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,35 0,1-1	-	-

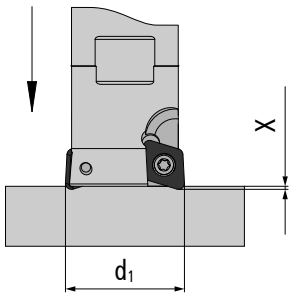
Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 150 **275** 400	- - 100 **150** 200	100 **150** 200 150 **225** 300 200 **275** 350	-	-	- 35 **143** 250 35 **143** 250
CBN for steel uncoated	roughing pre finishing finishing	-	-	-	-	-	- - 400 **700** 1000
PCD uncoated	roughing pre finishing finishing	-	-	-	- 200 **500** 800 400 **700** 1000	-	-
K10 polished	roughing pre finishing finishing	-	-	-	- 100 **450** 800 100 **450** 800	-	-
K10 PVTi	roughing pre finishing finishing	-	-	-	- 100 **450** 800 100 **450** 800	-	-
K10 PVDiaN	roughing pre finishing finishing	-	-	-	- 100 **450** 800 100 **450** 800	-	-

major application *minor application* roughing pre-finishing finishing

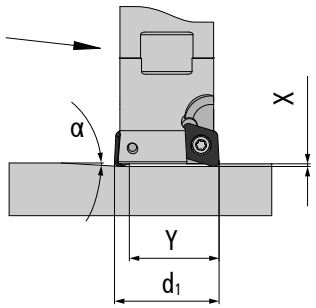
Extended operation data

Plunging



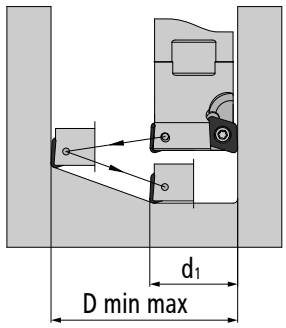
Cutter diam. d1	X_{max}
16-42	1.2

Ramping



Cutter diam. d1	α°	y
16	<16,7	4
20	<8,5	8
25	<5,3	13
30	<3,8	18
35	<3,8	23
42	<2,3	30

Helix



Cutter diam. d1	D_{min}	D_{max}
16	28	32
20	36	40
25	46	50
30	56	60
35	66	70
42	80	84

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

XDHW | XDHT 06

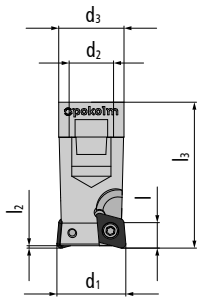
diam. 16 - 35 mm | r2

Universal milling cutters for finishing and profile milling with small radii.

- particularly smooth operating in corners and pockets
- low energy consumption

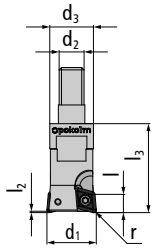
Milling cutter bodies

DuoPlug®



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
16 282 SG	16	6.5	2	31	1.3	-	M 10	15	2	A, B, C, D, E	
20 282 SG	20	6.5	2	31.5	1.3	-	M 12	18.5	3	A, B, C, D, E	
25 282 SG	25	6.5	2	37.5	1.3	-	M 16	23.5	4	A, B, C, D, E	

Threaded shank end mill bodies

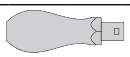


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
16 282	16	6.5	2	28.5	1.3	-	M 8	13.8	2	A, B, C, D, E	
20 282	20	6.5	2	28.5	1.3	-	M 10	18	3	A, B, C, D, E	
25 282	25	6.5	2	32.5	1.3	-	M 12	21	4	A, B, C, D, E	
30 282	30	6.5	2	32.5	1.3	-	M 12	21	5	A, B, C, D, E	
35 282	35	6.5	2	42.5	1.3	-	M 16	29	6	A, B, C, D, E	

Accessories

25 500
Torx screw
A > Page 195

07 500
Torx-screwdriver
B > Page 196

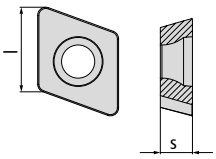


TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T7 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
02 79 835 R2	XDHW 060220 SN	HSC 05	PVTi	6.5	2.38	2	M 2.5

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

Feed per tooth (fz) | d.o.c. (ap)

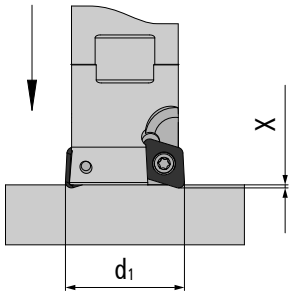
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,2 0,1-0,55	0,1-0,2 0,1-0,25	0,1-0,3 0,1-1	-	-	0,1-0,2 0,1-0,55

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 150 **275** 400	- - 100 **150** 200	100 **150** 200 150 **225** 300 200 **275** 350	-	-	- 35 **143** 250 35 **143** 250

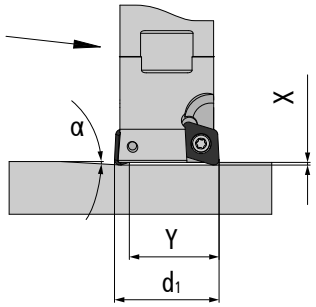
Extended operation data

Plunging



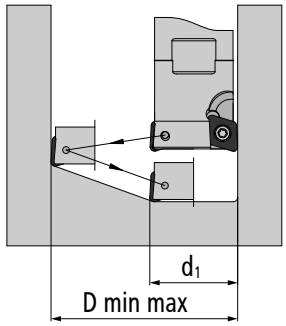
Cutter diam. d1	X_{max}
16-35	1.2

Ramping



Cutter diam. d1	α°	y
16	<16,7	4
20	<8,5	8
25	<5,3	13
30	<3,8	18
35	<3,8	23

Helix



Cutter diam. d1	D_{min}	D_{max}
16	28	32
20	36	40
25	46	50
30	56	60
35	66	70

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

XDHW 10

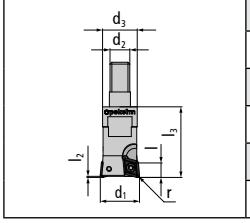
diam. 25 - 80 mm | r1

Universal milling cutters for finishing and profile milling with small radii.

- particularly smooth operating in corners and pockets
- low energy consumption

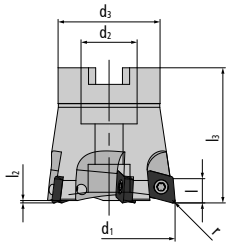
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 25 291	25	10	1	32	-	-	M 12	21	2	A, B, C, D, E	
3 30 291	30	10	1	32	-	-	M 12	21	3	A, B, C, D, E	
3 35 291	35	10	1	42	-	-	M 16	29	3	A, B, C, D, E	
4 42 291	42	10	1	42	-	-	M 16	29	4	A, B, C, D, E	

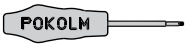
Shell type milling cutter bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
5 52 391	52	10	1	53	-	-	diam. 22	40	5	A, B, C, D, E	
6 66 391	66	10	1	52	-	-	diam. 27	52	6	A, B, C, D, E	
7 80 391	80	10	1	52	-	-	diam. 27	52	7	A, B, C, D, E	

Accessories

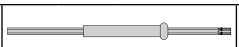
35 500
Torx screw
A > Page 195



15 500
Torx-screwdriver
B > Page 196

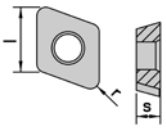
TV 2-8
Screwdriver torque Vario®-S with window scale, C > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
D > Page 197



T15 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
04 79 835	XDHW 10T310 MOT	HSC 05	PVTi	10	3.97	1	M 3.5

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

Feed per tooth (fz) | d.o.c. (ap)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
HSC 05 PVTi	f_z (mm) a_p (mm)	0,1-0,4 0,1-1,5	0,1-0,4 0,1-1,5	0,1-0,4 0,1-1,5	-	-	0,1-0,4 0,1-1,5

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 150 **275** 400	- - 100 **150** 200	100 **150** 200 150 **225** 300 200 **275** 350	-	-	- 35 **143** 250 35 **143** 250

NEW latest items! | ⚠ available as long as stock lasts | ? on request | ✔ stock item, subject to confirmation

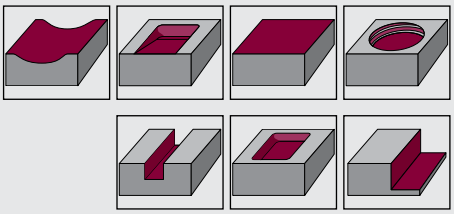
VDGT - CUTTER FOR MACHINING NON-FERROUS METALS

Roughing and pre finishing specialist on vertical walls

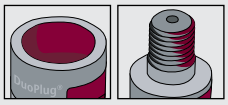
Properties

- Ideal for machining aluminium, copper, plastic and graphite
- Particularly soft cut
- High cutting speeds
- High feed rates
- Especially for machining situations on vertical walls
- Axial clearance 3°, kappa 93°
- Radius r 1 mm

Machining types



Connection types



Sizes

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
K10 polished	–	–	–	▼	–	–	0.05 - 0.3	0.1 - 2.5	9.0	2.78	1
K10 PVTi	–	–	–	▼	–	–	0.05 - 0.3	0.1 - 2.5	9.0	2.78	1
K10 PVDiaN	–	–	–	▼	–	–	0.05 - 0.3	0.1 - 2.5	9.0	2.78	1

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

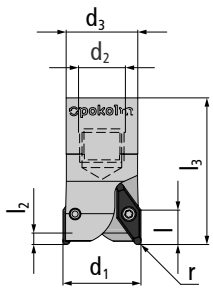
VDGT - K90°

diam. 15 - 42 mm | r1

These milling cutters are especially suitable for milling aluminium, copper, plastics and graphite. It allows very easy cutting and very high cutting speeds and feed rates.
Only for roughing and pre-finishing operations!

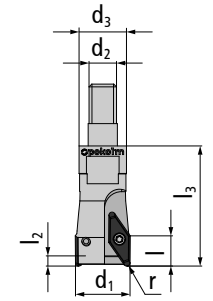
Milling cutter bodies

DuoPlug®



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
16 261 SG	16	9	1	38	4	-	M 10	15	2	A, B, C, D, E	☑
20 261 SG	20	9	1	39.5	4	-	M 12	18.5	2	A, B, C, D, E	☑
25 261 SG	25	9	1	42.5	4	-	M 16	23.5	3	A, B, C, D, E	☑

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
15 261	15	9	1	35.5	4	-	M 8	13.8	2	A, B, C, D, E	☑
16 261	16	9	1	35	4	-	M 8	13.8	2	A, B, C, D, E	☑
20 261	20	9	1	35.5	4	-	M 10	18	2	A, B, C, D, E	☑
25 261	25	9	1	40	4	-	M 12	21	3	A, B, C, D, E	☑
32 261	32	9	1	47.5	4	-	M 16	29	4	A, B, C, D, E	☑
42 261	42	9	1	42.5	4	-	M 16	29	5	A, B, C, D, E	?

Accessories

25 500
Torx screw
A > Page 195

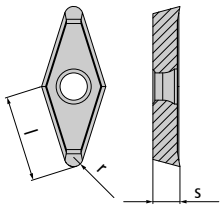
07 500
Torx-screwdriver
B > Page 196

TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T7 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
02 11 820	VDGT 11T210 FN	K10	polished	9	2.78	1	M 2.5
02 11 860	VDGT 11T210 FN	K10	PVTi	9	2.78	1	M 2.5
02 11 860 D	VDGT 11T210 FN	K10	PVDiaN	9	2.78	1	M 2.5

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

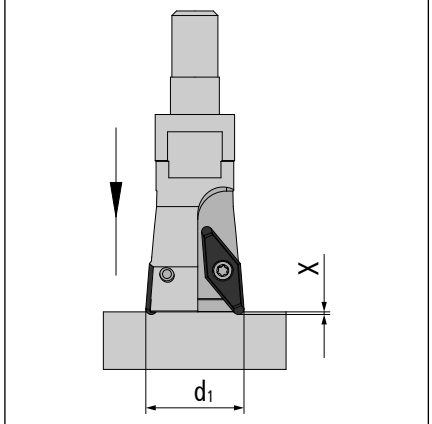
Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,05-0,3 0,1-2,5	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	-	0,05-0,3 0,1-2,5	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,05-0,3 0,1-2,5	-	-

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-
K10 PVTi	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-
K10 PVDiaN	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-

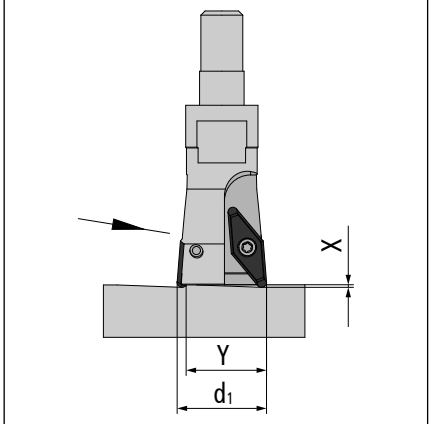
Extended operation data

Plunging



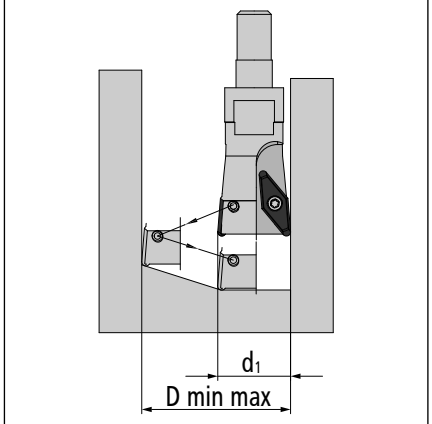
Cutter diam. d1	X_{max}
15-42	4

Ramping



Cutter diam. d1	α°	y
15	<63,4	2
16	<45	4
20	<26,6	8
25	<17,1	13
32	<11,3	20
42	<7,6	30

Helix



Cutter diam. d1	D_{min}	D_{max}
15	26	30
16	28	32
20	36	40
25	46	50
32	60	64
42	80	84

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

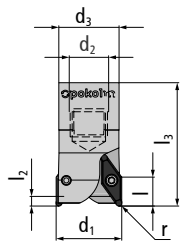
VDGT - K93°

diam. 15 - 42 mm | r1

These milling cutters are especially suitable for milling aluminium, copper, plastics and graphite. It allows very easy cutting and very high cutting speeds and feed rates.
These inserts have a 3° clearance (kappa 93°) - a design specially for milling vertical walls.
Only for roughing and pre-finishing operations!

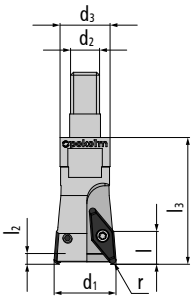
Milling cutter bodies

DuoPlug®



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
16 261-3 SG	16	9	1	38	4	-	M 10	15	2	A, B, C, D, E	☑
20 261-3 SG	20	9	1	39.5	4	-	M 12	18.5	2	A, B, C, D, E	☑
25 261-3 SG	25	9	1	42.5	4	-	M 16	23.5	3	A, B, C, D, E	☑

Threaded shank end mill bodies

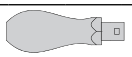


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
15 261-3	15	9	1	35	4	-	M 8	13.8	2	A, B, C, D, E	☑
16 261-3	16	9	1	35.5	4	-	M 8	13.8	2	A, B, C, D, E	☑
20 261-3	20	9	1	35.5	4	-	M 10	18	2	A, B, C, D, E	☑
25 261-3	25	9	1	40	4	-	M 12	21	3	A, B, C, D, E	☑
32 261-3	32	9	1	47.5	4	-	M 16	29	4	A, B, C, D, E	☑
42 261-3	42	9	1	42.5	4	-	M 16	29	5	A, B, C, D, E	?

Accessories

25 500
Torx screw
A > Page 195

07 500
Torx-screwdriver
B > Page 196

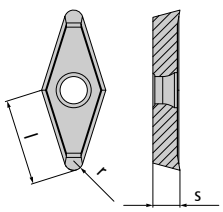


TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T7 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
02 11 820	VDGT 11T210 FN	K10	polished	9	2.78	1	M 2.5
02 11 860	VDGT 11T210 FN	K10	PVTi	9	2.78	1	M 2.5
02 11 860 D	VDGT 11T210 FN	K10	PVDiaN	9	2.78	1	M 2.5

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

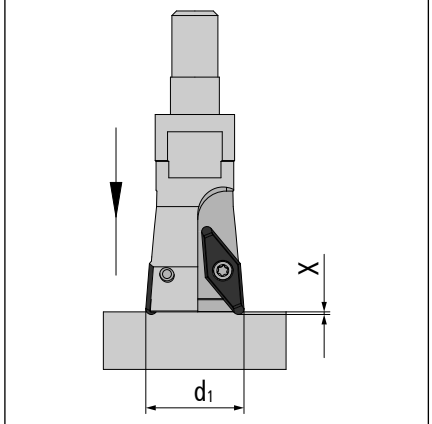
Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,05-0,3 0,1-2,5	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	-	0,05-0,3 0,1-2,5	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,05-0,3 0,1-2,5	-	-

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-
K10 PVTi	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-
K10 PVDiaN	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-

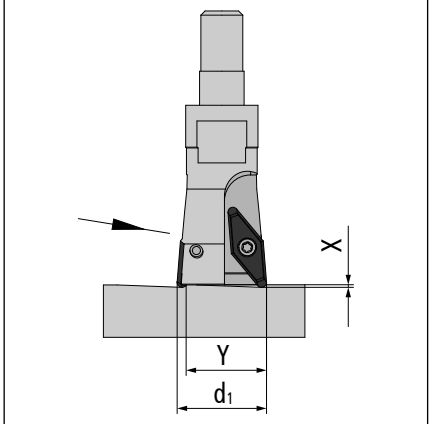
Extended operation data

Plunging



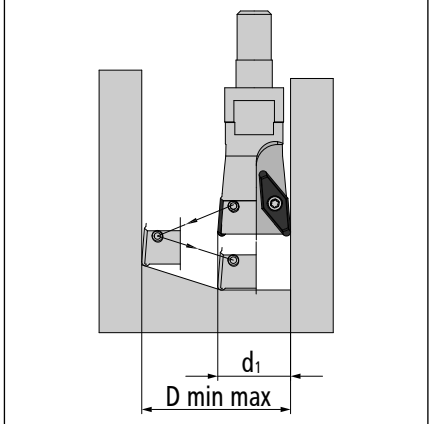
Cutter diam. d1	X_{max}
15-42	4

Ramping



Cutter diam. d1	α°	y
15	<63,4	2
16	<45	4
20	<26,6	8
25	<17,1	13
32	<11,3	20
42	<7,6	30

Helix



Cutter diam. d1	D_{min}	D_{max}
15	26	30
16	28	32
20	36	40
25	46	50
32	60	64
42	80	84

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

pokolm

PREMIUMTOOLS. WE KNOW HOW.

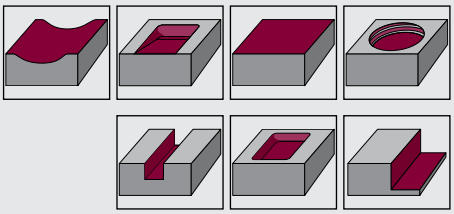
VCGT - CUTTER FOR MACHINING NON-FERROUS METALS

Roughing and pre-finishing specialist for high cutting speeds

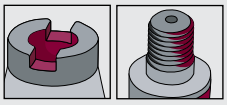
Properties

- Kappa k90° / k92° for reliable machining of cavities without draft
- Ideal for machining aluminium, copper, plastic and graphite
- Particularly soft cut
- High cutting speeds
- High feed rates
- Radius r 3 mm

Machining types



Connection types



Size		Page
k90°	Ø 32 - 80 mm	140
k92°	Ø 32 - 125 mm	142

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
K10 polisched	–	–	–	▼	–	–	0,1 - 0,6	0,1 - 7,0	16	5,56	3
K10 PVTi	–	–	–	▼	–	–	0,1 - 0,6	0,1 - 7,0	16	5,56	3
K10 PVDiaN	–	–	–	▼	–	–	0,1 - 0,6	0,1 - 7,0	16	5,56	3

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

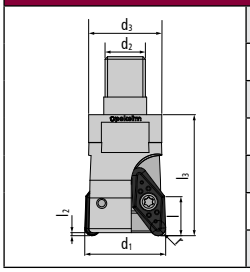
VCGT - K90°

diam. 32 - 80 mm | r3

These milling cutters are especially suitable for milling aluminium, copper, plastics and graphite. It allows very easy cutting and very high cutting speeds and feed rates.
Only for roughing and pre-finishing operations!

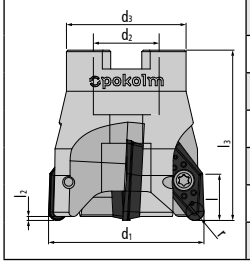
Milling cutter bodies

Threaded shank end mill bodies



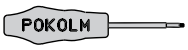
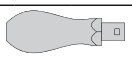
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
32 260-90	32	16	3	48	9.5	-	M 16	29	2	A, C, D, E, F	☑
42 260-90	42	16	3	48	9.5	-	M 16	29	3	A, C, D, E, F	☑

Shell type milling cutter bodies

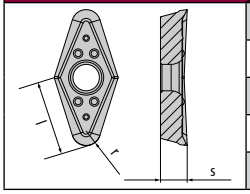


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
42 360-90	42	16	3	57	9.5	-	diam. 16	35	3	A, B, C, D, E, F	☑
52 360-90	52	16	3	57	9.5	-	diam. 22	40	3	A, C, D, E, F	☑
66 360-90	66	16	3	57	9.5	-	diam. 27	48	4	A, C, D, E, F	☑
80 360-90	80	16	3	57	9.5	-	diam. 27	60	5	A, C, D, E, F	☑

Accessories

					
45 500 Torx screw A > Page 195	GWSTPS8ISK hexagon socket set screw B > Page 196	20 500 Torx-screwdriver C > Page 196	TV 2-8 Screwdriver torque Vario®-S with window scale, D > Page 197	T20 500 Torx interchangeable bit for Torque Vario® E > Page 197	T20 502, Torx Magic-Spring compatible bit f. Torque Vario® F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
05 22 820	VCGT 220530 FN	K10	polished	16	5.56	3	M 4.5
05 22 860	VCGT 220530 FN	K10	PVTi	16	5.56	3	M 4.5
05 22 860 D	VCGT 220530 FN	K10	PVDiaN	16	5.56	3	M 4.5

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

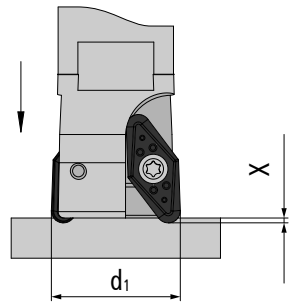
Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,6 0,1-7	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	-	0,1-0,6 0,1-7	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,6 0,1-7	-	-

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-
K10 PVTi	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-
K10 PVDiaN	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-

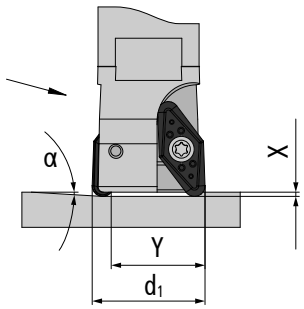
Extended operation data

Plunging



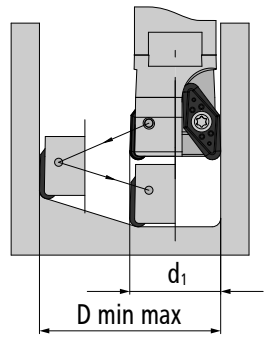
Cutter diam. d1	X_{max}
32-80	9

Ramping



Cutter diam. d1	α°	y
32	<42	10
42	<24,2	20
52	<16,7	30
66	<11,6	44
80	<8,8	58

Helix



Cutter diam. d1	D_{min}	D_{max}
32	42	64
42	62	84
52	82	104
66	110	132
80	138	160

major application *minor application* roughing pre-finishing finishing

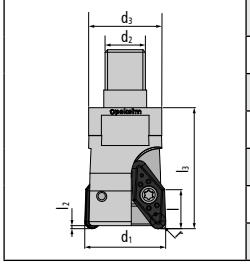
VCGT - K92°

diam. 32 - 125 mm | r3

These milling cutters are especially suitable for milling aluminium, copper, plastics and graphite. It allows very easy cutting and very high cutting speeds and feed rates.
Only for roughing and pre-finishing operations!

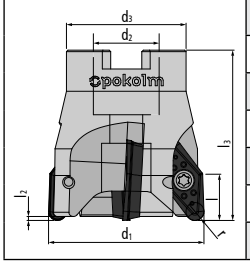
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
32 260	32	16	3	48	9.5	-	M 16	29	2	A, C, D, E, F	☑
42 260	42	16	3	48	9.5	-	M 16	29	3	A, C, D, E, F	☑

Shell type milling cutter bodies

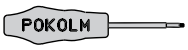


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
42 360	42	16	3	57	9.5	-	diam. 16	35	3	A, B, C, D, E, F	☑
52 360	52	16	3	57	9.5	-	diam. 22	40	3	A, C, D, E, F	☑
66 360	66	16	3	57	9.5	-	diam. 27	48	4	A, C, D, E, F	☑
80 360	80	16	3	57	9.5	-	diam. 27	60	5	A, C, D, E, F	☑
100 360	100	16	3	57	9.5	-	diam. 32	70	6	A, C, D, E, F	☑
125 360	125	16	3	57	9.5	-	diam. 40	90	7	A, C, D, E, F	☑

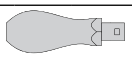
Accessories

45 500
Torx screw
A > Page 195

GWSTPS8ISK
hexagon socket set screw
B > Page 196



20 500
Torx-screwdriver
C > Page 196

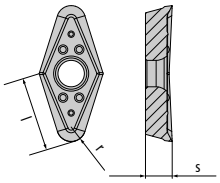


TV 2-8
Screwdriver torque Vario®-S with window scale, D > Page 197

T20 500
Torx interchangeable bit for Torque Vario®
E > Page 197

T20 502, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
05 22 820	VCGT 220530 FN	K10	polished	16	5.56	3	M 4.5
05 22 860	VCGT 220530 FN	K10	PVTi	16	5.56	3	M 4.5
05 22 860 D	VCGT 220530 FN	K10	PVDiaN	16	5.56	3	M 4.5

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

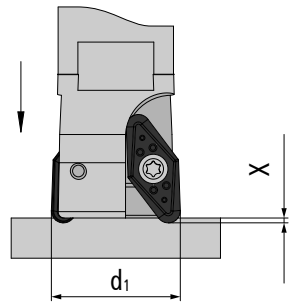
Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth | d.o.c.						
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,1-0,6 0,1-7	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	-	0,1-0,6 0,1-7	-	-
K10 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,1-0,6 0,1-7	-	-

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-
K10 PVTi	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-
K10 PVDiaN	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 -	-	-

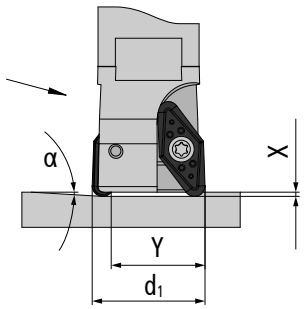
Extended operation data

Plunging



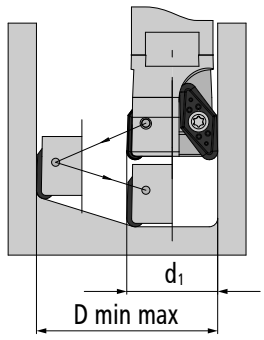
Cutter diam. d1	X_{max}
32-125	9

Ramping



Cutter diam. d1	α°	y
32	<42	10
42	<24,2	20
52	<16,7	30
66	<11,6	44
80	<8,8	58
100	<6,6	78
125	<5,3	103

Helix



Cutter diam. d1	D_{min}	D_{max}
32	42	64
42	62	84
52	82	104
66	110	132
80	138	160
100	178	200
125	228	250

major application *minor application* roughing pre-finishing finishing

pokolm

PREMIUMTOOLS. WE KNOW HOW.

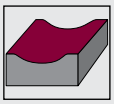
UNIWORX® - BALL NOSE / BULL NOSE END MILL CUTTER BODIES

Universal cutters with maximum variations for precision machining

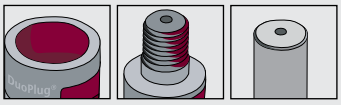
Properties

- For ball nose and toroidal inserts
- V-shaped insert seat for keyed and interference fit jointing of toolholder, insert and fitting screw
- Easy positioning of the inserts
- Indexing insert ground finish produced in helical flutes ensures easy cutting performance and top surface qualities
- Different coatings and cutting materials, especially matched to precision machining

Machining types



Connection types



Sizes	Page
diam. 8 mm - 20 mm	146

Cutting materials

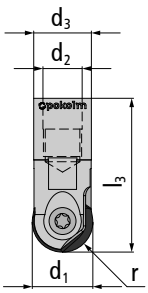
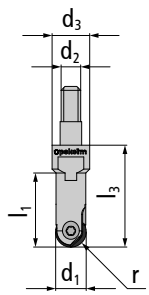
Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	d (mm)	s (mm)	r (mm)
HSC 05 | PVTi / PVTiH	▼	▽	▼	▽	-	▼	0,08 - 0,16	0,1 - 0,3	8	2,0	3 | 4
							0,1 - 0,2	0,1 - 0,3	10	2,75	4 | 5
							0,12 - 0,24	0,1 - 0,3	12	3,3	5 | 6
							0,16 - 0,32	0,1 - 0,5	16	4,0	7 | 8
							0,2 - 0,4	0,1 - 0,5	20	5,0	8 |10
CBN C	-	-	▼	-	-	-	0,1 - 0,2	0,1 - 0,2	8	2,0	3 | -
							0,1 - 0,2	0,1 - 0,2	10	2,75	4 | -
							0,1 - 0,2	0,1 - 0,2	12	3,3	5 | -
							0,1 - 0,2	0,1 - 0,2	16	4,0	7 | -
							0,1 - 0,2	0,1 - 0,2	20	5,0	8 | -

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

UNIWORX®

Ø 8 mm - Ø 20 mm

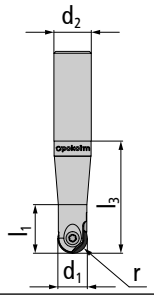
Our ball nose and bull end combi end mills provide maximum precision because of both the V-shaped insert seat and because the insert was ground in only one setup. The helix-shaped rake angle allows very easy cutting and extremely smooth operation.
Only for finishing and pre-finishing operations.

Milling cutter bodies	Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
DuoPlug®												
	10 214 SG	10	10	4|5	30.5	-	-	M 5	9.6	2	B, F, I, M, Q	
	12 214 SG	12	12	5|6	33.5	-	-	M 7	10.8	2	C, G, J, N, R	
	16 214 SG	16	16	7|8	40	-	-	M 10	15	2	D, H, J, O, S	
	20 214 SG	20	20	8|10	42.5	-	-	M 12	18.5	2	D, H, J, O, S	
Threaded shank end mill bodies												
	08 214 M6	8	8	3|4	26	-	18.9	M 6	9.6	2	A, E, K, L, P	
	08 214	8	8	3|4	26	-	18.9	M 5	9.6	2	A, E, K, L, P	
	10 214 M6	10	10	4|5	24.5	-	-	M 6	9.75	2	B, F, I, M, Q	
	12 214 M6	12	12	5|6	28.5	-	-	M 6	11.5	2	C, G, J, N, R	
	16 214	16	16	7|8	36.5	-	-	M 8	13.8	2	D, H, J, O, S	
	20 214	20	20	8|10	37	-	-	M 10	18	2	D, H, J, O, S	

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Milling cutter bodies

Plain shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
50 08 114	8	8	3|4	50	-	20	diam. 12	-	2	A, E, K, L, P	
30 10 114	10	10	4|5	30	-	20	diam. 12	-	2	B, F, I, M, Q	
50 12 114	12	12	5|6	50	-	50	diam. 12	-	2	C, G, J, N, R	
60 16 114	16	16	7|8	60	-	26	diam. 20	-	2	D, H, J, O, S	
80 20 114	20	20	8|10	80	-	80	diam. 20	-	2	D, H, J, O, S	

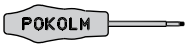
Accessories

30 522
locating screw
A > Page 195

35 520
locating screw
B > Page 195

40 520
locating screw
C > Page 195

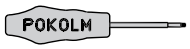
50 520
locating screw
D > Page 195



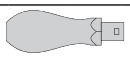
08 500
Torx-screwdriver
E > Page 196

10 500
Torx-screwdriver
F > Page 196

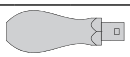
15 500
Torx-screwdriver
G > Page 196



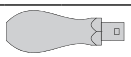
20 500
Torx-screwdriver
H > Page 196



TV 1-5
Screwdriver torque Vario®-S with window scale, I > Page 197



TV 2-8
Screwdriver torque Vario®-S with window scale, J > Page 197



TV 08-2
Screwdriver torque Vario®-S with window scale
K > Page 197

T8 500
Torx interchangeable bit for Torque Vario®
L > Page 197

T10 500
Torx interchangeable bit for Torque Vario®
M > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
N > Page 197

T20 500
Torx interchangeable bit for Torque Vario®
O > Page 197

T8 502
Torx MagicSpring compatible bit f. Torque Vario®, P > Page 198

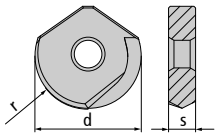
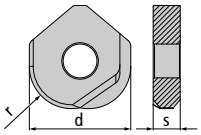
T10 502
Torx MagicSpring compatible bit f. Torque Vario®
Q > Page 198

T15 502, Torx Magic-Spring compatible bit f. Torque Vario®
R > Page 198

T20 502
Torx MagicSpring compatible bit f. Torque Vario®
S > Page 198

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	08 835 V	ROHX 08T1	HSC 05	PVTi	8	2	4	M 3.0
	08 836 V	ROHX 08T1	HSC 05	PVTiH	8	2	4	M 3.0
	10 835 V	ROHX 10T2	HSC 05	PVTi	10	2.75	5	M 3.5
	10 836 V	ROHX 10T2	HSC 05	PVTiH	10	2.75	5	M 3.5
	12 835 V	ROHX 1233	HSC 05	PVTi	12	3.3	6	M 4.0
	12 836 V	ROHX 1233	HSC 05	PVTiH	12	3.3	6	M 4.0
	16 835 V	ROHX 16T3	HSC 05	PVTi	16	4	8	M 5.0
	16 836 V	ROHX 16T3	HSC 05	PVTiH	16	4	8	M 5.0
	20 835 V	ROHX 2050	HSC 05	PVTi	20	5	10	M 5.0
	20 836 V	ROHX 2050	HSC 05	PVTiH	20	5	10	M 5.0
	08 093 V R3	ROHX 08T1	CBN for cast iron	uncoated	8	2	3	M 3.0
	08 835 V R3	ROHX 08T1	HSC 05	PVTi	8	2	3	M 3.0
	08 836 V R3	ROHX 08T1	HSC 05	PVTiH	8	2	3	M 3.0
	10 093 V R4	ROHX 10T2	CBN for cast iron	uncoated	10	2.75	4	M 3.5
	10 835 V R4	ROHX 10T2	HSC 05	PVTi	10	2.75	4	M 3.5
	10 836 V R4	ROHX 10T2	HSC 05	PVTiH	10	2.75	4	M 3.5
	12 093 V R5	ROHX 1233	CBN for cast iron	uncoated	12	3.3	5	M 4.0
	12 835 V R5	ROHX 1233	HSC 05	PVTi	12	3.3	5	M 4.0
	12 836 V R5	ROHX 1233	HSC 05	PVTiH	12	3.3	5	M 4.0
	16 093 V R7	ROHX 16T3	CBN for cast iron	uncoated	16	4	7	M 5.0
	16 835 V R7	ROHX 16T3	HSC 05	PVTi	16	4	7	M 5.0
	16 836 V R7	ROHX 16T3	HSC 05	PVTiH	16	4	7	M 5.0
	20 836 V R8	ROHX 2050	HSC 05	PVTiH	20	5	8	M 5.0
	20 093 V R8	ROHX 2050	CBN for cast iron	uncoated	20	5	8	M 5.0

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

Material / Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
d=8 mm							
HSC 05 PVTi	f_z (mm) a_p (mm)	0,08-0,12 0,1-0,2	0,04-0,08 0,05-0,1	0,08-0,12 0,1-0,2	0,08-0,12 0,1-0,2	-	0,08 0,1
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,08-0,12 0,1-0,2	0,04-0,08 0,05-0,1	0,08-0,12 0,1-0,2	0,08-0,12 0,1-0,2	-	0,08 0,1
CBN for cast iron uncoated	f_z (mm) a_p (mm)	-	-	0,1-0,2 0,1-0,2	-	-	-
d=10 mm							
HSC 05 PVTi	f_z (mm) a_p (mm)	0,08-0,12 0,1-0,2	0,05-0,08 0,05-0,1	0,08-0,12 0,1-0,2	0,08-0,12 0,1-0,2	-	0,08 0,1
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,08-0,12 0,1-0,2	0,05-0,1 0,05-0,1	0,08-0,12 0,1-0,2	0,08-0,12 0,1-0,2	-	0,08 0,1
CBN for cast iron uncoated	f_z (mm) a_p (mm)	-	-	0,1-0,2 0,1-0,2	-	-	-
d=12 mm							
HSC 05 PVTi	f_z (mm) a_p (mm)	0,12-0,18 0,1-0,2	0,06-0,12 0,05-0,15	0,12-0,18 0,1-0,2	0,12-0,18 0,1-0,2	-	0,12 0,1
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,12-0,18 0,1-0,2	0,06-0,12 0,05-0,15	0,12-0,18 0,1-0,2	0,12-0,18 0,1-0,2	-	0,12 0,1
CBN for cast iron uncoated	f_z (mm) a_p (mm)	-	-	0,1-0,2 0,1-0,2	-	-	-
d=16 mm							
HSC 05 PVTi	f_z (mm) a_p (mm)	0,16-0,24 0,1-0,3	0,08-0,16 0,05-0,2	0,16-0,24 0,1-0,3	0,16-0,24 0,1-0,3	-	0,16 0,1
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,16-0,24 0,1-0,3	0,08-0,16 0,05-0,2	0,16-0,24 0,1-0,3	0,16-0,24 0,1-0,3	-	0,16 0,1
CBN for cast iron uncoated	f_z (mm) a_p (mm)	-	-	0,1-0,2 0,1-0,2	-	-	-
d=20 mm							
HSC 05 PVTi	f_z (mm) a_p (mm)	0,08-0,3 0,1-0,2	0,08-0,2 0,05-0,2	0,08-0,12 0,1-0,2	0,08-0,12 0,1-0,2	-	0,08 0,1
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,08-0,3 0,1-0,2	0,08-0,2 0,05-0,2	0,08-0,12 0,1-0,2	0,08-0,12 0,1-0,2	-	0,08 0,1
CBN for cast iron uncoated	f_z (mm) a_p (mm)	-	-	0,1-0,2 0,1-0,2	-	-	-

Cutting speed (Vc in m/min)

Material / Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 150 **275** 400	- - 100 **150** 200	- 150 **225** 300 200 **275** 350	- 200 **500** 800 100 **450** 800	-	- - 35 **143** 250
HSC 05 PVTiH	roughing pre finishing finishing	- 150 **275** 400 150 **275** 400	- - 100 **150** 200	- 150 **225** 300 200 **275** 350	- 200 **500** 800 200 **500** 800	-	- - 35 **143** 250
CBN for cast iron uncoated	roughing pre finishing finishing	-	-	- 500 **750** 1000 500 **750** 1000	-	-	-

major application *minor application* roughing pre-finishing finishing

pokolm
PREMIUMTOOLS. WE KNOW HOW.

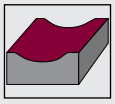
WAVEWORX® - BALL NOSE END MILL BODIES

Specialists for roughing steel

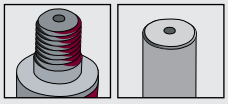
Properties

- Roughing, residual material removal and rough finishing in steel
- For large working depths and low speeds
- With two effective cutting edges for double economic efficiency
- Soft roughing cut
- Axial plunging

Machining types



Connection types



Sizes	Page
diam. 16 mm - 32 mm	152

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r (mm)
P25 | PVML	▼	-	-	-	-	-	0,1 - 0,6	0,6 - 3,0	15,6	3,18	8
							0,1 - 0,6	0,5 - 4,0	19,6	4,4	10
							0,2 - 0,8	0,5 - 4,0	24,5	5,0	12,5
							0,2 - 0,8	0,5 - 4,0	30,7	6,3	16

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

WAVEWORX®

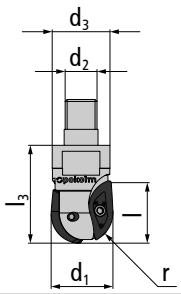
diam. 16 mm - 32 mm

This generation of ball nose end mills was developed especially for roughing of steel:

- for roughing, removing residual material and pre-finishing of steel
- for deep cavities and low spindle revolutions
- two effective cutting edges double its efficiency

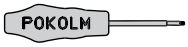
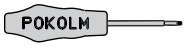
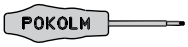
Milling cutter bodies

Threaded shank end mill bodies

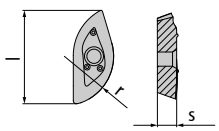


Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
16 275	16	15.6	8	24.7	-	-	M 8	13.8	2	B, E, J, K, N	☑
20 275	20	19.6	10	28.8	-	-	M 10	18	2	C, F, H, L, O	☑
25 275	25	24.5	12.5	36.5	-	-	M 12	21	2	A, G, I, M, P	☑
32 275	32	30.7	16	49.2	-	-	M 16	29	2	D, G, I, M, P	☑

Accessories

 40 505 K Torx screw A > Page 195	 25 505 Torx screw for ball nose inserts B > Page 195	 30 505 Torx screw for ball nose inserts C > Page 195	 40 505 Torx screw D > Page 195	 08 500 Torx-screwdriver E > Page 196	 09 500 Torx-screwdriver F > Page 196
 15 500 Torx-screwdriver G > Page 196	 TV 1-5 Screwdriver torque Vario®-S with window scale, H > Page 197	 TV 2-8 Screwdriver torque Vario®-S with window scale, I > Page 197	 TV 08-2 Screwdriver torque Vario®-S with window scalel J > Page 197	T8 500 Torx interchangeable bit for Torque Vario® K > Page 197	T9 500 Torx interchangeable bit for Torque Vario® L > Page 197
T15 500 Torx interchangeable bit for Torque Vario® M > Page 197	T8 502 Torx MagicSpring compatible bit f. Torque Vario®l N > Page 198	T9 502 Torx MagicSpring compatible bit f. Torque Vario® O > Page 198	T15 502 Torx MagicSpring compatible bit f. Torque Vario®l P > Page 198		

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
03 16 850		P25	PVML	15.6	3.18	8	M 2.5
04 20 850		P25	PVML	19.6	4.4	10	M 3.0
05 25 850		P25	PVML	24.5	5	12.5	M 4.0
06 32 850		P25	PVML	30.7	6.3	16	M 4.0

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
r=8 mm							
P25 PVML	f_z (mm) a_p (mm)	0,1-0,6 0,5-3	-	-	-	-	-
r=10 mm							
P25 PVML	f_z (mm) a_p (mm)	0,1-0,6 0,5-4	-	-	-	-	-
r=12,5 mm							
P25 PVML	f_z (mm) a_p (mm)	0,2-0,8 0,5-4	-	-	-	-	-
r=16 mm							
P25 PVML	f_z (mm) a_p (mm)	0,2-0,8 0,5-5	-	-	-	-	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P25 PVML	roughing pre finishing finishing	100 **200** 300 100 **200** 300 -	-	-	-	-	-

major application *minor application* roughing pre-finishing finishing

pokolm
PREMIUMTOOLS. WE KNOW HOW.

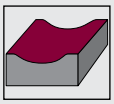
CUTTERS FOR INSERTS WITH 4 CUTTING EDGES

For finishing and rough finishing operations on HSC 5 axis machines

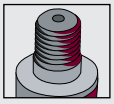
Properties

- Double economic efficiency due to reversible inserts
- Thanks to special insert geometry ideally suitable for finishing and rough finishing operations on modern HSC 5 axis machines
- Optimum utilisation at approach angle of spindle

Machining types



Connection types



Sizes

	Page
diam. 10 mm - 20 mm	156

Cutting materials

Carbide grade Coating	ISO standard						feed per tooth | d.o.c.		diam.	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	d (mm)	s (mm)	r (mm)
K 05 | PVTi	▼	▽	▽	▼	▼	▼	0.1	0.1	10	2.5	5
							0.12	0.1	12	3.0	6
							0.16	0.1	16	4.0	8
							0.2	0.1	20	5.0	10

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

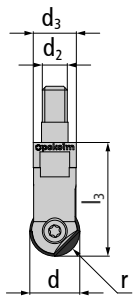
CUTTERS FOR INSERTS WITH 4 CUTTING EDGES

diam. 10 mm - 20 mm

The special insert geometry of these tools makes it ideally suited for finishing and pre-finishing operations on modern high-speed milling machines with 5 axes.
The advantage of the insert with 4 cutting edges is: it is reversible, thus it doubles its productivity.
Optimum cutting conditions can only be achieved with an approach angle of spindle.

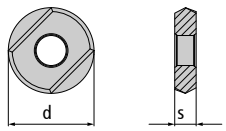
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
10 210 M6	10	10	5	28.5	-	-	M 6	9.75	2	A, B, C, D, E	☑
12 210 M6	12	12	6	28.7	-	-	M 6	11.5	2	A, B, C, D, E	☑
16 210	16	16	8	36.4	-	-	M 8	13.8	2	A, B, C, D, E	☑
20 210	20	20	10	36.9	-	-	M 10	18	2	A, B, C, D, E	☑

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
10 10 860	ROHX 1002	K05	PVTi	10	2.5	5	M 3.5
10 12 860	ROHX 1203	K05	PVTi	12	3	6	M 4.0
10 16 860	ROHX 16T3	K05	PVTi	16	4	8	M 5.0
10 20 860	ROHX 2004	K05	PVTi	20	5	10	M 5.0

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
d=10 mm							
K05 PVTi	f_z (mm) a_p (mm)	0,1 0,1	0,1 0,1	0,1 0,1	0,1 0,1	0,1 0,1	0,1 0,1
d=12 mm							
K05 PVTi	f_z (mm) a_p (mm)	0,12 0,1	0,12 0,1	0,12 0,1	0,12 0,1	0,12 0,1	0,12 0,1
d=16 mm							
K05 PVTi	f_z (mm) a_p (mm)	0,16 0,1	0,16 0,1	0,16 0,1	0,16 0,1	0,16 0,1	0,16 0,1
d=20 mm							
K05 PVTi	f_z (mm) a_p (mm)	0,2 0,1	0,2 0,1	0,2 0,1	0,2 0,1	0,2 0,1	0,2 0,1

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
K05 PVTi	roughing	-	-	-	-	-	-
	pre finishing	-	-	-	-	-	-
	finishing	150 **250** 350	100 **175** 250	150 **200** 250	100 **450** 800	35 **43** 50	35 **143** 250

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

pokolm

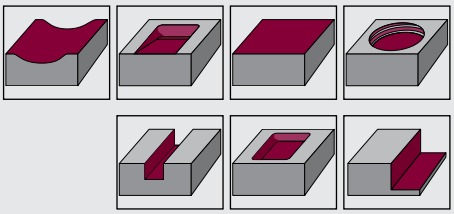
PREMIUMTOOLS. WE KNOW HOW.

UNIWORX® PLUS - CORNER RADIUS - / HIGH-FEED MILLING CUTTER

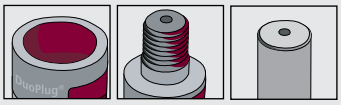
Universal milling cutter with a maximum range of variations for fine machining

- Innovative tool for steel roughing and finishing
- Roughing, residual material machining with high-feed cutting inserts in steel
- Precision-ground angular radius plates for high-precision finishing
- Asymmetric contact surfaces for error-free positioning
- Unique coolant supply system with fan port across the insert

Machining types



Connection types



Sizes	Page
diam. 10-20 mm, r0.5 | r1.0	160
diam. 10-20 mm, HF	163

Cutting materials

Carbide grade Coating K10 PPTi	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	d (mm)	s (mm)	r (mm)
Corner radius milling cutter	▼	▽	▼	▽	▽	▼	0.05 - 0.5	0.05 - 1.2	10	2.5	0.5
							0.05 - 0.4	0.05 - 1.3	12	2.5	0.5
							0.05 - 0.55	0.05 - 1.5	16	3.0	1.0
							0.05 - 0.55	0.05 - 1.8	20	3.0	1.0
High-feed milling cutter	▼	▽	▼	▽	▽	▼	0.1 - 0.75	0.05 - 0.5	10	2.5	-
							0.1 - 0.9	0.1 - 0.6	12	2.5	-
							0.15 - 1.2	0.1 - 0.8	16	3.0	-
							0.15 - 1.5	0.1 - 1.0	20	3.0	-

▼ *major application* ▽ *minor application* ▼▽ roughing ▼▽ pre-finishing ▼▽ finishing

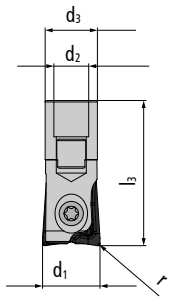
UNIWORX® PLUS

diam. 10 - 20 mm - r 0.5 | r 1.0

New UNIWORX®PLUS corner radius- and HighFeed end mills for roughing and finishing steel

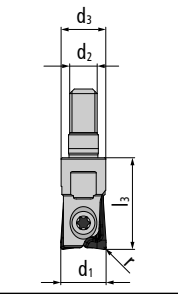
- Roughing, stock material machining with HighFeed inserts
- precision grinded corner radius inserts for high end finishing
- asymetrical contact flats for error-free positioning
- unique coolant supply with fan opening through the insert

DuoPlug®



Milling cutter bodies	Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
	10 215 SG	10	10	0.5	27	-	-	M 7	9.6	2	A, D, I, J, M	
	12 215 SG	12	12	0.5	30	-	-	M 7	10.8	2	B, E, G, K, N	
	16 215 SG	16	16	1	38	-	-	M 10	15	2	C, F, H, L, O	
	20 215 SG	20	20	1	43	-	-	M 12	18.5	2	C, F, H, L, O	

Threaded shank end mill bodies

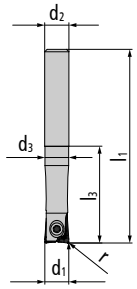


Milling cutter bodies	Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
	10 215 M6	10	10	0.5	20	-	-	M 6	9.75	2	A, D, I, J, M	
	12 215 M6	12	12	0.5	20	-	-	M 6	11.5	2	B, E, G, K, N	
	16 215	16	16	1	25	-	-	M 8	13.8	2	C, F, H, L, O	
	20 215	20	20	1	30	-	-	M 10	18	2	C, F, H, L, O	

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

Milling cutter bodies

Plain shank end mill bodies



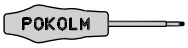
Catalogue no.	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
40 10 115 G	10	10	0.5	40	-	-	diam. 10	9.8	2	A, D, I, J, M	
48 12 115 G	12	12	0.5	48	-	-	diam. 12	11.8	2	B, E, G, K, N	
64 16 115 G	16	16	1	64	-	-	diam. 16	13.8	2	C, F, H, L, O	
80 20 115 G	20	20	1	80	-	-	diam. 20	18	2	C, F, H, L, O	

Accessories

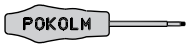
30 530
locating screw
A > Page ???

35 530
locating screw
B > Page ???

50 530
locating screw
C > Page ???

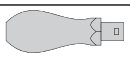


08 500
Torx-screwdriver
D > Page 196

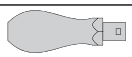


10 500
Torx-screwdriver
E > Page 196

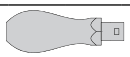
20 500
Torx-screwdriver
F > Page 196



TV 1-5
Screwdriver torque Vario®-S with window scale
G > Page 197



TV 2-8
Screwdriver torque Vario®-S with window scale, H > Page 197



TV 08-2
Screwdriver torque Vario®-S with window scale, I > Page 197

T8 500
Torx interchangeable bit for Torque Vario®
J > Page 197

T10 500
Torx interchangeable bit for Torque Vario®
K > Page 197

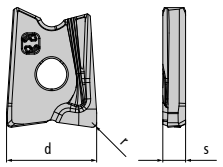
T20 500
Torx interchangeable bit for Torque Vario®
L > Page 197

T8 502
Torx MagicSpring compatible bit f. Torque Vario®
M > Page 198

T10 502
Torx MagicSpring compatible bit f. Torque Vario®, N > Page 198

T20 502
Torx MagicSpring compatible bit f. Torque Vario®
O > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
15 10 8060 R05	XOGX 102505 ER	K10	PPTi	10	2.5	0.5	M 3.0
15 12 8060 R05	XOGX 122505 ER	K10	PPTi	12	2.5	0.5	M 3.5
15 16 8060 R10	XOGX 163010 ER	K10	PPTi	16	3	1	M 5.0
15 20 8060 R10	XOGX 203010 ER	K10	PPTi	20	3	1	M 5.0

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

Feed per tooth (fz) | d.o.c. (ap)

Material / Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
d=10 mm							
K10 PPTi	f_z (mm) a_p (mm)	0,05-0,3 0,05-0,6	0,05-0,15 0,05-0,2	0,05-0,35 0,05-0,5	0,05-0,5 0,05-1,2	0,05-0,12 0,05-0,15	0,05-0,25 0,05-0,3
d=12 mm							
K10 PPTi	f_z (mm) a_p (mm)	0,05-0,35 0,05-0,7	0,05-0,15 0,05-0,3	0,05-0,4 0,05-0,6	0,05-0,55 0,05-1,3	0,05-0,15 0,05-0,2	0,05-0,25 0,05-0,35
d=16 mm							
K10 PPTi	f_z (mm) a_p (mm)	0,05-0,35 0,05-0,8	0,05-0,15 0,05-0,3	0,05-0,4 0,05-0,8	0,05-0,55 0,05-1,5	0,05-0,15 0,05-0,2	0,05-0,25 0,05-0,4
d=20 mm							
K10 PPTi	f_z (mm) a_p (mm)	0,05-0,35 0,05-1	0,05-0,15 0,05-0,3	0,05-0,4 0,05-1	0,05-0,55 0,05-1,8	0,05-0,15 0,05-0,2	0,05-0,25 0,05-0,42

Cutting speed (Vc in m/min)

Material / Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
K10 PPTi	roughing pre finishing finishing	- 110 **160** 210 120 **210** 300	- - 100 **165** 230	- 140 **205** 270 170 **240** 310	- 200 **450** 700 300 **550** 800	- - 40 **75** 110	- 80 **130** 180 100 **150** 200

NEW latest items! | ⚠ available as long as stock lasts | ? on request | ✔ stock item, subject to confirmation

UNIWORX® PLUS

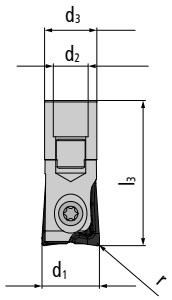
diam. 10 - 20 mm - HF

New UNIWORX®PLUS corner radius- and HighFeed end mills for roughing and finishing steel

- Roughing, stock material machining with HighFeed inserts
- precision grinded corner radius inserts for high end finishing
- asymetrical contact flats for error-free positioning
- unique coolant supply with fan opening through the insert

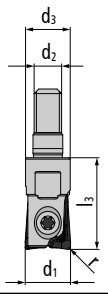
Milling cutter bodies

DuoPlug®



Catalogue no.	d_1	d	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
10 215 SG	10	10	22*	27	-	-	M 7	9.6	2	A, D, I, J, M	
12 215 SG	12	12	0.5	30	-	-	M 7	10.8	2	B, E, G, K, N	
16 215 SG	16	16	1	38	-	-	M 10	15	2	C, F, H, L, O	
20 215 SG	20	20	1	43	-	-	M 12	18.5	2	C, F, H, L, O	

Threaded shank end mill bodies



10 215 M6	10	10	0.5	20	-	-	M 6	9.75	2	A, D, I, J, M	
12 215 M6	12	12	0.5	20	-	-	M 6	11.5	2	B, E, G, K, N	
16 215	16	16	1	25	-	-	M 8	13.8	2	C, F, H, L, O	
20 215	20	20	1	30	-	-	M 10	18	2	C, F, H, L, O	

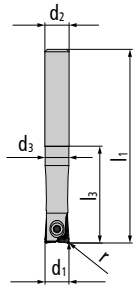
* corner radius to be programmed

major application *minor application* roughing pre-finishing finishing

pokolm PREMIUMTOOLS. WE KNOW HOW.

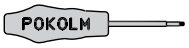
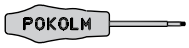
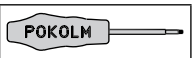
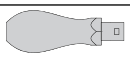
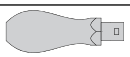
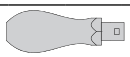
Milling cutter bodies

Plain shank end mill bodies

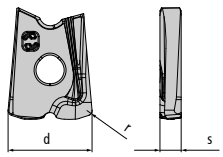


Catalogue no.	d_1	d	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
40 10 115 G	10	10	0.5	40	-	-	diam. 10	9.8	2	A, D, I, J, M	☑
48 12 115 G	12	12	0.5	48	-	-	diam. 12	11.8	2	B, E, G, K, N	☑
64 16 115 G	16	16	1	64	-	-	diam. 16	13.8	2	C, F, H, L, O	☑
80 20 115 G	20	20	1	80	-	-	diam. 20	18	2	C, F, H, L, O	☑

Accessories

 30 530 locating screw A > Page ???	 35 530 locating screw B > Page ???	 50 530 locating screw C > Page ???	 08 500 Torx-screwdriver D > Page 196	 10 500 Torx-screwdriver E > Page 196	 20 500 Torx-screwdriver F > Page 196
 TV 1-5 Screwdriver torque Vario®-S with window scale G > Page 197	 TV 2-8 Screwdriver torque Vario®-S with window scale, H > Page 197	 TV 08-2 Screwdriver torque Vario®-S with window scale, I > Page 197	T8 500 Torx interchangeable bit for Torque Vario® J > Page 197	T10 500 Torx interchangeable bit for Torque Vario® K > Page 197	T20 500 Torx interchangeable bit for Torque Vario® L > Page 197
 T8 502 Torx MagicSpring compatible bit f. Torque Vario® M > Page 198	 T10 502 Torx MagicSpring compatible bit f. Torque Vario®l N > Page 198	 T20 502 Torx MagicSpring compatible bit f. Torque Vario® O > Page 198			

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
15 10 8060 HF	XOGX 1025 ER	K10	PPTi	10	2.5	-	M 3.0
15 12 8060 HF	XOGX 1225 ER	K10	PPTi	12	2.5	-	M 3.5
15 16 8060 HF	XOGX 1630 ER	K10	PPTi	16	3	-	M 5.0
15 20 8060 HF	XOGX 2030 ER	K10	PPTi	20	3	-	M 5.0

NEW latest items! ⚠ available as long as stock lasts ? on request ☑ stock item, subject to confirmation

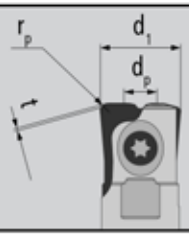
Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
d=10 mm							
K10 PPTi	f_z (mm) a_p (mm)	0,1-0,75 0,05-0,4	0,1-0,28 0,05-0,15	0,1-0,75 0,05-0,4	0,1-0,75 0,05-0,5	0,1-0,22 0,05-0,15	0,1-0,55 0,05-0,25
d=12 mm							
K10 PPTi	f_z (mm) a_p (mm)	0,1-0,9 0,1-0,5	0,1-0,32 0,1-0,2	0,1-0,9 0,1-0,5	0,1-0,9 0,1-0,6	0,1-0,32 0,1-0,2	0,1-0,7 0,05-0,35
d=16 mm							
K10 PPTi	f_z (mm) a_p (mm)	0,15-1,2 0,1-0,6	0,15-0,4 0,1-0,25	0,15-1,2 0,1-0,6	0,15-1,2 0,1-0,8	0,1-0,4 0,1-0,25	0,1-0,8 0,1-0,45
d=20 mm							
K10 PPTi	f_z (mm) a_p (mm)	0,15-1,5 0,1-0,8	0,15-0,5 1-0,35	0,15-1,5 0,1-0,8	0,15-1,5 0,1-1	0,1-0,5 0,1-0,35	0,1-1 0,1-0,6

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
K10 PPTi	roughing pre finishing finishing	▼ 90 **140** 190 ▼ 110 **160** 210 -	- ▽ 80 **135** 190 -	▼ 120 **180** 240 ▼ 140 **205** 270 -	▽ 150 **375** 600 ▽ 200 **450** 700 -	- ▽ 30 **50** 70 -	▽ 80 **120** 160 ▼ 100 **140** 180 -

Technical information



For the **CAD/CAM set-up** please program **corner radius (r_p)** and **remainder of material (t)** according to the list on the right.
Please use **„d_p"** for **tool length measurement.**

Ø	r_p	t
10	1,00	0,300
12	1,30	0,379
16	1,70	0,570
20	1,95	0,720

▼ ***major application*** ▽ ***minor application*** ▼ ▽ roughing ▼ ▽ pre-finishing ▼ ▽ finishing

pokolm

PREMIUMTOOLS. WE KNOW HOW.

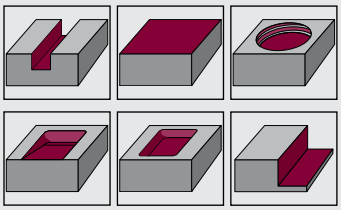
QUADWORX® HIGH FEED RATE CUTTERS

Feed rate squared - maximum economic efficiency for universal use

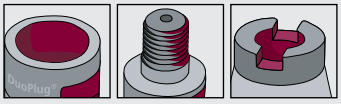
Properties

- Universal use in high-feed rate cutters
- Very high removal rates and extremely soft cutting for more machine capacity
- 4 cutting edges / insert for highly economical use
- Twisting is eliminated by positioning of the inserts via a second flank and 90° positioning
- Maximum process reliability with interrupted cutting due to secure positioning of the inserts
- With wiper edge and large radius very high surface qualities are achieved in the rough machining stage

Machining types



Connection types



Practical video

- **QUADWORX®** M in 1.2312 / 40CrMnMoS8-6

Sizes

Cutting materials

Size	ISO standard						feed per tooth | d.o.c.		length	corner radius to be programmed	Carbide grade | coating
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	r_p (mm)	
S				-			0.2 - 1.5	0.2 - 0.5	7.0	1.3	P40 PVTi M40 PVST HSC05 PVTi
M				-			0.3 - 2.0	0.2 - 1.2	9.0	1.5	P25 PVTi P40 PVTi P40 PVGO M40 PVST K10 PVTi
L				-			0.3 - 2.5	0.25 - 1.5	10.0	2.3	P25 PVTi P40 PVTi P40 PVGO M40 PVST K10 PVTi
XL				-		-	0.3 - 2.0	0.2 - 2.2	13	3.3	P25 PVTi P25 PVGO P40 PVGO M40 PVST K10 PVTi

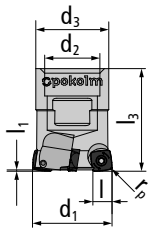
QUADWORX®

Size S

- four cutting edges per insert for extremely efficient operations
- very big metal removal rates and extremely easy cutting
- as a standard, every tool has our patent protected incorporated insert seats and internal coolant supply
- allows extremely high feed rates per tooth up to fz = 1.5 mm

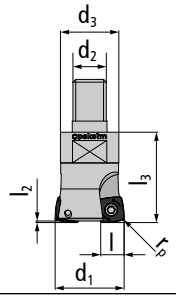
Milling cutter bodies

DuoPlug®



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 247 SG	16	7	1.3*	31	1	-	M 10	15	2	B, C, D, E, F	
3 18 247 SG	18	7	1.3*	31	1	-	M 10	15	3	A, C, D, E, F	
3 20 247 SG	20	7	1.3*	33	1	-	M 12	18.6	3	A, C, D, E, F	
4 25 247 SG	25	7	1.3*	35	1	-	M 16	23.5	4	A, C, D, E, F	

Threaded shank end mill bodies



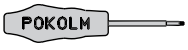
Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 14 247	14	7	1.3*	28.5	1	-	M 8	13.8	2	B, C, D, E, F	
2 16 247	16	7	1.3*	28.5	1	-	M 8	13.8	2	B, C, D, E, F	
3 18 247	18	7	1.3*	28.5	1	-	M 8	13.8	3	A, C, D, E, F	
3 20 247	20	7	1.3*	28.5	1	-	M 10	18	3	A, C, D, E, F	
4 25 247	25	7	1.3*	32.5	1	-	M 12	21	4	A, C, D, E, F	

* corner radius to be programmed

Accessories

25 500
Torx screw
A > Page 195

25 500 K
Torx screw
B > Page 195



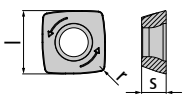
07 500
Torx-screwdriver
C > Page 196

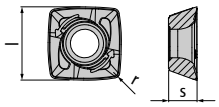
TV 04-1
Screwdriver torque Vario®-S with window scale, D > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
E > Page 197

T7 502, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts





Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
02 47 837	SDMX 070205 SN	HSC 05	PVTi	7	2.38	0.5	M 2.5
02 47 842	SDMX 070205 SN	P40	PVTi	7	2.38	0.5	M 2.5
02 47 896	SDMT 070205 SN	M40	PVST	7	2.38	0.5	M 2.5

Feed per tooth (fz) | d.o.c. (ap)

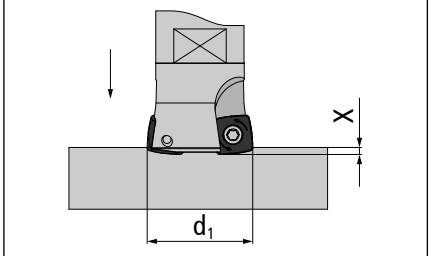
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	-	-	0,2-1,5 0,2-0,5	-	-	0,1-1 0,1-0,5
P40 PVTi	f_z (mm) a_p (mm)	0,2-1,5 0,2-0,5	-	-	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,2-1 0,2-0,5	-	-	0,2-0,8 0,2-0,5	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	-	-	100 **150** 200 150 **225** 300 -	-	-	100 **175** 250 35 **143** 250 -
P40 PVTi	roughing pre finishing finishing	100 **160** 220 100 **175** 250 -	-	-	-	-	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	-	30 **55** 80 40 **65** 90 -	-

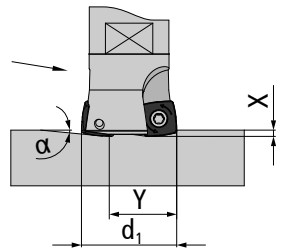
Extended operation data

Plunging



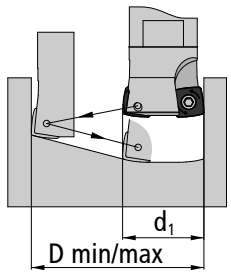
Cutter diam. d1	D_p	X_{max}
14	3.7	1
16	5.7	1
18	7.7	1
20	9.7	1
25	14.8	1

Ramping



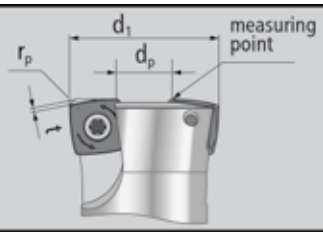
Cutter diam. d1	α°	y
14	<13,5	4
16	<8,8	6
18	<6,6	8
20	<5,2	10
25	<3,3	15

Helix



Cutter diam. d1	D_{min}	D_{max}
14	18	28
16	22	32
18	26	36
20	30	40
25	40	50

Technical information



For the **CAD/CAM set-up** please program **1.3 mm** corner radius (r_p).
The **remainder of the material** is theoretically **0.51 mm** (t).
Please use „d_p" for **tool length measurement**.

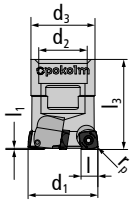
QUADWORX®

Size M

- four cutting edges per insert for extremely efficient operations
- very big metal removal rates and extremely easy cutting
- as a standard, every tool has our patent protected incorporated insert seats and internal coolant supply
- allows extremely high feed rates per tooth up to fz = 2.2 mm

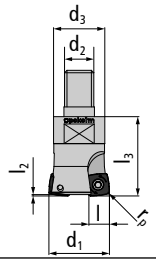
Milling cutter bodies

DuoPlug®



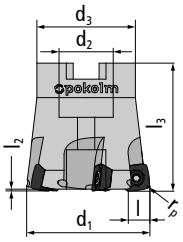
Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 22 248 SG	22	9	1.5*	35.5	1.5	-	M 12	18.5	2	A, B, C, D, E	
3 25 248 SG	25	9	1.5*	40	1.5	-	M 16	23.5	3	A, B, C, D, E	

Threaded shank end mill bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 22 248	22	9	1.5*	29	1.5	-	M 10	18	2	A, B, C, D, E	
3 25 248	25	9	1.5*	33	1.5	-	M 12	21	3	A, B, C, D, E	
4 30 248	30	9	1.5*	42	1.5	-	M 16	29	4	A, B, C, D, E	
4 32 248	32	9	1.5*	42	1.5	-	M 16	29	4	A, B, C, D, E	
4 35 248	35	9	1.5*	42	1.5	-	M 16	29	4	A, B, C, D, E	
5 35 248	35	9	1.5*	42	1.5	-	M 16	29	5	A, B, C, D, E	
5 42 248	42	9	1.5*	42	1.5	-	M 16	29	5	A, B, C, D, E	

Shell type milling cutter bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
5 42 348	42	9	1.5*	42.5	1.5	-	diam. 16	35	5	A, B, C, D, E	
6 52 348	52	9	1.5*	52.5	1.5	-	diam. 22	40	6	A, B, C, D, E	

* corner radius to be programmed

Accessories

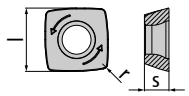
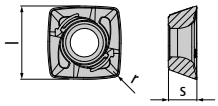
30 500
Torx screw
A > Page 195

10 500
Torx-screwdriver
B > Page 196

TV 1-5
Screwdriver torque Vario®-S with window scale, C > Page 197

T10 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T10 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	03 48 842	SDMX 09T307 SN	P40	PVTi	9	3.5	0.7	M 3.0
	03 48 846	SDMX 09T307 SN	P40	PVGO	9	3.5	0.7	M 3.0
	03 48 850	SDHX 09T307 SN	P25	PVTi	9	3.5	0.7	
	03 48 852	SDMX 09T307 SN	P25	PVTi	9	3.5	0.7	M 3.0
	03 48 860	SDHX 09T307 SN	K10	PVTi	9	3.5	0.7	M 3.0
	03 48 848	SDMT 09T307 SN	P40	PVGO	9	3.5	0.7	M 3.0
	03 48 896	SDMT 09T307 SN	M40	PVST	9	3.5	0.7	M 3.0
	04 48 896	SDMT 09T307 SN	M40	PVST	9	3.5	0.7	M 3.0

Feed per tooth (fz) | d.o.c. (ap)

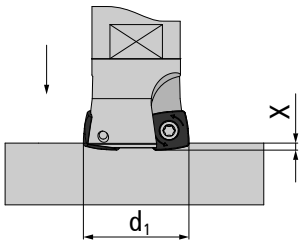
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVTi	f_z (mm) a_p (mm)	0,5-2 0,3-1	-	-	-	-	-
P40 PVGO	f_z (mm) a_p (mm)	0,5-2 0,3-1	-	-	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	0,5-2 0,3-1	-	-	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	0,5-2,2 0,3-1,2	-	-	0,1-1,2 0,1-0,5
M40 PVST	f_z (mm) a_p (mm)	-	0,2-1,2 0,2-0,9	-	-	0,25-0,9 0,2-0,7	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVTi	roughing pre finishing finishing	▼100 **160** 220 ▽100 **175** 250 -	-	-	-	-	-
P40 PVGO	roughing pre finishing finishing	▼100 **150** 200 ▼100 **150** 200 -	-	-	-	-	-
P25 PVTi	roughing pre finishing finishing	▼100 **200** 300 ▼100 **125** 150 -	-	-	-	-	-
K10 PVTi	roughing pre finishing finishing	-	-	▼150 **175** 200 ▽150 **175** 200 -	-	-	▼100 **175** 250 ▽35 **108** 180 -
M40 PVST	roughing pre finishing finishing	-	▼80 **130** 180 ▼100 **155** 210 ▽120 **185** 250	-	-	▼30 **55** 80 ▼40 **65** 90 ▽60 **90** 120	-

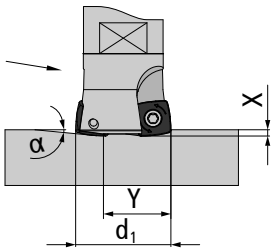
Extended operation data

Plunging



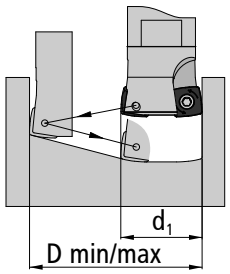
Cutter diam. d1	D_p	X_{max}
22	7.1	1.5
25	9.8	1.5
30	14.7	1.5
32	16.7	1.5
35	19.7	1.5
42	26.5	1.5
52	36.5	1.5

Ramping



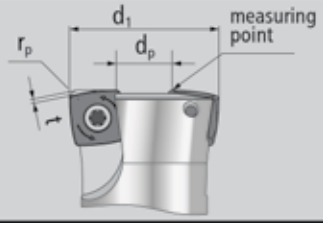
Cutter diam. d1	α°	y
22	<13,7	6
25	<9,2	9
30	<5,8	14
32	<4,9	16
35	<4,3	19
42	<3,1	26
52	<2,1	36

Helix



Cutter diam. d1	D_{min}	D_{max}
22	28.5	44
25	34.5	50
30	44.5	60
32	48.5	64
35	54.5	70
42	68.5	84
52	88.5	104

Technical information



For the **CAD/CAM set-up** please program **1.5 mm** corner radius (r_p).
The **remainder of the material** is theoretically **0.65 mm** (t).
Please use „d_p" for **tool length measurement**.

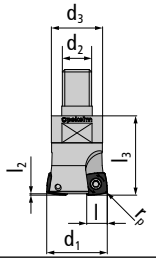
QUADWORX®

Size L

- four cutting edges per insert for extremely efficient operations
- very big metal removal rates and extremely easy cutting
- as a standard, every tool has our patent protected incorporated insert seats and internal coolant supply
- allows extremely high feed rates per tooth up to fz = 2.5 mm

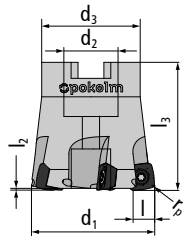
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
3 35 249	35	10	2.3*	42	2.5	-	M 16	29	3	A, B, C, D, E	
4 42 249	42	10	2.3*	42	2.5	-	M 16	29	4	A, B, C, D, E	

Shell type milling cutter bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 42 349	42	10	2.3*	42	2.5	-	diam. 16	35	4	A, C, E, F, H	
5 52 349	52	10	2.3*	52	2.5	-	diam. 22	40	5	B, D, E, G, I	
7 66 349	66	10	2.3*	52	2.5	-	diam. 27	48	7	B, D, E, G, I	
8 80 349	80	10	2.3*	52	2.5	-	diam. 27	60	8	B, D, E, G, I	

* corner radius to be programmed

Accessories

40 505 K
Torx screw
A > Page 195

40 505 P
Torx screw
B > Page 195

15 500
Torx-screwdriver
C > Page 196

15 500 P
Torx-screwdriver (Torx-Plus)
D > Page 196

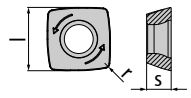
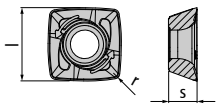
TV 2-8
Screwdriver torque Vario®-S with window scale
E > Page 197

T15 500
Torx interchangeable bit for Torque Vario®
F > Page 197

T15 500 P
Torx interchangeable bit for Torque Vario®
G > Page 197

T15 502
Torx MagicSpring compatible bit f. Torque Vario®, H > Page 198

T15 502 P
Torx MagicSpring compatible bit f. Torque Vario®
I > Page 198

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	04 49 842	SDMX 100510 SN	P40	PVTi	10	5	1	M 4.0
	04 49 846	SDMX 100510 SN	P40	PVGO	10	5	1	M 4.0
	04 49 852	SDMX 100510 SN	P25	PVTi	10	5	1	M 4.0
	04 49 860	SDHX 100510 SN	K10	PVTi	10	5	1	M 4.0
	04 49 896	SDMT 100510 SN	M40	PVST	10	5	1	M 4.0

Feed per tooth (fz) | d.o.c. (ap)

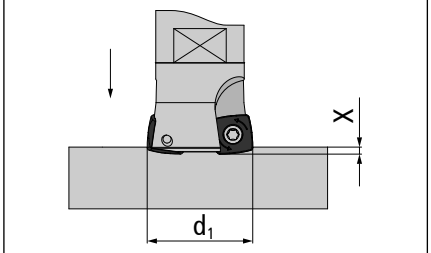
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVTi	f_z (mm) a_p (mm)	0,5-2,5 0,3-1,5	-	-	-	-	-
P40 PVGO	f_z (mm) a_p (mm)	0,5-2,5 0,3-1,5	-	-	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	0,5-2,5 0,3-1,5	-	-	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	-	0,5-2,5 0,3-1,7	-	-	0,3-1,5 0,3-0,8
M40 PVST	f_z (mm) a_p (mm)	-	0,3-1,5 0,25-1,3	-	-	0,3-1 0,25-0,9	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVTi	roughing pre finishing finishing	▼100 **160** 220 ▽100 **175** 250 -	-	-	-	-	-
P40 PVGO	roughing pre finishing finishing	▼100 **150** 200 ▽100 **150** 200 -	-	-	-	-	-
P25 PVTi	roughing pre finishing finishing	▼100 **200** 300 ▽100 **125** 150 -	-	-	-	-	-
K10 PVTi	roughing pre finishing finishing	-	-	▼150 **175** 200 ▽150 **175** 200 -	-	-	▼100 **175** 250 ▽120 **150** 180 -
M40 PVST	roughing pre finishing finishing	-	▼80 **130** 180 ▼100 **155** 210 ▽120 **185** 250	-	-	▼30 **55** 80 ▼40 **65** 90 ▽60 **90** 120	-

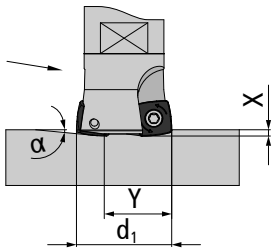
Extended operation data

Plunging



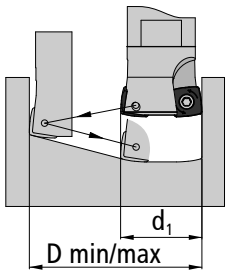
Cutter diam. d1	D_p	X_{max}
35	17.7	2.5
42	24.7	2.5
52	34.7	2.5
66	48.7	2.5
80	62.7	2.5

Ramping



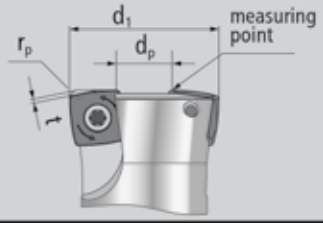
Cutter diam. d1	α°	y
35	<8,3	17
42	<5,9	24
52	<4,2	34
66	<2,9	48
80	<2,3	62

Helix



Cutter diam. d1	D_{min}	D_{max}
35	52	70
42	66	84
52	86	104
66	114	132
80	142	160

Technical information



For the **CAD/CAM set-up** please program **2.3 mm** corner radius (r_p).
The **remainder of the material** is theoretically **0.83 mm** (t).
Please use „d_p" for **tool length measurement**.

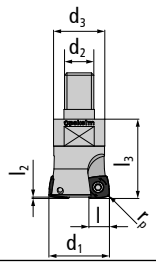
QUADWORX®

Size XL

- four cutting edges per insert for extremely efficient operations
- very big metal removal rates and extremely easy cutting
- as a standard, every tool has internal coolant supply
- allows extremely high feed rates per tooth up to fz = 2.8 mm

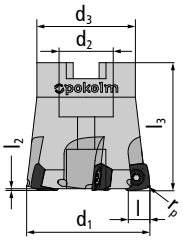
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 32 251	32	13	3.3*	42	1.5	-	M 16	29	2	A, B, C, D, E, F	
3 35 251	35	13	3.3*	42	1.5	-	M 16	29	3	A, B, C, D, E, F	

Shell type milling cutter bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 40 351	40	13	3.3*	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	
4 42 351	42	13	3.3*	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	
4 50 351	50	13	3.3*	50	2.5	-	diam. 22	40	4	A, D, E, F, G	
5 50 351	50	13	3.3*	50	2.5	-	diam. 22	40	5	A, D, E, F, G	
4 50 351	52	13	3.3*	50	2.5	-	diam. 22	48	4	A, D, E, F, G	
5 52 351	52	13	3.3*	50	2.5	-	diam. 22	48	5	A, D, E, F, G	
6 63 351	63	13	3.3*	53	2.5	-	diam. 27	48	6	A, D, E, F, G	
6 66 351	66	13	3.3*	53	2.5	-	diam. 27	48	6	A, D, E, F, G	
6 80 351	80	13	3.3*	53	2.5	-	diam. 27	60	6	A, D, E, F, G	
8 80 351	80	13	3.3*	53	2.5	-	diam. 27	60	8	A, D, E, F, G	
7 100 351	100	13	3.3*	53	2.5	-	diam. 32	70	7	A, B, D, E, F, G	
9 100 351	100	13	3.3*	53	2.5	-	diam. 32	70	9	A, B, D, E, F, G	

* corner radius to be programmed

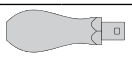
Accessories

40 505 K
Torx screw
A > Page 195

M16X35
screw short head
B > Page 196

GWSTPS8ISK
hexagon socket set screw
C > Page 196

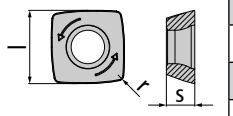
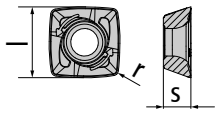
15 500 P
Torx-screwdriver (Torx-Plus)
D > Page 196



TV 2-8
Screwdriver torque Vario®-S with window scale
E > Page 197

T15 500 P
Torx interchangeable bit for Torque Vario®
F > Page 197

T15 502 P
Torx MagicSpring compatible bit f. Torque Vario®
G > Page 198

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	05 51 852 HF	SDMW 135020 SN	P25	PVTi	13	5	2	M 4.0
	05 51 860 HF	SDHX 135020 SN	K10	PVTi	13	5	2	M 4.0
	05 51 862 HF	SDMW 135020 SN	K10	PVTi	13	5	2	M 4.0
	05 51 848 HF	SDMT 135020 SN	P40	PVGO	13	5	2	M 4.0
	05 51 858 HF	SDMT 135020 SN	P25	PVGO	13	5	2	M 4.0
	05 51 868 HF	SDMT 135020 SN	K10	PVGO	13	5	2	M 4.0
	05 51 896 HF	SDMT 135020 EN	M40	PVST	13	5	2	M 4.0

Feed per tooth (fz) | d.o.c. (ap)

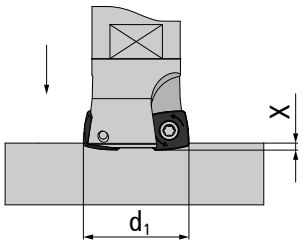
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P25 PVTi	f_z (mm) a_p (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	-
P40 PVGO	f_z (mm) a_p (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
P25 PVGO	f_z (mm) a_p (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
K10 PVGO	f_z (mm) a_p (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,3-1,7 0,5-1,5	-	-	0,3-1,2 0,4-1,5	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P25 PVTi	roughing pre finishing finishing	100 **200** 300 100 **125** 150 -	-	130 **155** 180 100 **135** 170 -	-	-	-
K10 PVTi	roughing pre finishing finishing	130 **170** 210 150 **185** 220 -	-	150 **175** 200 150 **175** 200 -	-	-	-
P40 PVGO	roughing pre finishing finishing	100 **150** 200 100 **150** 200 -	-	110 **130** 150 110 **130** 150 -	-	-	-
P25 PVGO	roughing pre finishing finishing	110 **165** 220 120 **185** 250 -	-	120 **145** 170 130 **150** 170 -	-	-	-
K10 PVGO	roughing pre finishing finishing	130 **170** 210 150 **185** 220 -	-	110 **155** 200 150 **175** 200 -	-	-	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	-	30 **55** 80 40 **65** 90 -	-

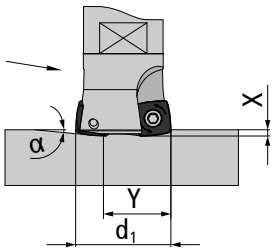
Extended operation data

Plunging



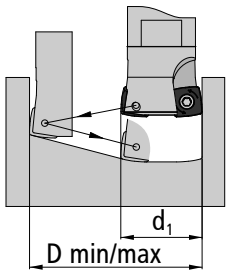
Cutter diam. d1	D_p	X_{max}
32	11.8	1.5
35	14.8	1.5
40	19.8	2.5
42	21.8	2.5
50	29.8	2.5
52	31.8	2.5
63	42.8	2.5
66	45.8	2.5
80	59.8	2.5
100	79.8	2.5

Ramping



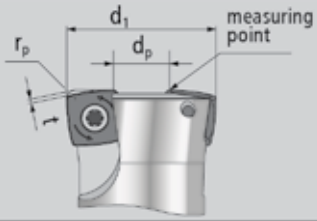
Cutter diam. d1	α°	y
32	<9	8.8
35	<7,0	11.8
40	<6,5	16.8
42	<5,8	18.8
50	<4,1	26.8
52	<3,7	28.8
63	<2,6	39.8
66	<2,4	42.8
80	<1,8	56.8
100	<1,2	72.8

Helix



Cutter diam. d1	D_{min}	D_{max}
32	40.8	62
35	46.8	68
40	56.8	78
42	60.8	82
50	76.8	98
52	80.8	102
63	102.8	124
66	108.8	130
80	136.8	158
100	176.8	198

Technical information



For the **CAD/CAM set-up** please program **3.3 mm** corner radius (r_p).
The **remainder of the material** is theoretically **0.86 mm** (t).
Please use „d_p" for **tool length measurement**.

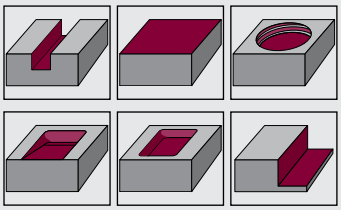
TRIGAWORX® HIGH FEED RATE CUTTERS

Specialist for maximum chip removal rates at extreme working depths

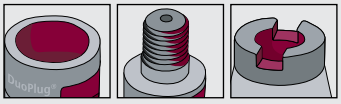
Properties

- Extremely high feed rates for maximum chip removal rate
- 3 cutting edges for effective use and optimum economic efficiency
- Polygonal insert shape minimises vibrations
- Extremely smooth running even at large working depths and in the deepest contours
- Working that is easy on the machine and tool

Machining types



Connection types



Practical video

- **TRIGAWORX®** in 1.2343 / H11 / X38CrMoV5-1

Sizes		Page
S:	diam. 16 - 25 mm	178
M:	diam. 25 - 52 mm	180
L:	diam. 32 - 80 mm	183

Cutting materials

Size	ISO standard						feed per tooth | d.o.c.		length	corner radius to be programmed	Carbide grade | coating
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	r_p (mm)	
S	▼	-	-	-	-	▽	0.3 - 1.5	0.15 - 0.6	7.0	1.5	HSC05 PVTi P40 PVTi
M	▼	-	-	-	-	▽	0.5 - 2.0	0.2 - 1.0	10.3	1.9	HSC05 PVTi P25 PVTi P40 PVTi
L	▼	-	-	-	-	-	0.5 - 3.0	0.3 - 1.2	14.3	4.6	P40 PVTi

TRIGAWORX®

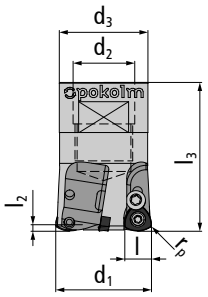
Size S

- allows extremely high feed rates per tooth up to fz = 1.5 mm
- better utilization of insert because of its 3 effective cutting edges
- very smooth operation, especially in deep slots or profiles

Especially for roughing operations

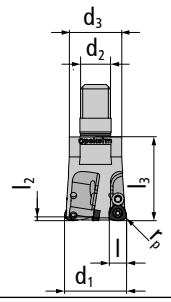
Milling cutter bodies

DuoPlug®



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 272 SG	16	7	1.5*	38.5	1	-	M 10	15	2	A, B, C, D, E, F	

Threaded shank end mill bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 272	16	7	1.5*	28.5	1	-	M 8	13.8	2	A, B, C, D, E, F	
3 20 272	20	7	1.5*	28.5	1	-	M 10	18	3	A, B, C, D, E, F	
4 25 272	25	7	1.5*	32.5	1	-	M 12	21	4	A, B, C, D, E, F	

* corner radius to be programmed

Accessories

25 500
Torx screw
A > Page 195

07 500
Torx-screwdriver
B > Page 196

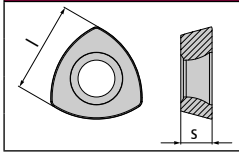
TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197

T7 500
Torx interchangeable bit for Torque Vario®
D > Page 197

T7 502
Torx MagicSpring compatible bit f. Torque Vario®
E > Page 198

12 510
clamping claw for Trigaworx® S
F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
02 72 835	WDHX 070205 SN	HSC 05	PVTi	7	2.38	0.5	M 2.5
02 72 840	WDHX 070205 SN	P40	PVTi	7	2.38	0.5	M 2.5

Feed per tooth (fz) | d.o.c. (ap)

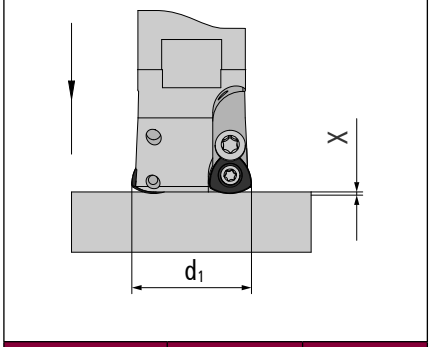
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,3-0,9 0,3-0,45	-	-	-	-	0,1-0,6 0,1-0,35
P40 PVTi	f_z (mm) a_p (mm)	0,9-1,5 0,45-0,6	-	-	-	-	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 -	-	-	-	-	- 35 **143** 250 -
P40 PVTi	roughing pre finishing finishing	100 **160** 220 - -	-	-	-	-	-

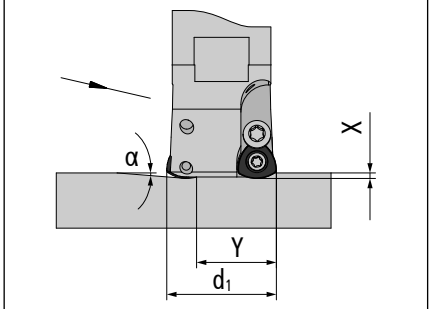
Extended operation data

Plunging



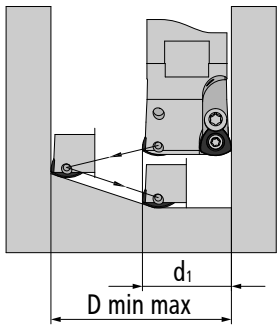
Cutter diam. d1	D_p	X_{max}
16	8.8	1
20	12.8	1
25	17.8	1

Ramping



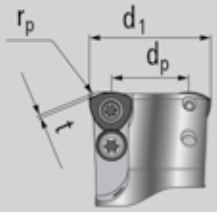
Cutter diam. d1	α°	y
16	<14	4
20	<7,1	8
25	<4,4	13

Helix



Cutter diam. d1	D_{min}	D_{max}
16	20	32
20	28	40
25	38	50

Technical information



For the **CAD/CAM set-up** please program **1.5 mm** corner radius (r_p).
The **remainder of the material** is theoretically **1.0 mm** (t).
Please use „d_p" for **tool length measurement**.

TRIGAWORX®

Size M

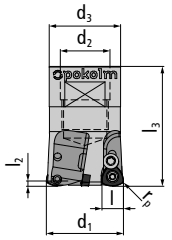
- allows extremely high feed rates per tooth up to fz = 2.0 mm
- better utilization of insert because of its 3 effective cutting edges
- very smooth operation, especially in deep slots or profiles

Especially for roughing operations

Milling cutter bodies

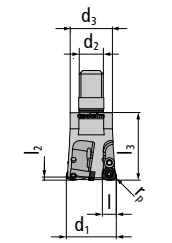
Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features

DuoPlug®



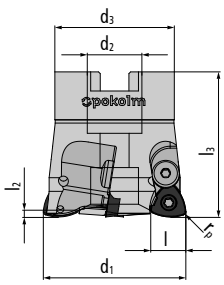
Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 25 273 SG	25	10.3	1.9*	47.5	1.5	-	M 16	23.5	2	A, B, C, D, E, F	

Threaded shank end mill bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 25 273	25	10.3	1.9*	32.5	1.5	-	M 12	22.5	2	A, B, C, D, E, F	
3 30 273	30	10.3	1.9*	42.5	1.5	-	M 16	29	3	A, B, C, D, E, F	
3 35 273	35	10.3	1.9*	42.5	1.5	-	M 16	29	3	A, B, C, D, E, F	
4 35 273	35	10.3	1.9*	42.5	1.5	-	M 16	29	4	A, B, C, D, E, F	
4 42 273	42	10.3	1.9*	42.5	1.5	-	M 16	29	4	A, B, C, D, E, F	

Shell type milling cutter bodies



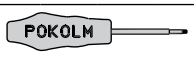
Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 42 373	42	10.3	1.9*	42.5	1.5	-	diam. 16	35	4	A, B, C, D, E, F	
5 52 373	52	10.3	1.9*	52.5	1.5	-	diam. 22	40	5	A, B, C, D, E, F	

* corner radius to be programmed

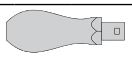
Accessories

30 500
Torx screw
A > Page 195

35 511
locking screw
B > Page 195



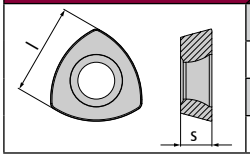
10 500
Torx-screwdriver
C > Page 196



TV 1-5
Screwdriver torque Vario®-S with window scale, D > Page 197

T10 500
Torx interchangeable bit for Torque Vario®
E > Page 197

T10 502, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	03 73 835	WDHX 100310 SN	HSC 05	PVTi	10.3	3.4	1	M 3.0
	03 73 840	WDHX 100310 SN	P40	PVTi	10.3	3.4	1	M 3.0
	03 73 850	WDHX 100310 SN	P25	PVTi	10.3	3.4	1	M 3.0

Feed per tooth (fz) | d.o.c. (ap)

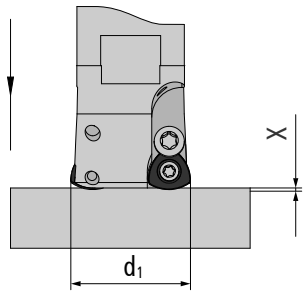
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,5-1,25 0,3-0,65	-	-	-	-	0,1-0,75 0,1-0,4
P40 PVTi	f_z (mm) a_p (mm)	1,25-2 0,65-1	-	-	-	-	-
P25 PVTi	f_z (mm) a_p (mm)	1,25-2 0,65-1	-	-	-	-	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	- 150 **275** 400 -	-	-	-	-	- 35 **143** 250 -
P40 PVTi	roughing pre finishing finishing	100 **160** 220 - -	-	-	-	-	-
P25 PVTi	roughing pre finishing finishing	100 **200** 300 - -	-	-	-	-	-

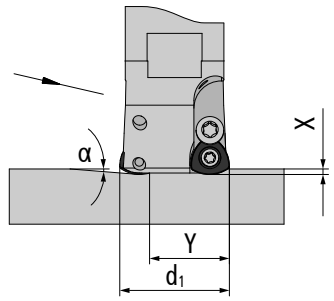
Extended operation data

Plunging



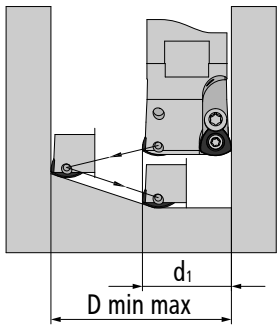
Cutter diam. d1	D_p	X_{max}
25	16.2	1.5
30	21.2	1.5
35	26.2	1.5
42	33.2	1.5
52	43.2	1.5

Ramping



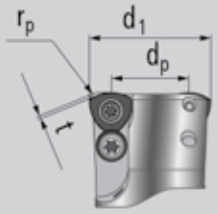
Cutter diam. d1	α°	y
25	<12	7
30	<7,1	12
35	<5	17
42	<3,6	24
52	<2,5	34

Helix



Cutter diam. d1	D_{min}	D_{max}
25	32	50
30	42	60
35	52	70
42	66	84
52	86	104

Technical information



For the **CAD/CAM set-up** please program **1.9 mm** corner radius (r_p).
The **remainder of the material** is theoretically **0.8 mm** (t).
Please use „d_p" for **tool length measurement**.

TRIGAWORX®

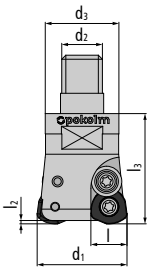
Size L

- allows extremely high feed rates per tooth up to fz = 3.0 mm
- better utilization of insert because of its 3 effective cutting edges
- very smooth operation, especially in deep slots or profiles

Especially for roughing operations

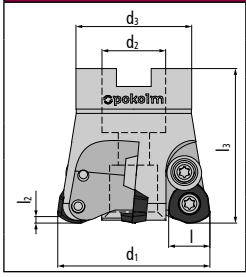
Milling cutter bodies

Threaded shank end mill bodies



Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 32 274	32	14.3	4.6*	42.5	2	-	M 16	29	2	A, B, C, D, E, F	

Shell type milling cutter bodies



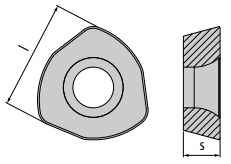
Catalogue no.	d_1	l	r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
4 52 374	52	14.3	4.6*	52.5	2	-	diam. 22	40	4	A, B, C, D, E, F	
4 66 374	66	14.3	4.6*	52.5	2	-	diam. 27	48	4	A, B, C, D, E, F	
5 80 374	80	14.3	4.6*	52.5	2	-	diam. 27	60	5	A, B, C, D, E, F	

* corner radius to be programmed

Accessories

					
45 500 Torx screw A > Page 195	10 510 locking washer B > Page 196	20 500 Torx-screwdriver C > Page 196	TV 2-8 Screwdriver torque Vario®-S with window scale, D > Page 197	T20 500 Torx interchangeable bit for Torque Vario® E > Page 197	T20 502, Torx Magic-Spring compatible bit f. Torque Vario® F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
04 74 840	WDHX 140420 SR	P40	PVTi	14.3	4.76	2	M 4.5

Feed per tooth (fz) | d.o.c. (ap)

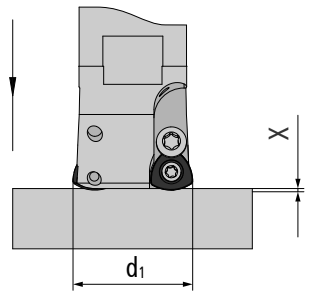
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVTi	f_z (mm) a_p (mm)	1,75-3 0,3-1,2	-	-	-	-	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVTi	roughing pre finishing finishing	100 **160** 220 - -	-	-	-	-	-

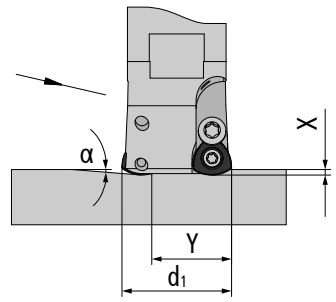
Extended operation data

Plunging



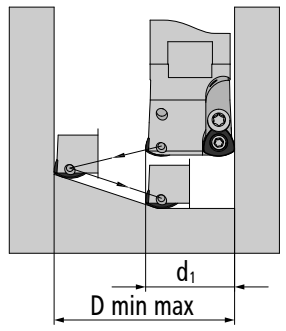
Cutter diam. d1	D_p	X_{max}
32	17.4	2
52	37.4	2
66	51.4	2
80	65.4	2

Ramping



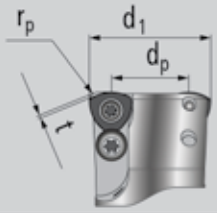
Cutter diam. d1	α°	y
32	<11,3	10
52	<3,8	30
66	<2,6	44
80	<2	58

Helix



Cutter diam. d1	D_{min}	D_{max}
32	42	64
52	82	104
66	110	132
80	138	160

Technical information



For the **CAD/CAM set-up** please program **4.6 mm** corner radius (r_p).
The **remainder of the material** is theoretically **2.3 mm** (t).
Please use „d_p" for **tool length measurement**.

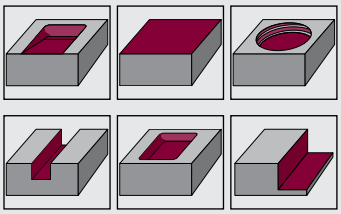
SLOTWORX® HIGH FEED RATE CUTTERS

With highly modern cutting edge geometry for universal applications

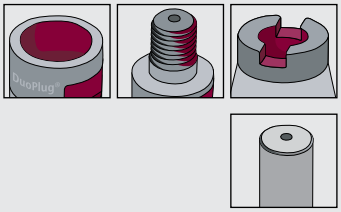
Properties

- For high-feed hard machining of all materials up to 60+2HRC
- PVTiH coating especially suitable for machining die steels such as 1.2714
- Extremely long tool life and smooth running due to adapted rake face geometry

Machining types



Connection types



Practical video

SLOTWORX® M
High Feed
in 1.2738

Sizes	Page
M: diam. 16 - 52 mm	188

Cutting materials

Carbide grade | Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	corner radius to be programmed
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r_p (mm)
HSC 05 PVTi	▼	–	▼	–	–	▼	0.3 - 1.8	0.1 - 0.7	10	3.58	1.4
HSC 05 PVTiH	▼	–	▼	–	–	▼	0.3 - 1.8	0.1 - 0.7	10	3.58	1.4
P40 PVGO	▼	–	–	–	–	–	0.3 - 1.5	0.5 - 1.6	10	3.58	1.4
K10 PVGP	–	–	▼	–	–	▼	0.15 - 1.2	0.2 - 1.5	10	3.58	1.4
M40 PVST	▽	▼	–	–	▼	–	0.15 - 1.5	0.15 - 1.0	10	3.58	1.4
M35 PCTC		▼	–	–	▼	–	0.15 - 1.0	0.15 - 0.75	10	3.58	1.4

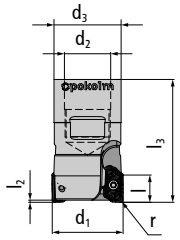
SLOTWORX® - K15°

HF | Size M - diam. 16 - 52 mm

- exceptionally suitable for High Feed Machining of hardened materials up to 60+2HRC.
- PVTiH Coating well suited for milling of die steels, f.e. 1.2714.
- extremely long life time and high running smoothness because of the adapted cutting surface geometry.

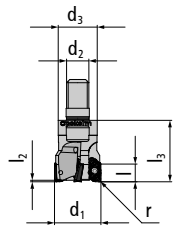
Milling cutter bodies

DuoPlug®



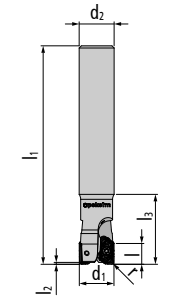
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 267 SG	16	10	1.4	38	2.5	-	M 10	15	2	A, C, D, E, F	
2 20 267 SG	20	10	1.4	40	2.5	-	M 12	18.6	2	A, C, D, E, F	
3 25 267 SG	25	10	1.4	43	2.5	-	M 16	23.5	3	A, C, D, E, F	

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 16 267	16	10	1.4	29	2.5	-	M 8	13.8	2	A, C, D, E, F	
2 20 267	20	10	1.4	29	2.5	-	M 10	18	2	A, C, D, E, F	
3 20 267	20	10	1.4	29	2.5	-	M 10	18	3	A, C, D, E, F	
3 25 267	25	10	1.4	33	2.5	-	M 12	21	3	A, C, D, E, F	
4 25 267	25	10	1.4	33	2.5	-	M 12	21	4	A, C, D, E, F	
4 32 267	32	10	1.4	43	2.5	-	M 16	29	4	B, C, D, E, F	
5 32 267	32	10	1.4	43	2.5	-	M 16	29	5	B, C, D, E, F	
5 42 267	42	10	1.4	43	2.5	-	M 16	29	5	B, C, D, E, F	

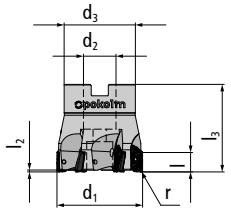
Plain shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 32 16 167 G	16	10	1.4	32	2.5	165	diam. 16	-	2	A, C, D, E, F	
3 40 20 167 G	20	10	1.4	40	2.5	165	diam. 20	-	3	A, C, D, E, F	
3 50 25 167 G	25	10	1.4	50	2.5	225	diam. 25	-	3	A, C, D, E, F	
4 50 25 167 G	25	10	1.4	50	2.5	225	diam. 25	-	4	A, C, D, E, F	

Milling cutter bodies

Shell type milling cutter bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
5 42 367	42	10	1.4	43	2.5	-	diam. 16	35	5	B, C, D, E, F	
6 52 367	52	10	1.4	53	2.5	-	diam. 22	40	6	B, C, D, E, F	

Accessories

25 505 KP
Torx screw
A > Page 195

25 505 P
Torx screw for Slotworx M
B > Page 195

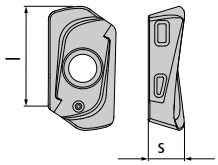
08 500 P
Torx-screwdriver (Tor-x-Plus)
C > Page 196

TV 08-2
Screwdriver torque Vario®-S with window scale, D > Page 197

T8 500 P
Torx interchangeable bit for Torque Vario®
E > Page 197

T8 502 P, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts



Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
04 67 835 HF	XDEW 10T3 SR	HSC 05	PVTi	10	3.58	1.4	M 2.5
04 67 836 HF	XDEW 10T3 SR	HSC 05	PVTiH	10	3.58	1.4	M 2.5
04 67 848 HF	XDMT 10 T3 TR	P40	PVGO	10	3.58	1.4	M 2.5
04 67 862 HF	XDMT 10 T3 TR	K10	PVGP	10	3.58	1.4	M 2.5
04 67 896 HF	XDMT 10T3 ER	M40	PVST	10	3.58	1.4	M 2.5
04 67 8099 HF	XDMT 10T3 ER	M35	PCTC	10	3.58	1.4	M 2.5

Feed per tooth (fz) | d.o.c. (ap)

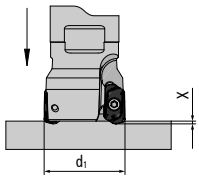
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,5-1,6 0,15-0,7	-	0,4-1,8 0,15-0,7	-	-	0,3-1 0,1-0,5
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,5-1,6 0,15-0,7	-	0,4-1,8 0,15-0,7	-	-	0,3-1 0,1-0,5
P40 PVGO	f_z (mm) a_p (mm)	0,3-1,5 0,5-1,6	-	-	-	-	-
K10 PVGP	f_z (mm) a_p (mm)	-	-	0,3-1,2 0,2-1,5	-	-	0,15-1 0,2-1
M40 PVST	f_z (mm) a_p (mm)	0,3-1,5 0,15-1	0,15-1,4 0,15-0,75	-	-	0,1-0,9 0,15-0,65	-
M35 PCTC	f_z (mm) a_p (mm)	-	0,15-1 0,15-0,75	-	-	0,1-0,9 0,15-0,65	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	▼120 **185** 250 ▼150 **275** 400 -	-	▼100 **150** 200 ▼150 **225** 300 -	-	-	▼35 **143** 250 ▼35 **143** 250 -
HSC 05 PVTiH	roughing pre finishing finishing	▼120 **185** 250 ▼150 **275** 400 -	-	▼100 **150** 200 ▼150 **225** 300 -	-	-	▼35 **143** 250 ▼35 **143** 250 -
P40 PVGO	roughing pre finishing finishing	▼100 **150** 200 ▼100 **150** 200 -	-	-	-	-	-
K10 PVGP	roughing pre finishing finishing	-	-	▼150 **185** 220 ▽160 **190** 220 -	-	-	▼80 **115** 150 ▽100 **150** 200 -
M40 PVST	roughing pre finishing finishing	▽80 **140** 200 ▽100 **150** 200 -	▼80 **130** 180 ▼100 **155** 210 -	-	-	▼30 **55** 80 ▼40 **65** 90 -	-
M35 PCTC	roughing pre finishing finishing	-	▼110 **155** 200 ▼120 **175** 230 -	-	-	▼30 **65** 100 ▼40 **75** 110 -	-

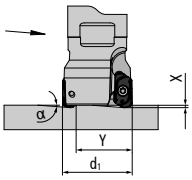
Extended operation data

Plunging



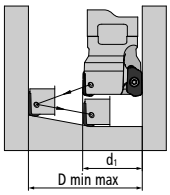
Cutter diam. d1	X_{max}
16-52	0.85

Ramping



Cutter diam. d1	α°	y
16	4	12
20	3	16
25	2,5	21
32	1,7	28
42	1,2	38
52	1	41.3

Helix



Cutter diam. d1	D_{min}	D_{max}
16	26	32
20	34	40
25	44	50
32	58	64
42	78	84
52	98	104

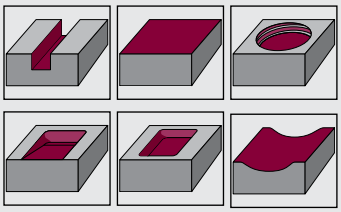
SLOTWORX® HP HIGH FEED RATE CUTTERS

High performance chip removal rates in hard machining

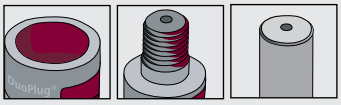
Properties

- One insert carbide grade for soft and hard machining
- Real corner radius for true to contour machining
- High-precision ground indexable inserts
- Maximum cutter body stability due to negative axial angle
- High number of teeth on smallest tool diameter
- Can replace solid carbide tools in some areas

Machining types



Connection types



Sizes	Page
S: diam. 10 - 32 mm	192

Cutting materials

Carbide grade | Coating	ISO standard						feed per tooth | d.o.c.		length	thickness	radius
	P	M	K	N	S	H	f_z (mm)	a_p (mm)	l (mm)	s (mm)	r_p (mm)
HSC 05 PVTi	▼	–	▼	–	–	▼	0.05 - 0.7	0.05 - 0.4	6.2	2.2	2
HSC 05 PVDiaN	–	–	–	▼	–	–	0.05 - 0.7	0.05 - 0.4	6.2	2.2	2
HSC 05 PVTiH	▼	–	▼	–	–	▼	0.05 - 0.7	0.05 - 0.4	6.2	2.2	2
K10 Poliert	–	–	–	▼	–	–	0.05 - 0.7	0.05 - 1.0	6.2	2.2	2
K10 PVTi	–	▽	–	▼	–	–	0.02 - 1.0	0.02 - 1.0	6.2	2.2	2
M40 PVST	–	▼	–	–	▼	–	0.03 - 0.6	0.05 - 1.0	6.2	2.2	2

SLOTWORX® HP

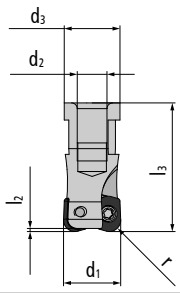
Size S - HP

Excellent for use on small HSC machines and machining centers.

- due to high number of flutes very high feedrates are possible
- offers a real corner radius for close contour work

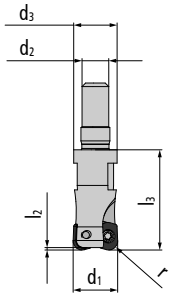
Milling cutter bodies

DuoPlug®



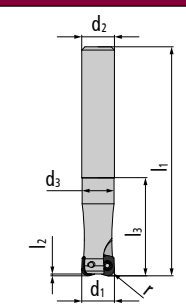
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
3 12 266 SG	12	6.2	2	28	0.7	-	M 7	10.8	3	A, B, C, D, E, F	
4 16 266 SG	16	6.2	2	31	0.7	-	M 10	15	4	A, B, C, D, E, F	
5 20 266 SG	20	6.2	2	33	0.7	-	M 12	18.6	5	A, B, C, D, E, F	
5 25 266 SG	25	6.2	2	35	0.7	-	M 16	23.5	5	A, B, C, D, E, F	

Threaded shank end mill bodies



Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 10 266 M6	10	6.2	2	22.5	0.7	-	M 6	9.75	2	A, B, C, D, E, F	
3 12 266 M6	12	6.2	2	22.5	0.7	-	M 6	11.5	3	A, B, C, D, E, F	
4 16 266	16	6.2	2	27.5	0.7	-	M 8	13.8	4	A, B, C, D, E, F	
5 20 266	20	6.2	2	27.5	0.7	-	M 10	18	5	A, B, C, D, E, F	
5 25 266	25	6.2	2	32	0.7	-	M 12	21	5	A, B, C, D, E, F	
7 32 266	32	6.2	2	32	0.7	-	M 16	29	7	A, B, C, D, E, F	

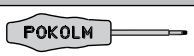
Plain shank end mill bodies



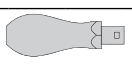
Catalogue no.	d_1	l	r	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 30 10 166 G	10	6.2	2	30	0.7	70	diam. 10	9.75	2	A, B, C, D, E, F	
3 36 12 166 G	12	6.2	2	36	0.7	81	diam. 12	11.5	3	A, B, C, D, E, F	
4 48 16 166 G	16	6.2	2	48	0.7	96	diam. 16	15.5	4	A, B, C, D, E, F	

Accessories

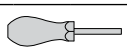
21 500 P
Torx screw
A > Page 195



06 500 P
Torx-screwdriver
B > Page 196



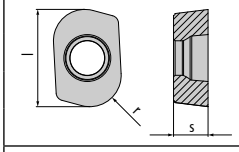
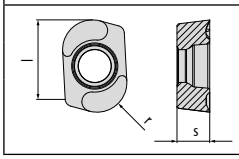
TV 04-1
Screwdriver torque Vario®-S with window scale, C > Page 197



TV 500
Torque Vario® setter adjusting tool
D > Page 197

T6 500 P
Torx interchangeable bit for Torque Vario®
E > Page 197

T6 502 P, Torx Magic-Spring compatible bit f. Torque Vario®
F > Page 198

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	02 66 835 R20	XCHW 062220 EN	HSC 05	PVTi	6.2	2.2	2	M 2.0
	02 66 835 R20 D	XCHW 062220 EN	HSC 05	PVDiaN	6.2	2.2	2	M 2.0
	02 66 836 R20	XCHW 062220 EN	HSC 05	PVTiH	6.2	2.2	2	M 2.0
	02 66 820 R20	XCHT 062220 FN	K10	polished	6.2	2.2	2	M 2.0
	02 66 860 R20	XCHT 062220 FN	K10	PVTi	6.2	2.2	2	M 2.0
	02 66 890 R20	XCHT 062220 EN	M40	PVST	6.2	2.2	2	M 2.0

Feed per tooth (fz) | d.o.c. (ap)

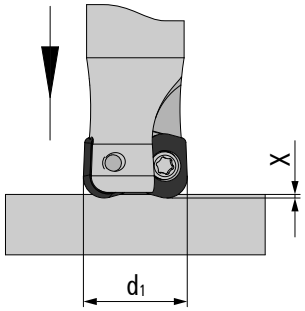
Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	f_z (mm) a_p (mm)	0,05-0,7 0,05-0,4	-	0,05-0,7 0,05-0,4	-	-	0,05-0,6 0,05-0,4
HSC 05 PVDiaN	f_z (mm) a_p (mm)	-	-	-	0,05-0,7 0,05-1	-	-
HSC 05 PVTiH	f_z (mm) a_p (mm)	0,05-0,7 0,05-0,4	-	0,05-0,7 0,05-0,4	-	-	0,05-0,6 0,05-0,4
K10 polished	f_z (mm) a_p (mm)	-	-	-	0,02-1 0,05-1	-	-
K10 PVTi	f_z (mm) a_p (mm)	-	0,02-0,4 0,02-0,3	-	0,02-1 0,05-1	0,02-0,1 0,02-0,15	-
M40 PVST	f_z (mm) a_p (mm)	-	0,03-0,6 0,05-1	-	-	0,03-0,6 0,05-1	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
HSC 05 PVTi	roughing pre finishing finishing	120 **185** 250 150 **275** 400 150 **275** 400	-	100 **150** 200 150 **225** 300 200 **275** 350	-	-	35 **143** 250 35 **143** 250 35 **143** 250
HSC 05 PVDiaN	roughing pre finishing finishing	-	-	-	200 **500** 800 200 **500** 800 200 **500** 800	-	-
HSC 05 PVTiH	roughing pre finishing finishing	120 **185** 250 150 **275** 400 150 **275** 400	-	100 **150** 200 150 **225** 300 200 **275** 350	-	-	35 **143** 250 35 **143** 250 35 **143** 250
K10 polished	roughing pre finishing finishing	-	-	-	100 **450** 800 100 **450** 800 100 **450** 800	-	-
K10 PVTi	roughing pre finishing finishing	-	- 90 **120** 150 120 **150** 180	-	100 **450** 800 100 **450** 800 100 **450** 800	- - 35 **68** 100	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 120 **185** 250	-	-	30 **55** 80 40 **65** 90 60 **90** 120	-

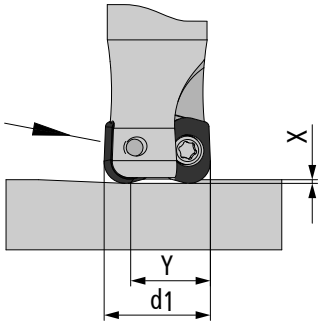
Extended operation data

Plunging



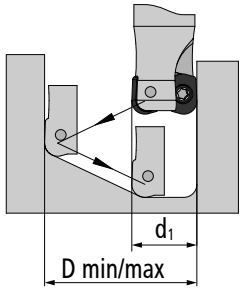
Cutter diam. d1	X_{max}
10-32	0.7

Ramping

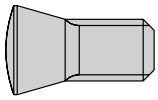
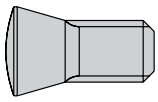
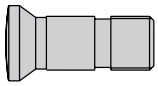
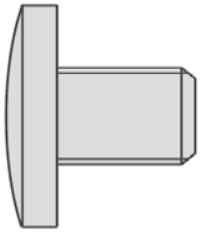


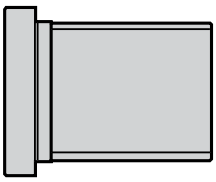
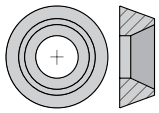
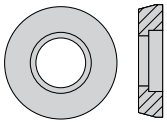
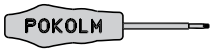
Cutter diam. d1	α°	y
10	<2,5	4
12	<2	6
16	<1,6	10
20	<1,2	14
25	<1	19
32	<1	26

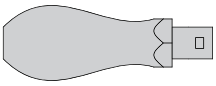
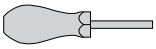
Helix

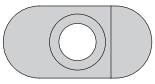
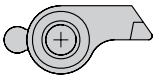


Cutter diam. d1	D_{min}	D_{max}
10	13	20
12	17	24
16	25	32
20	33	39
25	43	49
32	57	63

Accessories	Catalogue no.	Description				
Torx®screws | Torx®screws						
	18 500	Torx screw M 1.8 | L 3.7 | T 6	M 1.8	L 3.7	T 6	
	21 500	Torx screw M 2.0 | L 4 | T 6	M 2.0	L 4	T 6	
	21 500 P	Torx screw M 2.0 | L 4 | T 6	M 2.0	L 4	T 6	
	25 500	Torx screw M 2.5 | L 5.0 | T 7	M 2.5	L 5.0	T 7	
	25 500 K	Torx screw M 2.5 | L 4.5 | T 7	M 2.5	L 4.5	T 7	
	25 505 KP	Torx screw for Slotworx M M 2.5 | L 5.3 | T 8 Plus	M 2.5	L 5.3	T 8 Plus	
	25 505 P	Torx screw for Slotworx M M 2.5 | L 7.3 | T 8 Plus	M 2.5	L 7.3	T 8 Plus	
	30 500	Torx screw M 3.0 | L 7.0 | T 10	M 3.0	L 7.0	T 10	
	35 500	Torx screw M 3.5 | L 7.5 | T 15	M 3.5	L 7.5	T 15	
	35 500 L	Torx screw M 3.5 | 11 | T 15	M 3.5	11	T 15	
	35 505 P	Torx screw M 3,5 | L 9 | T 10 Plus	M 3,5	L 9	T 10 Plus	
	40 505 K	Torx screw M 4.0 | L 9.35 | T 15 Plus	M 4.0	L 9.35	T 15 Plus	
	40 505 P	Torx screw M 4.0 | L 10.58 | T 15 Plus	M 4.0	L 10.58	T 15 Plus	
	45 500	Torx screw M 4.5 | L 10.0 | T 20	M 4.5	L 10.0	T 20	
	45 500 L	Torx screw M 4.5 | 14.5 | T 20	M 4.5	14.5	T 20	
Torx®screws | Torx screws for ball nose inserts						
	25 505	Torx screw for ball nose inserts M 2.5 | L 6.36 | T 8 Plus	M 2.5	L 6.36	T 8 Plus	
	30 505	Torx screw for ball nose inserts M 3.0 | L 7.25 | T 9 Plus	M 3.0	L 7.25	T 9 Plus	
	40 505	Torx screw M 4.0 | L 10.58 | T 15	M 4.0	L 10.58	T 15	
Torx®screws | Locating screws						
	30 522	locating screw M 3.0 | L 6.9 | T 8	M 3.0	L 6.9	T 8	
	35 520	locating screw M 3.5 | L 7.6 | T 10	M 3.5	L 7.6	T 10	
	40 520	locating screw M 4.0 | L 10.2 | T 15	M 4.0	L 10.2	T 15	
	50 520	locating screw M 5.0 | L 13.5 | T 20	M 5.0	L 13.5	T 20	
Torx®screws | Locking screws						
	35 510	locking screw M 3.5 | T 15	M 3.5		T 15	
	35 511	locking screw M 3.5 | T 10	M 3.5		T 10	

Accessories	Catalogue no.	Description				
Cylindrical screws with hexagon socket | for shell-type and threaded shank adapters						
	M16X35	screw short head M 16 | L 35 | DIN 7984	M 16	L 35	DIN 7984	
Additional screws and washers | threaded and tapped bush						
	35 500 I	threaded and tapped bush intern.M 3.5 | extern. M 5 x 0.5 | hexa.size 3.5	intern.M 3.5	extern.M 5 x 0.5	hexa.size 3.5	
	45 500 I	threaded and tapped bush intern.M 4.5 | extern. M 6 x 0.75 | hexa.size 4.5	intern.M 4.5	extern.M 6 x 0.75	hexa.size 4.5	
Additional screws and washers | hexagon socket set screw						
	GWSTPS8ISK	hexagon socket set screw M 8x1.25 | M8x0.75 | hexa. size 4	M 8x1.25	M8x0.75	hexa. size 4	
	GWSTPS10ISK	hexagon socket set screw M10x1.5 | M10x1 | hexa. size 5	M10x1.5	M10x1	hexa. size 5	
Additional screws and washers | Locking washers						
	10 510	locking washer diam. 11 | for M 4.5	diam. 11	for M 4.5		
Additional screws and washers | shim						
	09 511	Shim for RDHX 12T3 diam. 10	diam. 10			
	10 511	Shim for RDHX 1604 diam. 14	diam. 14			
Spanners / screwdrivers | Torx-screwdriver						
	06 500	Torx-screwdriver T 6	T 6			
	06 500 P	Torx-screwdriver (Torx-Plus) T 6 Plus	T 6			
	07 500	Torx-screwdriver T 7	T 7			
	08 500	Torx-screwdriver T 8	T 8			
	08 500 P	Torx-screwdriver (Torx-Plus) T 8 Plus	T 8 Plus			
	09 500	Torx-screwdriver T 9	T 9			
	10 500	Torx-screwdriver T 10	T 10			
	10 500 P	Torx-screwdriver (Torx-Plus) T 10 IP	T 10 IP			
	15 500	Torx-screwdriver T 15	T 15			
	15 500 P	Torx-screwdriver (Torx-Plus) T 15 Plus	T 15 Plus			
	20 500	Torx-screwdriver T 20	T 20			

Accessories	Catalogue no.	Description				
Spanners / screwdrivers | Hexagonspanners						
	INBUS 3,5 W	Allen key 3,5 Incl. T15	Incl. T15			
	INBUS 4,5 W	Allen Key 4,5 Incl. T20	Incl. T20			
Torque screwdrivers and accessories | Torque screwdrivers						
	TV 1-5	Screwdriver torque Vario®-S with window scale from Nm 1.0 | up to 5,0 Nm | with scale, inc setter	from Nm 1.0	up to 5,0 Nm		
	TV 2-8	Screwdriver torque Vario®-S with window scale from Nm 2.0 | up to 8,0 Nm | with scale, inc setter	from Nm 2.0	up to 8,0 Nm		
	TV 04-1	Screwdriver torque Vario®-S with window scale from Nm 0.4 | up to 1,0 Nm | with scale, inc setter	from Nm 0.4	up to 1,0 Nm		
	TV 08-2	Screwdriver torque Vario®-S with window scale from Nm 0.8 | up to 2,0 Nm | with scale, inc setter	from Nm 0.8	up to 2,0 Nm		
	T6-0,5NM	Torque Fix® - S torque screwdriver Torque fixed at 0.5 Nm | suitable for SPINWORX® tools | System DR07			System DR07	
	T10-1,4NM	Torque Fix® - S torque screwdriver Torque fixed at 1.4 Nm | suitable for SPINWORX® tools | System DR10 | System DR12			System DR10	System DR12
	T20-2,5NM	Torque Fix® - S torque screwdriver Torque fixed at 2.5 Nm | suitable for SPINWORX® tools | System DR16 | System DR20			System DR16	System DR20
Torque screwdrivers and accessories | Torque Vario® setter adjusting tool						
	TV 500	Torque Vario® setter adjusting tool				
Torque screwdrivers and accessories | Torx bits, standard						
	T6 500	Torx interchangeable bit for Torque Vario® T 6 | L 175 | max. 0.6 Nm	T 6	L 175	max. 0.6 Nm	
	T6 500 P	Torx interchangeable bit for Torque Vario® T 6 IP | L 175 | max. 0.6 Nm	T 6 IP	L 175	max. 0.6 Nm	
	T7 500	Torx interchangeable bit for Torque Vario® T 7 | L 175 | max. 0.9 Nm	T 7	L 175	max. 0.9 Nm	
	T8 500	Torx interchangeable bit for Torque Vario® T 8 | L 175 | max. 1.3 Nm	T 8	L 175	max. 1.3 Nm	
	T8 500 P	Torx interchangeable bit for Torque Vario® T 8 IP | L 175 | max. 1.3 Nm	T 8 IP	L 175	max. 1.3 Nm	
	T9 500	Torx interchangeable bit for Torque Vario® T 9 | L 175 | max. 2.5 Nm	T 9	L 175	max. 2.5 Nm	
	T10 500	Torx interchangeable bit for Torque Vario® T 10 | L 175 | max. 3.8 Nm	T 10	L 175	max. 3.8 Nm	
	T10 500 P	Torx interchangeable bit for Torque Vario® T 10 | L 175 | max. 3.8 Nm	T 10	L 175	max. 3.8 Nm	
	T15 500	Torx interchangeable bit for Torque Vario® T 15 | L 175 | max. 5.5 Nm	T 15	L 175	max. 5.5 Nm	
	T15 500 P	Torx interchangeable bit for Torque Vario® T 15 IP | L 175 | max. 5.5 Nm	T 15 IP	L 175	max. 5.5 Nm	
	T20 500	Torx interchangeable bit for Torque Vario® T 20 | L 175 | max. 8.0 Nm	T 20	L 175	max. 8.0 Nm	

Accessories	Catalogue no.	Description				
Torque screwdrivers and accessories | Torx bits with retaining spring						
	T6 502	Torx MagicSpring compatible bit f. Torque Vario® T 6 | L 175 | max. 0.6 Nm	T 6	L 175	max. 0.6 Nm	
	T6 502 P	Torx MagicSpring compatible bit f. Torque Vario® T 6 IP | L 175 | max. 0.6 Nm	T 6 IP	L 175	max. 0.6 Nm	
	T7 502	Torx MagicSpring compatible bit f. Torque Vario® T 7 | L 175 | max. 0.9 Nm	T 7	L 175	max. 0.9 Nm	
	T8 502	Torx MagicSpring compatible bit f. Torque Vario® T 8 | L 175 | max. 1.3 Nm	T 8	L 175	max. 1.3 Nm	
	T8 502 P	Torx MagicSpring compatible bit f. Torque Vario® T 8 IP | L 175 | max. 1.3 Nm	T 8 IP	L 175	max. 1.3 Nm	
	T9 502	Torx MagicSpring compatible bit f. Torque Vario® T 9 | L 175 | max. 2.5 Nm	T 9	L 175	max. 2.5 Nm	
	T10 502	Torx MagicSpring compatible bit f. Torque Vario® T 10 | L 175 | max. 3.8 Nm	T 10	L 175	max. 3.8 Nm	
	T10 502 P	Torx MagicSpring compatible bit f. Torque Vario® T 10 | L 175 | max. 3.8 Nm	T 10	L 175	max. 3.8 Nm	
	T15 502	Torx MagicSpring compatible bit f. Torque Vario® T 15 | L 175 | max. 5.5 Nm	T 15	L 175	max. 5.5 Nm	
	T15 502 P	Torx MagicSpring compatible bit f. Torque Vario® T 15 IP | L 175 | max. 5.5 Nm	T 15 IP	L 175	max. 5.5 Nm	
	T20 502	Torx MagicSpring compatible bit f. Torque Vario® T 20 | L 175 | max. 8.0 Nm	T 20	L 175	max. 8.0 Nm	
Clamping claws						
	12 510	clamping claw for Trigaworx® S for M 2.5	for M 2.5			
Clamping finger						
	10 514	clamping finger for CBN with screw M 4.0 | T 15	with screw M 4.0	T 15		
Cleaning paste / copper paste						
	Z 00043	HTC ceramic paste WS 600 005 Tube 5 grams	Tube 5 grams			

STARTING TORQUES FOR TORX® SCREWS

with the Pokolm Torque Screwdriver

Allowable starting torques for Torx® screws in the Pokolm range of accessories.

Thread	Torx® size	max. starting torque*[Nm]	recommended starting torque*[Nm]
M 1.8	T 6	0.4	0.28
M 2.0	T 6	0.62	0.43
M 2.5	T 7 / T 8	1.28	0.90
M 3.0	T 9 / T 10	2.25	1.57
M 3.5	T 10 / T 15	3.45	2.40
M 4	T 15	5.15	3.60
M 4.5	T 20	7.60	5.30
M 5	T 20	10.20	7.10

* Starting torques apply to screws of strength category 12.9 and result in a load factor of 90% of yield point and are based on a mean friction coefficient of 0.14 µm.

The new Pokolm torque screwdrivers let you adjust your required starting torque quickly and easily.

Our adjustable torque screwdrivers can be safely operated because of the easily readable scale. With interchangeable bits for universal use.

The new TORX® Torque-screwdrivers are placed in chapter "Accessories".

Your advantage:
The defined and reproducible fixture of indexable inserts and clamping elements in our milling cutter bodies ensures optimum retention forces, thus preventing damage to milling cutters, inserts, and screws.

High Standard of Quality: Pokolm uses quality screws and screwdrivers made by leading manufacturers. They are optimally coordinated with the high-performance capability of our products. All accessories can be found on the following pages.

HIGH-SPEED SPINDLE SYSTEMS

MODERN SPINDLE UNITS FOR EFFECTIVE MILLINGS RESULTS

Many milling machines – both old and new – have a relatively low maximum speed. Low maximum speed does have advantages in roughing operations, but are a big drawback for achieving effective feed rates.Low speed also greatly limits the advantages of modern CNC applications. The results: much longer machining times and loss of valuable production capacities.

We offer a convincing solution for this situation:Pokolm high-speed spindle systems for the most profitable machining results.

BETTER SURFACE FINISH RESULTS AND GREATLY IMPROVED CYCLE TIME

The advantages are impressive: higher cutting speeds, utilization of maximum feed rates – even with the smallest end mills – better surface finish and a great reduction in the need for EDM. Results: much shorter machining times and full utilization of the CNC advantages.

Pokolm provides various spindle systems for individual adaptation to existing machines and operation requirements. Operating with an approach angle of these spindles in A and C direction by using our swivel device, increases the variety of applications of your milling machine.

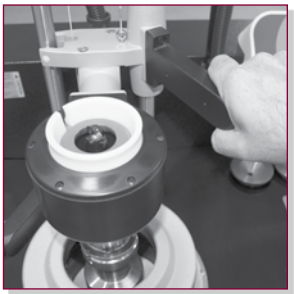
Get the maximum speed from your machines with Pokolm-spindle systems. The result: You save time!

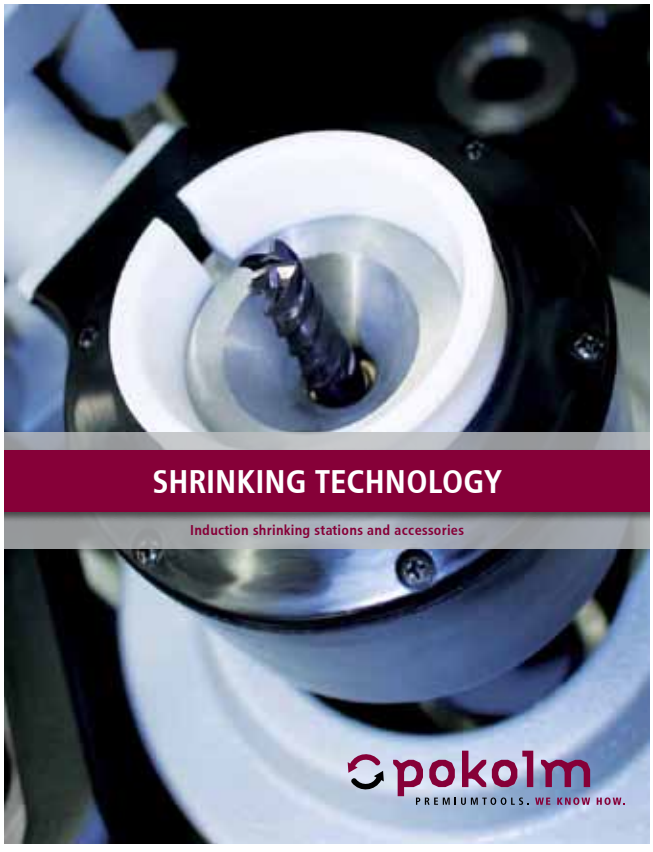
Ask our service centre about spindles:

- spare parts
- repairs
- inspection
- maintenance
- swivel devices
- CNC machine connection

Please contact us!

INDUCTIVE SHRINKING TECHNOLOGY





FIRST OPERATION: SHRINKING, THEN MILLING

Shrinking Technology convinces everybody compared with conventional chucking methods from the past. What counts? Absolute concentricity and highest precision with extensive extended tool life. Shrinking technology offers a safe friction-locked connection between tool and tool holder and povides an increased transferable torque. And the qualification for maximum revolutions is the best precondition for an optimum surface finish and for reducing costs for expensive finishing processes.

Compared to coventional milling chucks, shrinking arbors allow the use of distinctly slim adaptors for machining components with narrow situations, which would be unexecutable with other tool-holding systems.

Pokolm offers a substantial range of tooling for shrinking technology: several top-class Induction Shrinking Units, shrinking arbors for all possible machine connections and our patent-protected connection system **DUOPLUG®** in combination with our "zero-reach"-shrinking arbors. (Additional information about the Pokolm **DUOPLUG®** System can be found under chapter "Milling Cutter Bodies" of this catalogue.)

MATERIAL GROUP CROSS REFERENCES

		M. No.	DIN	European Standard	France AFNOR	Great Britain BS	Japan JIS	Italia UNI	Sweden SS	Spain U.N.E./I.H.A	USA AISI/SAE
Steel	Free Machining Steel/ Mild Steel	1.0037	St37-2	S235JR	E34-2	37/23 HR	SN 400 B	Fe 360 B FU	1311	AE 235 B	1015
		1.0044	St44-2	S275JR	E28-2	43/25 HR	SN 400 B	Fe 430 B FN	1412	AE 275 B	1020
		1.0050	St50-2G	E295	A50-2	4360	SS 490	Fe 490	1550/2172	A 490	-
		1.0070	St70-2G	E360	A70-2	4360	-	Fe 690	1655	A 690	-
		1.0570	St52-3	S355J2G3	E36-3	50/35 HR	SM490 A;B;C;YA;YB	Fe 510/Fe52B FN/Fe52 CFN	2132/2134	AE 355 D	1024
		1.1141	Ck15	C15E	XC 18	080 M 15	S15C	C16	1370	C15K	1015 / 1017
		1.1191	Ck45	C45E	XC 45	080 M 46	S45C	C45	1672	C45E	1042 / 1045
		1.1730	C45W	C45U	Y3 42 / Y3 48	EN 43 B	-	-	1672	F.114	1045
		1.7131	16MnCr5	16MnCr5	16 MC 5	527 M 17	-	16MnCr5	2173/2511	F.1516	5115 / 5117
	Normal Tool Steels/ Steel Castings	1.2067	100Cr6	102Cr6	Y100C6	BL 3	SUJ 2	-	-	100Cr6	L3
		1.2162	21MnCr5	21MnCr5	-	-	-	-	-	-	-
		1.2307	29CrMoV9	29CrMoV9	-	-	-	-	-	-	-
		1.2311	40CrMnMo7	35CrMo 8	-	-	-	35CrMo8KU	-	F.5263	P20
		1.2312	40CrMn MoS8-6	-	-	-		-	-	X210CrW12	P20+1
		1.2323	48CrMoV6-7	-	-	-	-	-	-	-	-
		1.2341	6CrMo15-5	5CrMo16	-	-	-	-	-	-	P4
		1.2343	X37CrMoV5-1	X37CrMoV5-1	Z38CDV5	BH 11	SKD 6	X37Cr MoV51KU	X37CrMo V5-1	X37Cr MoV5-1	H11
		1.2344	X40CrMoV5-1	X40CrMoV5-1	Z40CDV5	BH 13	SKD 61	X40CrMo V511KU	2242	X40Cr MoV5-1	H13
		1.2842	90MnCrV8	90MnCrV8	90MV 8	BO 2	-	90 MnCrV 8 KU	-	F.5229	O2
	Tools Steels, Chrome-Nickel Alloys, Steel castings, difficult to machine	1.2080	X210Cr12	X210Cr12	Z200C12	BD 3	SKD 1	-	X210Cr12	X210Cr12	D3
		1.2363	X100CrMoV5	X100CrMoV5	Z100CDV5	BA 2	SKD 12	X205 Cr12KU	2260	X100CrMoV5	A2
		1.2369	81MoCr V42-16	-	-	-	-	X100CrMoV5 1KU	-	-	613
		1.2379	X153CrMoV12	X153CrMoV12	Z 160 CDV 12	BD 2	SKD10/ SKD11	X155CrV Mo121KU	2310	X153CrMoV12	D2
		1.2567	30WCrV17-2	X30WCrV53	-	-	SKD 4	-	-	-	-
		1.2708	54NiCrMoS 6	-	-	-	-	-	-	-	-
		1.2713	55NiCrMoV6	55 NiCrMoV 7	-	-	(SKT4)	-	-	F.520.S	L6

		M.-No.	DIN	European Standard	France AFNOR	Großbritannien BS	Japan JIS	Italia UNI	Sweden SS	Spain U.N.E./I.H.A	USA AISI/SAE
Steel	Tools Steels, Chrome-Nickel Alloys, Steel castings	1.2738	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4	-	-	-	-	-	-	-
		1.2767	45NiCrMo16	45NiCrMo16	-	-	SKT 6	40NiCrMo V16KU	-	-	-
		1.6358	XNiCo Mo18-9-5	-	-	-	-	-	-	-	-
High-temperature Alloys	Heat-resistence Alloys	1.3401	X120Mn12	-	Z120M12	BW 10	SCMnH 1	G-X120Mn12	2183	F.8251	-
		1.4865	GX40NiCr Si38-19	GX40NiCr Si38-19	GX40NiCr Si38-19	3330 C 11 / 331 C 40	SCH 15	GX40NiCr Si38-19	GX40NiCr Si38-19	GX40NiCr Si38-19	-
		2.4375	NiCu30Al (Monel K-500)	-	(NU30AT)	NA 18	-	-	-	-	Monel K-500
		2.4610	NiMo16Cr16Ti (Almenit 4610)	-	-	NA 45	-	-	-	-	Hastelloy C-4
		2.4619	NiCr22Mo7Cu (Coralloy 4619)	-	-	-	-	-	-	-	Hastelloy G-3
		2.4631	NiCr20TiAl (Nimonic 80A)	Ni-P95-HAT (AECMA)	NC 20 TA	(2HR201; HR401,601)	NCF 80A	-	-		Nimonic 80 A; HEV 5
		2.4636	NiCo15Cr15Mo AlTi (Dux 4636)	-	-	HR 4	-	-	-	-	Nimonic 115
		2.4648	EL-NiCr19Nb (FoxNibas 70/20)	-	-	-	-	-	-	-	-
		2.4668	NiCr19NbMo (Inconel 718)	NiCr19Fe19 Nb5Mo3	NC19FeNb	NiCr19Fe19 Nb5Mo3	NCF 718	NiCr19Fe19 Nb5Mo3	NiCr19Fe19 Nb5Mo3	NiCr19Fe19 Nb5Mo3	Inconel 718 XEV-I
		2.4856	NiCr22Mo9Nb (Inconel 625)	NiCr22MO9Nb	NC22FeDNb	NA 43/Na 21	NCF 625	NiCr22MO9Nb	NiCr22MO9Nb	NiCr22MO9Nb	Inconel 625
	Titanium Alloys	-	Ti99,5 HB 30-200	-	-	-	-	-	-	-	-
		-	Ti99,6 HB 30-170	-	-	-	-	-	-	-	-
		-	Ti99,7 HB 30-150	-	-	-	-	-	-	-	-
		-	Ti99,8 HB 30-120	-	-	-	-	-	-	-	-
		-	TiAl6V4ELI	-	-	TA11	-	-	-	-	AMS R56401
		-	TiAl5Sn2.5	-	T-A5E	TA14/17	-	-	-	-	AMS 54520
		3.7025	Ti 1	-	-	2 TA 1	-	-	-	-	AMS R50250
		3.7124	TiCu2	-	-	2 TA21-24	-	-	-	-	-
		3.7145	TiAl6Sn2 Zr4Mo2Si	-	-	-	-	-	-	-	AMS R54620
		3.7165	TiAl6V4	-	T-A6V	TA10-13 / TA28	-	-	-	-	AMS R56400
		3.7175	TiAl6V6Sn2	-	-	-	-	-	-	-	-
		3.7184	TiAl4Mo4Sn2	-	-	-	-	-	-	-	-
		3.7185	TiAl4Mo4Sn2	-	-	TA 45-51; TA57	-	-	-	-	-
		3.7225	Ti 1 Pd	-	-	TP1	-	-	-	-	AMS 52250

MATERIAL GROUP CROSS REFERENCES (continued)

		M.-No.	DIN	European Standard	France AFNOR	Great Britain BS	Japan JIS	Italia UNI	Sweden SS	Spain U.N.E./I.H.A	USA AISI/SAE
Stainless Steel	all sorts	1.2316	X36CrMo17	X38CrMo16	Z38CD16-01	X38CrMo16	-	X38CrMo16	-	F.5267	-
		1.2367	X38CrMoV5-3	X38CrMoV5-3	Z38CDV5-3	X38CrMoV5-3	-	X38CrMoV5-3	X38CrMoV5-3	X38CrMoV5-3	-
		1.3543	X102CrMo17	X108CrMo17	Z100CD17	X108CrMo17	SUS 440C	X105CrMo17	X108CrMo17	F.3425	440 C
		1. 4059	GX22CrNi17	-	Z20CN 17.2M	ANC 2	-	-	-	-	-
		1.4122	GX35CrMo17	X39CrMo17-1	Z38CD 16.1CI	X39CrMo17-1	-	X39CrMo17-1	X39CrMo17-1	X39CrMo17-1	-
		1.4301	X5CrNi18-10	X5CrNi18-10	Z6CN18.09	304 S 15	SUS 304	X5CrNi1810	2332	F.3504	304
		1.4305	X12CrNiS18-8	X8CrNiS18-9	Z8CNF18-09	303 S 31	SUS 303	X10CrNiS18-9	2346	F.310.C	303
		1.4340	GX40CrNi27-4	-	-	-	-	G X 35 CrNi 28 05	-	-	-
		1.4401	X5CrNiMo 17-12-2	X5CrNiMo 17-12-2	Z7CND 17-11-02	316 S 33	SUS 316	X5CrNiMo 17 12	2347	F.3534	316
		1.4462	X2CrNiMoN 22-5-3	X2CrNiMoN 22-5-3	Z2CND 22-06-03	318 S 13	SUS 329J3L	X2CrNiMoN 22-5-3	2377	X2CrNiMoN 22-5-3	S31803/ S32205
		1.4541	X10CrNiTi18-9	X6CrNiTi18-10	Z6CNT 18-10	321 S 31	SUS 321	X6CrNiTi18-10	2337	F.3523	321
		1.4551	X10CrNi 18-9	X5CrNiNb 20 10 KE	Z6CNNb 20-10	-	SUS Y 374	-	-	-	-
		1.4571	X10CrNiMo Ti18-10	X6CrNiMo Ti17-12-2	Z6 CNDT 17-12	320 S 31	SUS 316Ti	X6CrNiMo Ti17-12	2350	F.3535	316Ti
		1.4712	X10CrSi6	-	-	-	-	-	-	-	-
		1.4742	X10CrAl18	X10CrSi18	Z10CAS18	430 S 15	SUS 430	X8Cr17	-	F.3113	430
Cast Iron	Grey Cast Iron	0.6010	GG10	EN-GJL-100	Ft10D	GRADE100	FC 10	G10	0110-00	FG 10	N0 20 B
		0.6020	GG20	EN-GJL-200	Ft20D	GRADE200	FC 20	G20	0120-00	FG 20	No 30 B
		0.6030	GG30	EN-GJL-300	Ft30D	GRADE300	FC 30	G30	0130-00	FG 30	No 45 B
		0.6040	GG40	EN-GJL-350	Ft35D	GRADE350	FC 35	G35	0135-00	FG 35	-
	Spheroidal Graphite	0.7040	GGG-40	EN-GJS-400-15	FGS 400-12	SNG 420/12	FCD 400	GS 400/12	07 17-02	FGE 38-17	60-40-18
		0.7050	GGG-50	EN-GJS-500-7	FGS 500-7	SNG 500/7	FCD 500	GS 500/7	07 27-02	FGD 50-7	65-45-12
		0.7060	GGG-60	EN-GJS-600-3	FGS 600-7	SNG 600/3	FCD 600	GS 600/3	07 32-03	FGE 60-2	80-55-06
		0.7070	GGG-70	EN-GJS-700-2U	FGS 700-2	SNG 700/2	FCD 700	GS 700/2	07 37-01	FGS 70-2	100-70-03
		0.7080	GGG-80	E8N-GJS-800-2	FGS 800-2	SNG 800/2	FCD 800	GS 800/2	-	-	120-90-02
	Tempered Castings	GTS 35-10	EN-G-JMB-350-10	MN 35-10	B 340/12	-	-	08 15	-	32510	-
		GTS 45-06	EN-G-JMB-450-6	-	P 440/7	-	-	08 52	-	40010	-
		GTS 55-04	EN-G-JMB-550-4	MP 50-5	P 510/4	-	-	08 54	-	50005	-
		GTS 65-02	EN-G-JMB-650-2	MP 60-3	P 570/3	-	-	08 85	-	70003	-

		M.-No.	DIN	European Standard	France AFNOR	Great Britain BS	Japan JIS	Italia UNI	Sweden SS	Spain U.N.E./I.H.A	USA AISI/SAE
Non-ferrous Materials	Aluminum	3.0255	Al99.5	EN-AW-1050A	A59050C	L31/L34/L36	-	-	-	-	1000
		3.1325	AlCuMg1	EN-AW-2017A	-	-	-	-	-	-	-
		3.2163	G-AlSi9Cu3	EN-AC-46200	-	-	-	-	-	-	-
		3.2315	AlMgSi1	EN-AW-6082	-	-	-	-	-	-	-
		3.2383	G-AlSi10Mg	-	-	LM 9	-	-	4253	-	A 360.2
		3.2581	G-AlSi12	EN-AW-2017A	-	LM 6	-	-	4261	-	A 413.2
		3.3535	AlMg3	EN-AW-5754	-	-	-	-	-	-	-
		3.4345	AlZnMgCu0,5	EN-AW-7022	AZ4GU/9051	L 86	-	-	-	-	7050
		3.5105	GMgZn4 SE1Zr1	-	G-Z4TR	MAG 5	-	-	-	-	ZE 41
		3.5812	G-MgAl8Zn1	-	G-A9	MAG 1	-	-	-	-	AZ 81
	Copper	-	CuMn5F36	-	-	-	-	-	-	-	-
		-	CuSi2MnF34	-	-	-	-	-	-	-	-
		-	E-Cu57	-	-	-	-	-	-	-	-
		-	CuZn15	-	CuZn 15	CZ 102	-	-	-	-	C 23000
		-	CuZn30	-	CuZn 30	CZ 106	-	-	-	-	C 26000
		-	CuZn37	-	CuZn 37	CZ 108	-	C2720	-	-	C 27700
		-	CuZn36Pb3	-	-	-	-	-	-	-	-
		-	G-CuZn34Al2	-	U-Z36N 3	HTB 1	-	-	-	-	C 86200
		-	G-CuSn5ZnPb	-	U-E5Pb5Z5	LG 2	-	-	-	-	C 83600
		-	G-CuPb10Sn	-	U-E10Pb10	LB 2	-	-	-	-	C 93700
		-	CuCrZr	-	U-Cr 0,8 Zr	CC 102	-	-	-	-	C 18200
	Graphite	-	ISO-63	-	-	-	-	-	-	-	-
		-	ISO-90	-	-	-	-	-	-	-	-
		-	ISO-93	-	-	-	-	-	-	-	-
		-	ISO-95	-	-	-	-	-	-	-	-
	Plastics	-	Ureol® 5211 A/B	-	-	-	-	-	-	-	-
		-	Ureol® 5212 A/B	-	-	-	-	-	-	-	-
		-	Ureol® 5213 A/B	-	-	-	-	-	-	-	-
		-	Ureol® 5214 A/B	-	-	-	-	-	-	-	-
		-	Ureol® 5215 A/B	-	-	-	-	-	-	-	-
		-	Ureol® 5216 A/B	-	-	-	-	-	-	-	-
		-	Ureol® 5217 A/B	-	-	-	-	-	-	-	-
		-	Ureol® 5218 A/B	-	-	-	-	-	-	-	-
		-	Ureol® 5219 A/B	-	-	-	-	-	-	-	-

MATERIAL GROUP CROSS REFERENCES (continued)

		M.-No.	DIN	European Standard	France AFNOR	Great Britain BS	Japan JIS	Italia UNI	Sweden SS	Spain U.N.E./I.H.A	USA AISI/SAE
Hardened Steel	up to 48HRC	1.2311	40CrMnMo7	35CrMo 8	-	-	-	35CrMo 8 KU	-	-	-
		1.2312	40CrMn-MoS8-6	-	-	-	-	-	-	-	-
		1.2323	48CrMoV6-7	-	-	-	-	-	-	-	-
		1.2343	X38CrMoV5-1	X37CrMoV5-1	Z38CDV 5	BH 11	SKD 6	X37CrMo V51 KUa	X37CrMoV5-1	F.520.G	H 11
		1.2344	X40CrMoV51	X40CrMoV5-1	Z40CDV 5	BH 13	SKD 61	X40CrMo V 5 1 1 KU	2242	X40CrMo V 5-1	H 13
		1.2708	54NiCrMoS6	-	-	-	-	-	-	-	-
		1.2842	90MnCrV8	90MnCrV8	90Mv8	BO 2	-	90MnVCr 8 KU	90MnCrV8	F.5229	O 2
	up to 55HRC	1.2080	X210Cr12	X210Cr12	Z200C12	BD 3	SKD 1	X210Cr12	X210Cr12	F.521	D 3
		1.2323	48CrMoV6-7	-	-	-	-	-	-	-	-
		1.2344	X40CrMoV5-1	X40CrMoV5-1	Z40CDV5	BH 13	SKD 61	X40CrMoV5-1	2242	X40CrMoV5-1	H 13
		1.2363	X100CrMoV51	X100CrMoV5	Z100CDV5	BA 2	SKD 12	X100CrMoV5	2260	X100CrMoV5	A 2
		1.2369	81MoCrV 42-16	-	-	-	-	-	-	-	613
		1.2379	X155CrV-Mo12-1	X153CrMoV12	Z160CDV12	BD 2	SKD 11	X153CrMoV12	2310	X153CrMoV12	D 2
		1.2567	30WCrV17-2	X30WCrV53	-	-	SKD 4	-	-	-	-
		1.2708	54NiCrMoS6	-	-	-	-	-	-	-	-
		1.2713	55NiCrMoV6	55NiCrMoV7	55NCDV7	-	SKT 4	-	-	F.520.S	L 6
		1.2738	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4	40CrMnNi Mo8-6-4
		1.2767	X45NiCrMo4	45NiCrMo16	45NiCrMo16	45NiCrMo16	SKT 6	45NiCrMo16	45NiCrMo16	45NiCrMo16	-
		1.2842	90MnCrV8	90MnCrV8	90MnCrV8	BO 2	-	90MnCrV8	90MnCrV8	90MnCrV8	O 2
	up to 65HRC	1.2080	X210Cr12	X210Cr12	Z200C12	BD 3	SKD 1	X210Cr12	X210Cr12	X210Cr12	D 3
		1.2363	X100CrMoV5	X100CrMoV5	Z100CDV5	BA 2	SKD 12	X100CrMoV5	2260	X100CrMoV5	A 2
		1.2369	81MoCrV 42-16	-	-	-	-	-	-	-	613
		1.2379	X153CrMoV12	X153CrMoV12	Z160CDV12	BD 2	SKD 10	X153CrMoC12	2310	X153CrMoC12	D 2
		1.2767	45NiCrMo16	45NiCrMo16	45NiCrMo16	45NiCrMo16	SKT 6	45NiCrMo16	45NiCrMo16	45NiCrMo16	-
		1.2842	90MnCrV8	90MnCrV8	90MnCrV8	BO 2	-	90MnCrV8	90MnCrV8	90MnCrV8	O2

HARDNESS CONVERSION TABLE

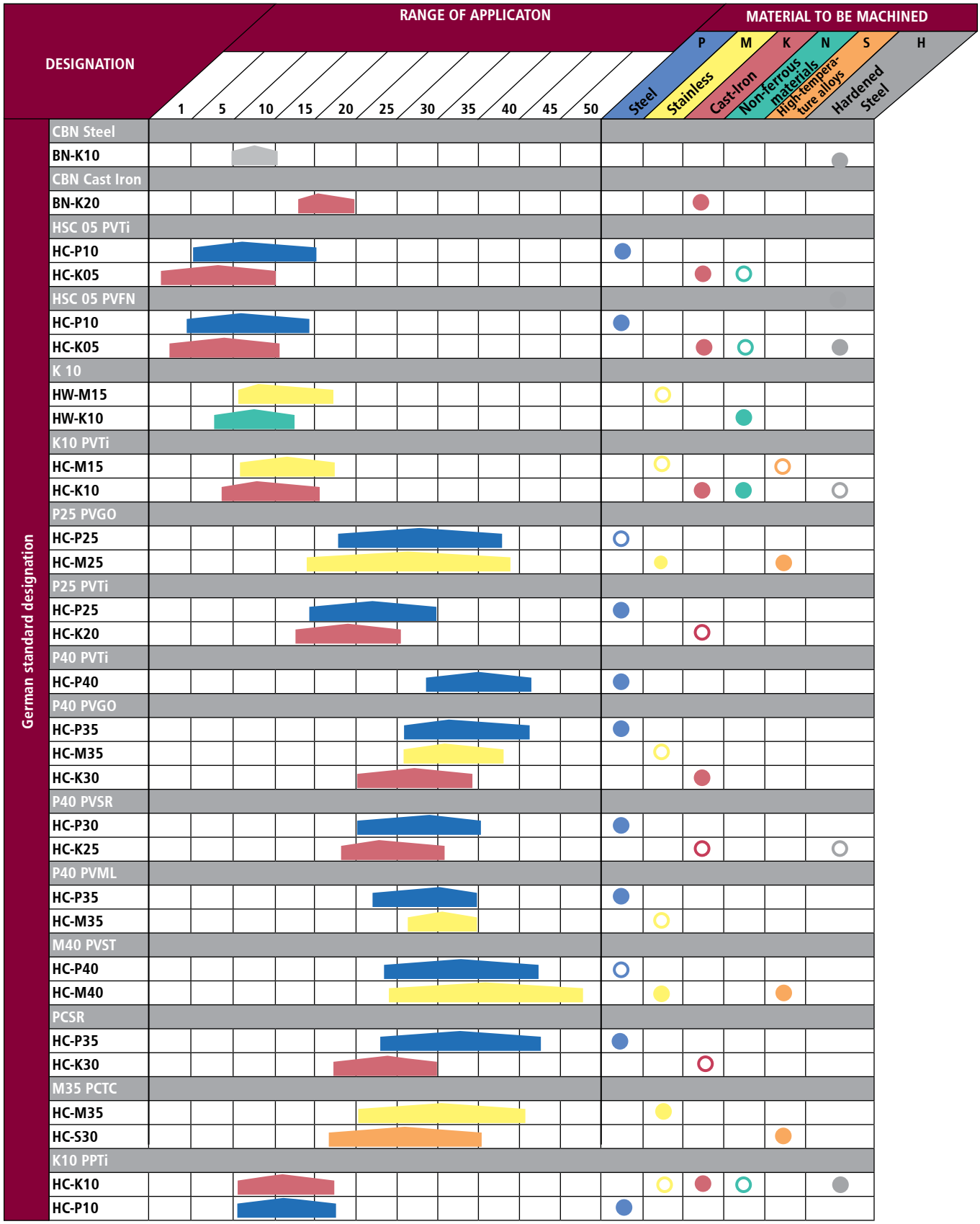
Tensile Strength, Vickers-, Brinell- und Rockwell Hardness

Tensile Strength R_m N/mm²	Vickers Hardness HV10	Brinell Hardness HB	Rockwell Hardness HRC
255	80	76,0	
270	85	80,7	
285	90	85,5	
305	95	90,2	
320	100	95,0	
335	105	99,8	
350	110	105	
370	115	109	
385	120	114	
400	125	119	
415	130	124	
430	135	128	
450	140	133	
465	145	138	
480	150	143	
495	155	147	
510	160	152	
530	165	156	
545	170	162	
560	175	166	
575	180	171	
595	185	176	
610	190	181	
625	195	185	
640	200	190	
660	205	195	
675	210	199	
690	215	204	
705	220	209	
720	225	214	
740	230	219	
755	235	223	
770	240	228	20,3
785	245	233	21,3
800	250	238	22,2
820	255	242	23,1
835	260	247	24,0
850	265	252	24,8
865	270	257	25,6
880	275	261	26,4
900	280	266	27,1
915	285	271	27,8
930	290	276	28,5
950	295	280	29,2
965	300	285	29,8
995	310	295	310
1030	320	304	32,2
1060	330	314	33,3
1095	340	323	34,4
1125	350	333	35,5

Tensile Strength R_m N/mm²	Vickers Hardness HV10	Brinell Hardness HB	Rockwell Hardness HRC
1155	360	342	36,6
1190	370	352	37,7
1220	380	361	38,8
1255	390	371	39,8
1290	400	380	40,8
1320	410	390	41,8
1350	420	399	42,7
1385	430	409	43,6
1420	440	418	44,5
1455	450	428	45,3
1485	460	437	46,1
1520	470	447	46,9
1555	480	456*	47,7
1595	490	466*	48,4
1630	500	475*	49,1
1665	510	485*	49,8
1700	520	494*	50,5
1740	530	504*	51,1
1775	540	513*	51,7
1810	550	523*	52,3
1845	560	532*	53,0
1880	570	542*	53,6
1920	580	551*	54,1
1955	590	561*	54,7
1995	600	570*	55,2
2030	610	580*	55,7
2070	620	589*	56,3
2105	630	599*	56,8
2145	640	608*	57,3
2180	650	618*	57,8
	660		58,3
	670		58,8
	680		59,2
	690		59,7
	700		60,1
	720		61,0
	740		61,8
	760		62,5
	780		63,3
	800		64,0
	820		64,7
	840		65,3
	860		65,9
	880		66,4
	900		67,0
	920		67,5
	940		68,0

CLASSIFICATION OF CARBIDE MATERIAL GRADES INDEXABLE INSERTS FOR MILLING

Designation of main groups of chip removal and groups of application according to ISO 513



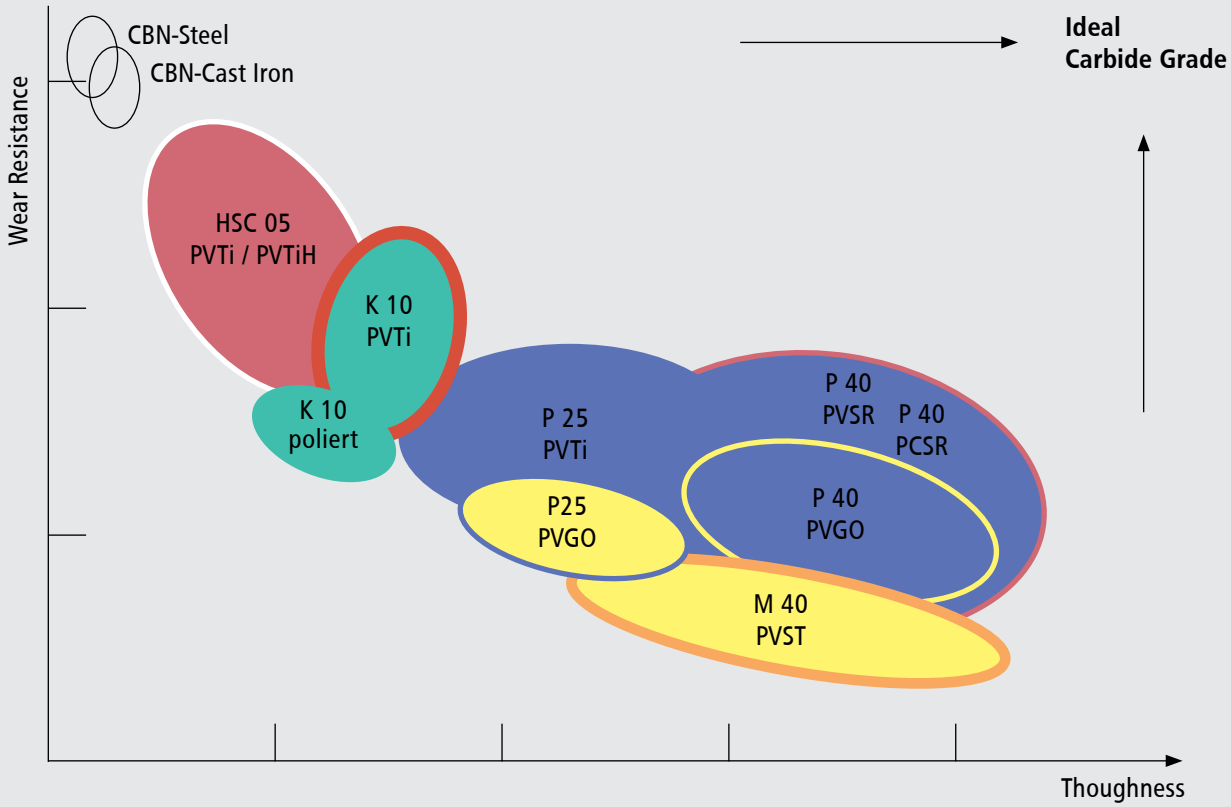
● Major application
○ Minor application

Full colour circle symbols represent: Major applications for materials to be machined.
Hollow colour circle symbols represent: Minor applications for materials to be machined.
The upper point of the pentagon-symbol indicates major applications. Sloping sides to the right or left indicate minor apllications.

DIAGRAM WEAR RESISTANCE

For classification of the main carbide grades for milling according to its wear resistance and toughness

This diagram shows the ratio of wear resistance to toughness of our main carbide grades for milling applications. It displays extended operative ranges, shows possibilities of supplementary use and alternatives of main grades in case of different kinds of tool wear. It also illustrates the multiplicity of the operative range.



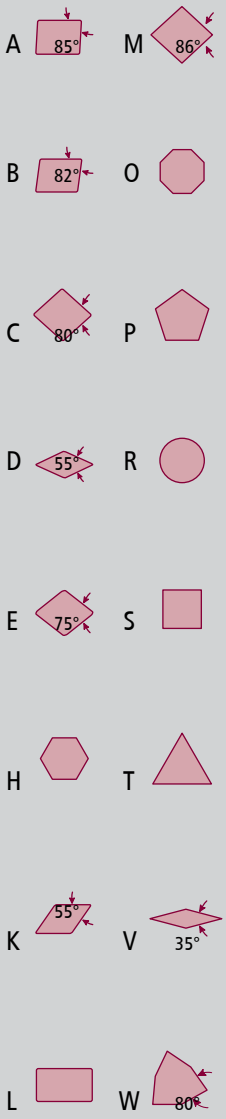
IDENTIFICATION CODE ACCORDING ISO 1832

INDEXABLE INSERTS

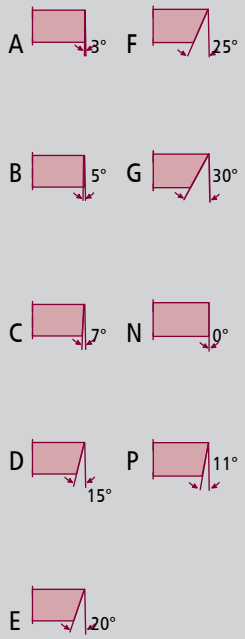
Example of identification code according to DIN ISO 1832

R D H X

1 Shape

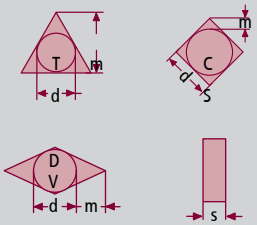


2 Clearence angle



O for other clearence angles that require a more precise descreption

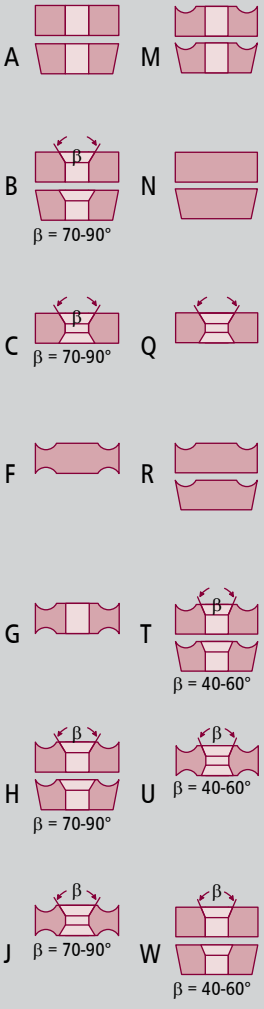
3 Tolerances



	d	m	s
A	± 0,025	± 0,005	± 0,025
C	± 0,025	± 0,013	± 0,025
E	± 0,025	± 0,025	± 0,025
F	± 0,013	± 0,005	± 0,025
G	± 0,025	± 0,025	± 0,05-0,13
H	± 0,013	± 0,013	± 0,025
J1	± 0,05-0,15[2]	± 0,005	± 0,025
K1	± 0,05-0,15[2]	± 0,013	± 0,025
L1	± 0,05-0,15[2]	± 0,025	± 0,025
M	± 0,05-0,15[2]	± 0,02-0,08[2]	± 0,05-0,13
N	± 0,05-0,15[2]	± 0,02-0,08[2]	± 0,025
U	± 0,08-0,15[2]	± 0,13-0,38[2]	± 0,13

[1] inserts with ground wiper edges
[2] depending on size of inserts (see ISO-Norm 1832)

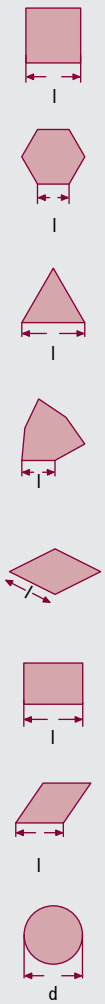
4 Symbols for fixing and chipbreakers



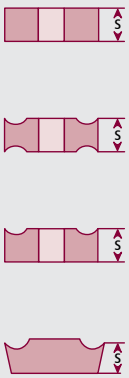
X dimensions or characteristics requiring precise discreptions

16 04 M0 T N -

5 Length of cutting edge

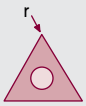


6 Thickness



s = 1,59 01
s = 1,98 T1
s = 2,38 02
s = 2,78 T2
s = 3,18 03
s = 3,97 T3
s = 4,76 04
s = 5,56 05
s = 6,35 06
s = 7,94 07
s = 9,52 09

7 Corner configuration



r = 0,2 02
r = 0,4 04
r = 0,8 08
r = 1,2 12
r = 1,6 16
r = 2,4 24

Clearance angle on wiper edge

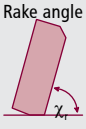
A = 3°
B = 5°
C = 7°
D = 15°
E = 20°
F = 25°
G = 30°
N = 0°
P = 11°

Z = other clearence angle

00 for diameters in the imperial system converted to mm.

M0 for diameters in the metric system.

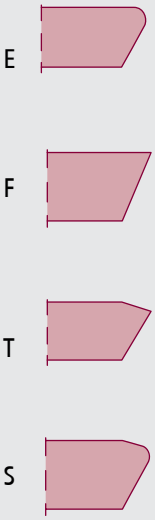
Rake angle χr



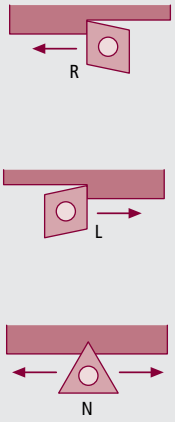
A = 45°
D = 60°
E = 75°
F = 85°
P = 90°

Z = other clearence angle

8 Cutting edge shape



9 Advance feed



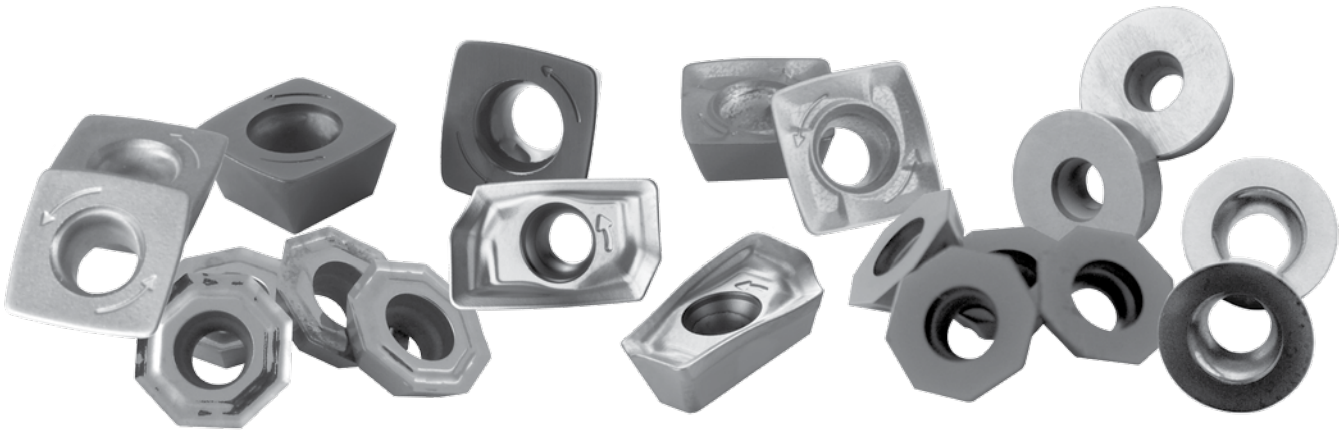
10 Special code for manuf.

One or two-digit codes (numbers or letters) are selected by manufacturer. They must be seperated from the prior codes by a hyphen (-).

for 5 + 6 Figures after the comma are to be disregarded. In the case of a one-digit code, a lead "0" must be added (e.g. the code for 4.76 mm is 04).
for 8 + 9 Codes 8 and/or 9 are used only if required.

COATING SUMMARY

Inserts



Description		Colour	Vickers Hardness HV	Maximum Temperature in Centigrade	Type of Coating	Thickness of Coating in µm
PVTi	TiAlN	blue/grey	3600	up to 850°	PVD	2 to 4
PVDiaN	Diamond-coating, normal	dull grey	10000	up to 600°	CVD	6 to 8
PVSR	-	black	1420 HV30	up to 1000°	CVD	4 to 6,5
PVGM	-	gold	1280 HV30	up to 650°	CVD	2 to 3,5
PVML	TiAlSiN	gold	3300	800° to 850°	PVD	2,5 to 5
PVFN	PVFN	blue/grey	3300	up to 950°	PVD	2 to 4
PVGO	TiAlN + TiN	yellow/gold	3150	900°	PVD	2 to 4,5
PVTiH	TiAlN Multilayer	violet/brown	3600	up to 1100°	PVD	4 to 5
PVST	ALTiN	blue/grey	3300	up to 950°	PVD	2 to 4
PCSR	-	black	1450 HV 30	up to 900°	CVD	8 to 10
PCTC	-	silver	1530 HV 30	up to 1000°	CVD	6 to 7
PPTi	nc-TiAlN	black / gray	3600	up to 900°	PVD	3 to 5

CUTTING MATERIALS

Material	Coatings	Steel	High-temperature Alloys	Stainless Steel	Cast Iron	Non - ferrous Materials	Hardened Steel	
P40	PVTi	▼						Coated very tough standard carbide grade for roughing of steel with medium surface speed and increased tool life.
P40	PVGO	▼		▽	▼			Coated, very tough high performance special carbide grade for pre-finishing and roughing steel, suitable for medium up to high speed values, partial suitable for cutting cast iron and stainless steel.
P40	PVSR	▼			▼		▼	Coated extremely tough special carbide grade for pre-finishing and roughing of steel, with medium surface speed and extremely high feed rates.
P40	PVGM	▼	▼	▼				Coated very tough high performance special carbide grade for pre-finishing and roughing of stainless steel, high temperature alloys and titanium.
P40	PVML	▼		▼	▼		▼	Coated, tough special carbide grade for pre-finishing and roughing steel at medium and high cutting speeds; in part suitable for finishing and for cast iron and stainless steel machining.
P25	PVTi	▼			▼			Coated tough standard carbide grade for pre-finishing and-finishing of steel with medium and higher cutting speed and increased tool life.
K10	poliert	▼	▼	▼	▼	▼	▼	Uncoated standard carbide grade for medium surface speed for milling of cast iron, non-ferrous-materials and graphite.
K10	PVTi	▼	▼	▼	▼	▼	▼	Coated standard carbide grade for medium surface speed-for milling of cast iron, non-ferrous-materials and graphite and increased tool life.
K10	PVDiaN					▼		Diamond-coated standard carbide grade for high-speedfinishing of non-ferrous-materials and graphite.
K05	PVTi	▼	▼	▼	▼	▼	▼	Coated standard carbide grade for finishing of steel, hardened steel and steel castings with increased surface speed.
HSC05	PVTi PVTiH	▼		▽	▼	▼	▼	Coated high performance special carbide grade for high-speed finishing of steel, hardened steel and steel castings as well as graphite and plastics.
HSC05	PVFN	▼			▼		▼	Extremely wear resistant special carbide grade for cutting steel, hardened steel and cast iro suitable for high- and very high-speed applications.
CBN C					▼			CBN-grade for high-speed finishing of cast iron.
CBN S							▼	CBN-grade for high speed finishing of hardened steelover 48 HRC.
PKD						▼		Universal PKD-grade for high speed finishing of non-ferrous-materials and plastics.
P40	**PCSR**	▼	▼					Toughness-optimised special grade with thick CVD coating. Specifically designed for high cutting speeds and tooth feeds.
M35	**PCTC**		▼	▽				Highly temperature-stable hard metal with tailor-made CVD coating. Developed for dry machining of stainless materials and wet machining of superalloys such as titanium and Inconel.
K10	**PPTi**	▼	▼	▽	▼	▼	▼	Ultra-fine granulation for heavy-duty machining at low infeed rates. Novel, extra smooth PVD coating for machining steel, cast iron, and hardened materials. For wet and dry applications.

▼ **major application** ▽ **minor application** ▼ ▽ roughing ▼ ▽ pre-finishing ▼ ▽ finishing

TEST REPORT OF MILLING CONDITIONS

Company:

Street:

City:

Contact:

Machine: HP: [kW]

Type: n(s): [min-1]

Arbor System: V_f: [mm/min]

Material No.: Date:

DIN Code: Analysis [%]

C	Si	Mn	P	S	Cr	Ni	Mo	V	W		

N/mm²	HB	HV	HRC

CNC Control:

	Test	Actual Status	Test 1	Test 2	Test 3
Tool	Milling conditions				
	Manufacturer				
	Type				
	Arbor				
	Overhang				
	Kind of cooling (air / water?)				
Cutting Mater.	Kind				
	Manufacturer				
	Cutting Material Code				
	Coating				
Operation Data	V_c [m/min]				
	V_f [mm/min]				
	n(s) [min^{-1}]				
	D_c [mm]				
	f_z [mm/Zahn]				
	a_p [mm]				
	a_e [mm]				
	T [min]				
Results	No. of tests				
	Tool life [min]				
	Life in length [m]				
	Chip volume [cm3/min]				
	Energy consumption [kW]				
	Performance Evaluation:	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10

Illlustration / Remarks:

FORMULAS AND CALCULATION EXAMPLES

Formulas

Calculation of revolutions of main spindle in [min-1]:*

$$n = \frac{V_c \cdot 1000}{\pi \cdot D_{c/eff}}$$

Calculation of feed per tooth in [mm/tooth]:

$$f_z = \frac{V_f}{n \cdot z}$$

Calculation of feed per min. in [mm/min.]:

$$V_f = n \cdot z \cdot f_z$$

Calculation of power requirement in [kW]:*

$$P = \frac{a_e \cdot a_p \cdot V_f}{18000}$$

Calculation of cutting speed in [m/min]:*

$$V_c = \frac{\pi \cdot D_{c/eff} \cdot n}{1000}$$

* Please note: For flat contours use true mill diameter to calculate cutting speed (see Surface Finish section).

Calculation of machining time in [min]:

$$f_n = z \cdot f_z$$

$$f_n = \frac{V_f}{n}$$

Calculation of machining time in [min]:

$$T = \frac{l_f}{V_f}$$

Calculation of chip volume in [cm3/min]:

$$Q = \frac{a_e \cdot a_p \cdot V_f}{1000}$$

* Please note: The formula given for calculating the power requirement is valid for machining steel only.

Definitions:

a_e	width of cut [mm]	D_{eff}	true tool diameter in [mm]	n	revolution in [rpm]	V_c	cutting speed in [m/min]
a_p	depth of cut in [mm]	f_z	feed per tooth in [mm]	P	power requirement in [kW]	V_f	feed per min. in [mm/min]
D_c	cutter diameter in [mm]	l_f	milling length in [mm]	Q	chip volume in [cm3/min]	z	no. of effective teeth
		f_n	feed per revolution in [mm/U]	T	machining time in [min]		

formulas for calculating the true mill diameter can be found in the Surface Finish selection.

Calculation Example

Milling cutter:	35200
Selected insert: (see Cutting Material p. 421)	03 12 840K (P40, PVTi coated)
Size of insert:	Ø 12 x 3,97 mm
Milling cutter diam.:	35 mm
no. of effective teeth:	3
Depth of cut: (see Operation Data Table)	1,5 mm
Width of cut:	25 mm
Material to be machined:	1.1730, roughing
Selected cutting speed: (see Operation Data pp. 392, 393, 408)	Vc = 250 m/min
Selected feed per tooth: (see Operation Data pp. 394-401 + 410-417)	fz = 0,6 mm

Calculation of revolutions

$$n = \frac{250 \cdot 1000}{\pi \cdot 35} = 2275 \text{ U/min}$$

Calculation of feed per min.:

$$V_f = 2275 \cdot 3 \cdot 0{,}6 = 4095 \text{ mm/min}$$

Calculation of chip volume:

$$Q = \frac{(25 \cdot 1{,}5 \cdot 4095)}{1000} = 154 \text{ cm}^3\text{/min}$$

Calculation of power requirement:

$$P = \frac{(25 \cdot 1{,}5 \cdot 4095)}{18000} = 8{,}5 \text{ kW}$$

ASSEMBLING INSTRUCTIONS
DUOPLUG®

To guarantee optimum results and safe operation of our **DUOPLUG®** system, please follow the instructions below carefully.

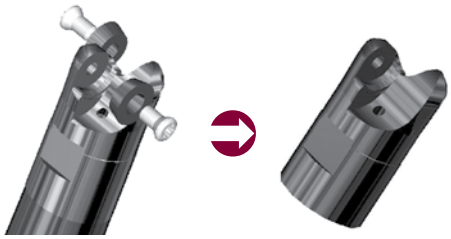
Assembling:

Preparations

Get all the accessories and equipment ready at the workstation before starting heating procedure! (appropriate spanner, safety glasses, protective gloves)

Step 1

Remove inserts and their screws from the milling cutter body.



Step 2

⚠ Attention: All surfaces carrying special fits must be absolutely grease-free and dust-free. Please screw the **DUOPLUG®** milling cutter body onto the **DUOPLUG®** adaptor by hand up to the fit zone. Do not use a tool or too much strength.

Step 3

Heat this connection now with the Pokolm Inductive Shrinking Unit for 6 to 15 seconds, depending on diameter, then start Step 4 immediately.

⚠ Attention: Adaptor and milling cutter body are very hot after this process! Danger of burning hands or fingers! Protective gloves MUST be worn!

Step 4

Inductive heating expands the fitted bore in the cutter body. Only then can you totally screw the body onto the end face of your adaptor with the appropriate spanner. This step must be possible without using too much strength.If there is still some resistance, please heat the **DUOPLUG®** cutter body once more for a few seconds and try again.

Step 5

Make sure that the body and adaptor fit together perfectly. There should be no gap.

Perform these steps with only moderate strength.

Step 6

Do not shock cool your shrunk combination; use the cooling equipment of your Shrinking Unit to cool it evenly. During cooling, the **DUOPLUG®** cutter body contracts and you get a safe load transmission.

Step 7

Mount the desired inserts onto the body with their screws. After checking the diameter and length of your tool, you can start your operation.

Dismantling:

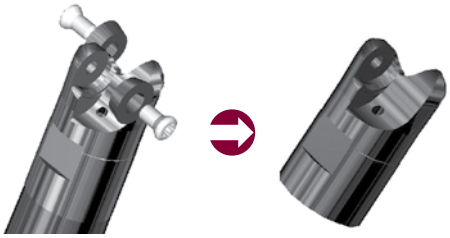
Preparations

Get all the necessary accessories and equipment together at the workstation before starting heating procedure! (appropriate spanner, safety glasses, protective gloves)

Attention: You absolutely MUST wear your safety glasses when dismantling! Used tools carry swarf and cooling fluid residues which could spray out during operation!

Step 1

Remove inserts and screws from milling cutter body.



Step 2

Heat your used combination with the Pokolm Inductive Shrinking Unit for 6 to 15 seconds, depending on diameter.

Attention: Adaptor and milling cutter body are still very hot!
Danger of burning hands or fingers! Protective gloves MUST be worn!

For further inquiries concerning the DUOPLUG® system, please do not hesitate to contact us.

Step 3

Inductive heating expands the fitted bore in your cutter body. Only after heating should you unscrew your cutter body from your adaptor using an appropriate spanner.This step must be possible to perform without strength. If there is still some resistance, please heat the cutter body once more for a few seconds and try again.

Step 4

Do not shock cool your unshrunk dismantled parts;use the cooling equipment of your shrinking unit to cool it slowly, or use the deposit box.

Attention: Adaptor and milling cutter body are still very hot! Danger of burning hands or fingers! Protective gloves MUST be worn!

Recommendation

For the shrinking process we recommend our comfortable Shrinking Station TSI11000WK with a great number of innovative attributes. Perfectly matched to POKOLM products, the semi-automatic shrinking and fluid-supported cooling process is run in a single position in the unit. The operation concept is especially user friendly.

For more information order the POKOLM brochure about Shrinking technology.
Also available as PDF file at the download area of the POKOLM Website, or simply follow the QR Code:

ASSEMBLING INSTRUCTIONS

for Milling cutter bodies with round inserts and shim

In order to maintain optimum and safe use of these tools, you should pay attention to following notice:

Assembling Indexable Inserts

Step 1.1

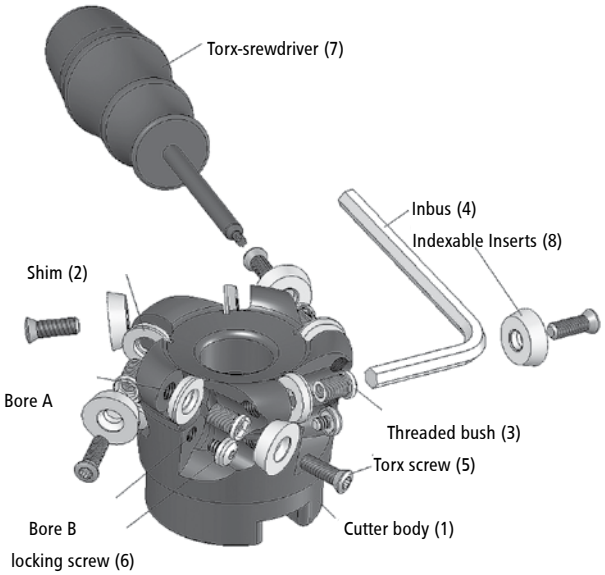
Remove Torx-screw (5) from cutter body (1) with Torx-screwdriver (7) and check correct fit of threaded bush (3) in threaded bore (A), using provided Allen-key (4).

Step 1.2

Pay attention, that the shoulder of the threaded bush (3) sinks completely into the recess of the shim (2). If not, please fix it with the Allen-key (4).

Step 1.3

Assemble indexable inserts (8) first by means of Torx-screw (5), using Torx-screwdriver (7) and fasten finally with the locking screw (6) in threaded bore (B).



Replace Shim

Step 2.1

For replacing shim, please prepare for Torx-screwdriver (7) and Allen-key (4).

Step 2.2

Unscrew locking screw (6) in threaded bore (B) and after that Torx-screws (5) fixing inserts (8) with Torx-screwdriver (7).

Step 2.3

Using Allen-key (4), unscrew and remove threaded bush (3) from threaded bore (A). Remove shim (2) from cutter body (1). Clean insert seat from swarf and grease, before you put new shims back to cutter body.

Step 2.4

Put new shims (2) into insert seats and fix it into threaded bore (A) with threaded bush (3) using Allen-key (4) and copper paste from our accessories selection. Pay attention, that the shoulder of the threaded bush (3) sinks completely into the recess of the shims (2).

Step 2.5

Now, indexable inserts (8) can be fixed as usually, using Torx-screws (5) and Torx-screwdriver (7). Finally, fasten locking screw (6) for secure insert fixing into threaded bore (B).

ASSEMBLING INSTRUCTIONS

Set-screw for shell type milling cutter bodies diam. 40 up to 52 mm

In order to maintain optimum and safe use of these tools, you should pay attention to following notice if you assemble set-screws GWSTPS81SK:

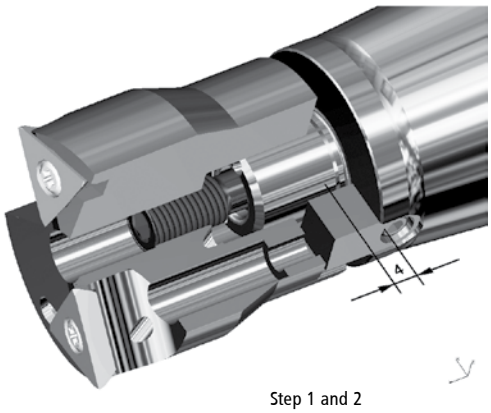
Assembling set-screw:

Step 1

Screw set-screw into cutter body up to limit-stop contact. This is guaranteed for every tool in Pokolm's warehouse. In rare exceptional cases, this set-screw can become unfastened during transport. In that case, the set-screw has to be re-adjusted prior to usage.

Step 2

For assembling, put milling cutter body on to arbor. Make sure, there is a remaining gap of 4 mm between milling cutter body and arbor. (this is guaranteed, when using genuine Pokolm-arbors).



Step 1 and 2

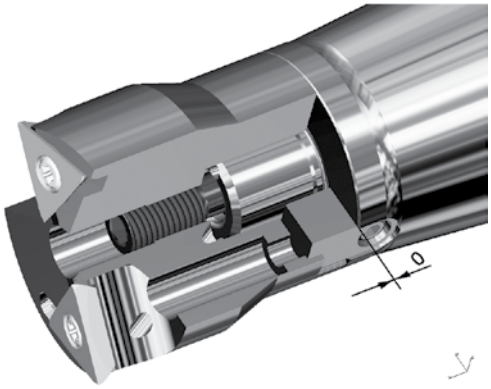
Step 3

Now, please screw the set-screw into the arbor uniformly, until there is no remaining gap between arbor and milling cutter body by using an Allen-key 4 mm opening.

Step 4

If, beyond expectations, a gap remains, please dismantle your cutter body from the arbor . Unscrew the set-screw by ½ revolution . Continue with step 2.

Please consider:
Maximum torque = 10 Nm



Step 3 and 4

If you have any further question regarding milling systems with set-screw please do not hesitate to contact us.

ASSEMBLING INSTRUCTIONS

Fitting of SPINWORX® inserts in the tool

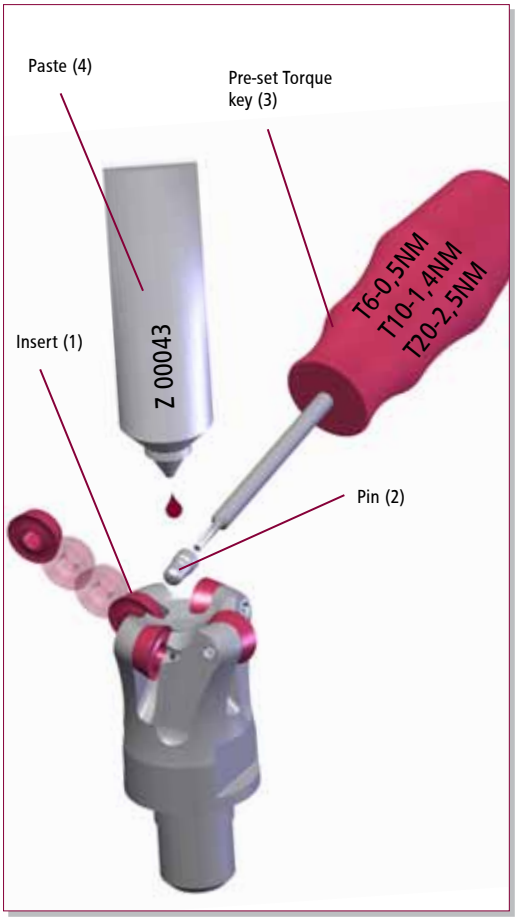
In order to maintain optimum and safe use of these tools, you should pay attention to following notice:

Step 1: placing inserts into the seat

Place the inserts (1) into the seat provided. Apply the paste included (4) to the thread of the pin (2) and make sure no paste (catalogue number „Z 00043“) gets onto the contact surface.
Remove any surplus before using the tool.

Step 2: inserting the pin

Insert the pin (2) into the screw attachment from behind and use the torque key to tighten according to the specified tightening torque.
We recommend using our pre-set torque key with.



Tightening torques

Insert	Torx´ size	Tightening torque
DR07-8	T6	0.5 Nm
DR10-8 DR12-8	T10	1.4 Nm
DR16-8	T20	2.5 Nm

CAUTION! Please note!

SIMPLE HANDLING THANKS TO CONVENIENT TOOL
We recommend our torque keys with pre-set tightening torque as a convenient and safe alternative to conventional Torx or torque keys.

For optimum results with the SPINWORX®-tooling system we recommend using internal coolant supply air, emulsion or MQL for chip removal in the tool!

PURCHASE

Your purchase order by fax
(please copy prior to completion)

Please fax to:
+49 5247 9361-99

You can of course also place your order with one of our applications engineers.

Catalogue no.	Description of item	Quantity	Price per item	Total price
			Total	

Address:

Different delivery address

Company:

customer number (if known)

Company:

Department:

street

street

name

zip code, city

zip code, city

Our terms of sale are valid for this faxed purchase order.

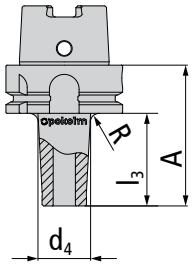
ALPHABETICAL INDEX

QUICKFINDER

Fit zone diam. of threaded shank end mill bodies:						
Thread size	M 5	M 6	M 8	M 10	M 12	M 16
Length fit zone in mm	5,5	6,5	8,5	10,5	12,5	17,0
Starting torque in Nm	7	10	15	30	50	100

Thread sizes for Shell-type arbors:					
Pilot diameter in mm	16	22	27	32	40
Fixing screw	M 8	M 10	M 12	M 16	M 20

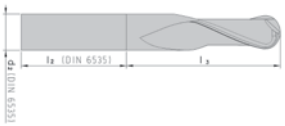
Theoretical d4 and l3:



The arbor dimensions d4 and l3 (see illustration at left) are calculated up to the theoretical point of intersection between arbor taper and collar.

Please take the transition radius R (5-8 mm depending on arbor type) into account for practical use.

Theoretical usable end mill length of Solid carbide end mills in mm*:



diam. of shank (DIN 6535) d_2 h_5	2 - 5	6 + 8	10	12 + 14	16 + 18
length of shank (DIN 6535) l_2 $^{+2}_{-0}$	28	36	40	45	48
diam. of shank (DIN 6535) d_2 h_5	20	25	32 + 36		
length of shank (DIN 6535) l_2 $^{+2}_{-0}$	50	56	60		

*this usable length appears through deduction of the DIN-shank-length (l2 according to DIN 6535) from the overall length l1 of the end mill or of the solid carbide adapters. See table above.

Features:

	toric tool		incorporated insert		arbors with zero reach
7°	7° positive axial rake angle		clamping flat		DUOPLUG®
INOX	stainless- acid- and heat resistant		concave moulding		shim
	dense antivibration material	WD	working depth		internal coolant supply
	Solid Carbide	HSM	suitable for high-speed machining	NF	especially suitable f. non-ferr. materials
C	chamfer		wet machining possible	?	on request
	2-point contact milling		dry machining possible		stock item, subject to confirmation
	wet machining required		for direct spindle mounting		available as long as stock lasts
	dry machining required		long series		
G 2,5 40.000	balance grade				

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