



Product expertise

Drilling, threading,  
milling

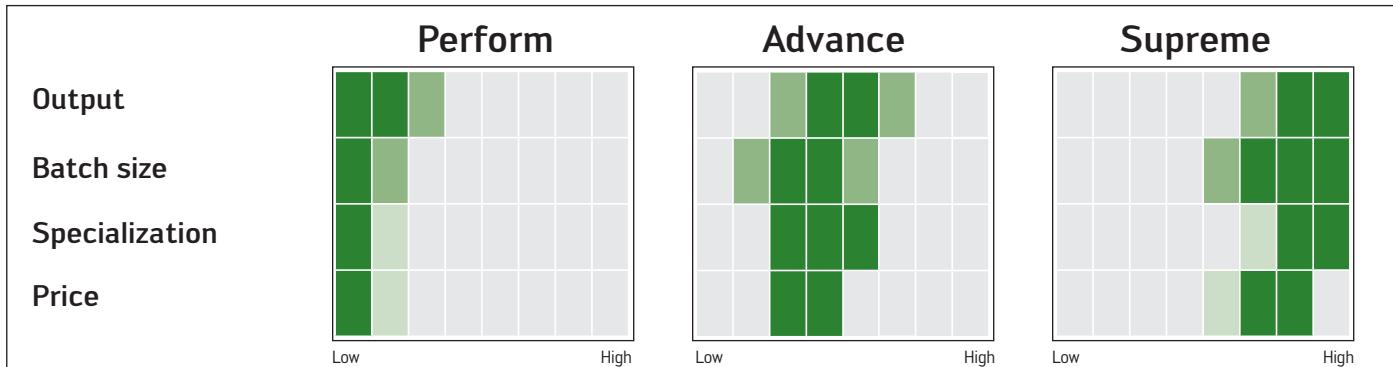
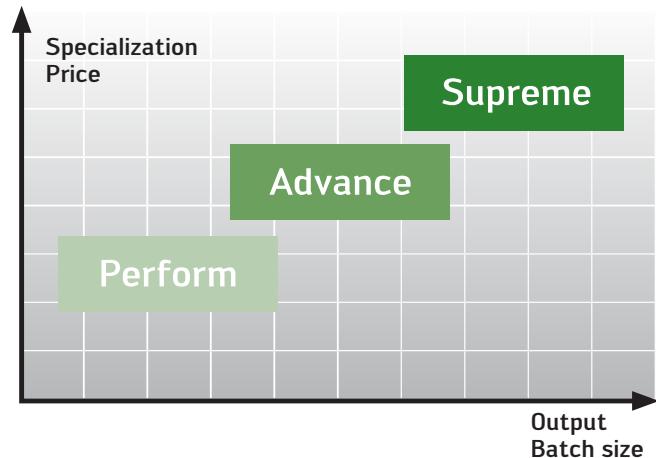
EXPERTISE IN MACHINING

## Walter Perform line – the new standard for small and medium batch sizes.



# The Walter product lines – Expertise to the power of three.

All Walter tools are characterized by maximum precision and process reliability. You can create real added value by finding a product range which precisely meets all of your requirements. With three product lines in its premium segment, Walter has the solution to match your requirements.



## SUPREME

Within the Supreme line, you will find tools with optimized machining qualities. These tools are always the first choice wherever high cutting speeds and long tool life for processing large batch sizes are required. Supreme tools are designed for machining very specific material groups, and often far exceed the performance of comparable tools.

## ADVANCE

Are you looking to strike the ideal balance between the most cost-effective production possible and long tool life? The key strengths of the tools in the Advance line really come into play in volume production applications of medium batch size. They offer three key benefits: Modest investment costs, excellent performance data and a wide range of different models.

## PERFORM

The tools in the Perform line help you to ensure excellent profitability and cover an impressively wide range of applications. They are ideal for use with a wide variety materials, for processing small to medium batch sizes.

\_ PERFORM LINE

# Walter Premium quality and cost efficiency.

Users with small and medium batch sizes are rarely looking for a tool to process large quantities – rather, they want a tool that provides flexibility in terms of application as well as cost efficiency. The Perform line from Walter offers you ideal solutions: They can be used for the most diverse types of material, and are designed precisely for achieving high-quality results at a reasonable price.

## DRILLING WITH DC150 PERFORM – EVERYTHING UNDER CONTROL, 100% PROCESS RELIABILITY

Users faced with a wide range of workpiece materials and machining conditions have to cope with many challenges – and therefore require tools that offer exceptional flexibility. The new solid carbide drills from the Perform line's DC150 product family are perfectly designed for this: They can be used universally and offer Walter's proven quality – all at a reasonable price.



## THREADING WITH TC115/TC216 PERFORM – CUSTOMIZED COST EFFICIENCY

When it comes to cost-effective tapping, reliable processes and tools that can be used universally are basic requirements because machining conditions can vary dramatically depending on the material and workpiece. With geometries and coatings that are perfectly suited to the application, TC115 and TC216 taps cope easily with this challenge.



## MILLING WITH MC232 PERFORM – UNIVERSAL USE IN ISO P, M AND K

Suitable for any number of varying milling operations, a long tool life and excellent wear resistance, suitable for use in a wide variety of applications and in a broad diameter range: The MC232 Perform offers an economical solution when it comes to milling small and medium batch sizes.

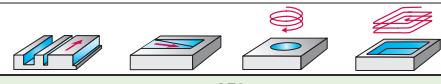


# The products from Walter's Perform line.

## DC150 Perform

Machining									
Drilling depth	3 × D <sub>c</sub>		5 × D <sub>c</sub>		8 × D <sub>c</sub>				
Designation	<b>DC150 Perform</b>								
Dimensions	DIN 6537 short		DIN 6537 long		Walter standard				
Grade	WJ30RE			WJ30TA					
Shank	HA	HA	HA	HA	HA				
Cooling	External cooling	Internal cooling							
Dia. range (mm)	3.00–20.00								
Technical information	Page 6								
Cutting data	Page 36								
Reconditioning	Page 9								
Order pages	10	13	16	20	23				
									

## MC232 Perform

Machining			
Helix angle	35°		
Designation	<b>MC232 Perform</b>		
Dia. range (mm)	2–20		
Z	2	3	4
Corner radius	0		
Standard	DIN 6527 L		
Shank	DIN 6535 HA/DIN 6535 HB		
Technical information	Page 8		
Cutting data	Page 40		
Reconditioning	Page 9		
Order pages	32, 34	32, 34	33, 35
			

## TC115 / TC216 Perform

Machining																		
Thread type	M			MF			UNC			M	MF	UNC						
Designation	TC115 Perform						TC216 Perform											
Thread depth	3 x D <sub>N</sub>						3.5 x D <sub>N</sub>											
Cooling	External cooling						External cooling											
Chamfer form	C						B											
Helix angle	45°						0°											
Tolerance	6H				2B			6H				2B						
Standard	DIN371/DIN376				DIN/ANSI			DIN371/DIN376				DIN/ANSI						
Dimensions	M3–M20		M8 x 1–M18 x 1		UNC6–UNC3/4		M3–M20		M8 x 1–M18 x 1		UNC6–UNC3/4							
Grade	WY80AA	WY80FC	WY80AA	WY80FC	WY80AA	WY80FC	WY80AA	WY80FC	WY80AA	WY80FC	WY80AA	WY80FC						
Technical information	Page 7						Page 7											
Cutting data	Page 39						Page 39											
Order pages	28	28	30	30	26	26	29	29	31	31	27	26						
																		

## - SOLID CARBIDE DRILLS

# Walter Titex DC150 Perform – flexible in use and very wear-resistant.

### THE APPLICATION

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

### THE TOOL

- Solid carbide twist drill
- Grades: WJ30RE and WJ30TA; K30F-TiAIN
- 140° point angle
- Diameter range 3-20 mm
- Diameter range 0.125-0.75 inch

### THE DIMENSIONS

- Grade: WJ30RE, K30F, TiAIN:
  - DIN 6537 short  $3 \times D_c$  with and without internal cooling
  - DIN 6537 long  $5 \times D_c$  with internal cooling
  - Shank in accordance with DIN 6535 HA and HE
- Grade: WJ30TA, K30F, TiAIN:
  - Walter standard  $8 \times D_c$  with internal cooling
  - Walter standard  $12 \times D_c$  with internal cooling
  - Shank in accordance with DIN 6535 HA



Walter Titex DC150 Perform

### BENEFITS FOR YOU

- Cost-efficient machining of small and medium batch sizes
- Universal in its use on all materials
- Shank variants for all adaptors typically used in drilling, such as: Whistle Notch toolholders, hydraulic expansion chucks, collet chucks, shrink-fit chucks and power clamping chucks

\_ HSS-E TAPS

# Walter Prototyp TC115 / TC216 Perform – ideal for the most diverse of materials.

## THE APPLICATION

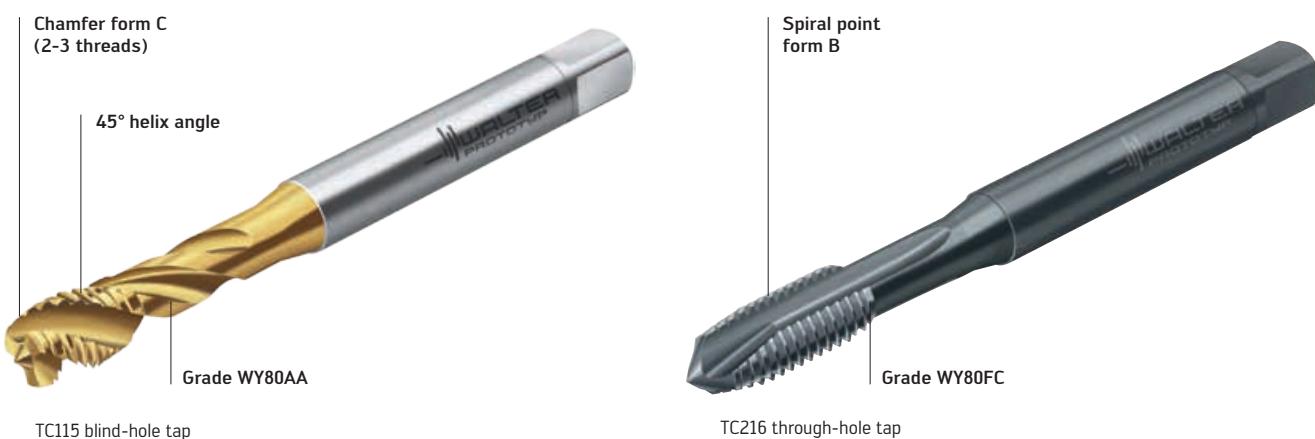
- Blind-hole and through-hole threads
- Dimension ranges:
  - M3-M20
  - MF: M8 x 1-M18 x 1.5
  - UNC: UNC6-UNC $\frac{1}{4}$  (DIN/ANSI)\*
- Primary application:
  - ISO P: 300-1000 N/mm<sup>2</sup>
  - ISO M: < 800 N/mm<sup>2</sup>
  - ISO K: GJS (GGG)
  - ISO N: Al wrought alloy,  
AlSi < 4% silicon\*\*

\* Overall length  $\triangleq$  DIN  
Shank diameter  $\triangleq$  ANSI

\*\* Secondary application with TC115

## THE TOOL

- HSS-E machine taps
- TC115: For blind holes up to  $3 \times D_N$
- TC216: For through holes up to  $3.5 \times D_N$
- ISO 2/6H tolerances
- Two variants: TiN-coated or vaporized



Walter Prototyp TC115 / TC216 Perform

## BENEFITS FOR YOU

- TiN coating: Long tool life
- Vaporized: Very good chip control; minimizes weld formation
- Flexibility through a wide range of applications with a variety of materials
- High process reliability

– SOLID CARBIDE CUTTER

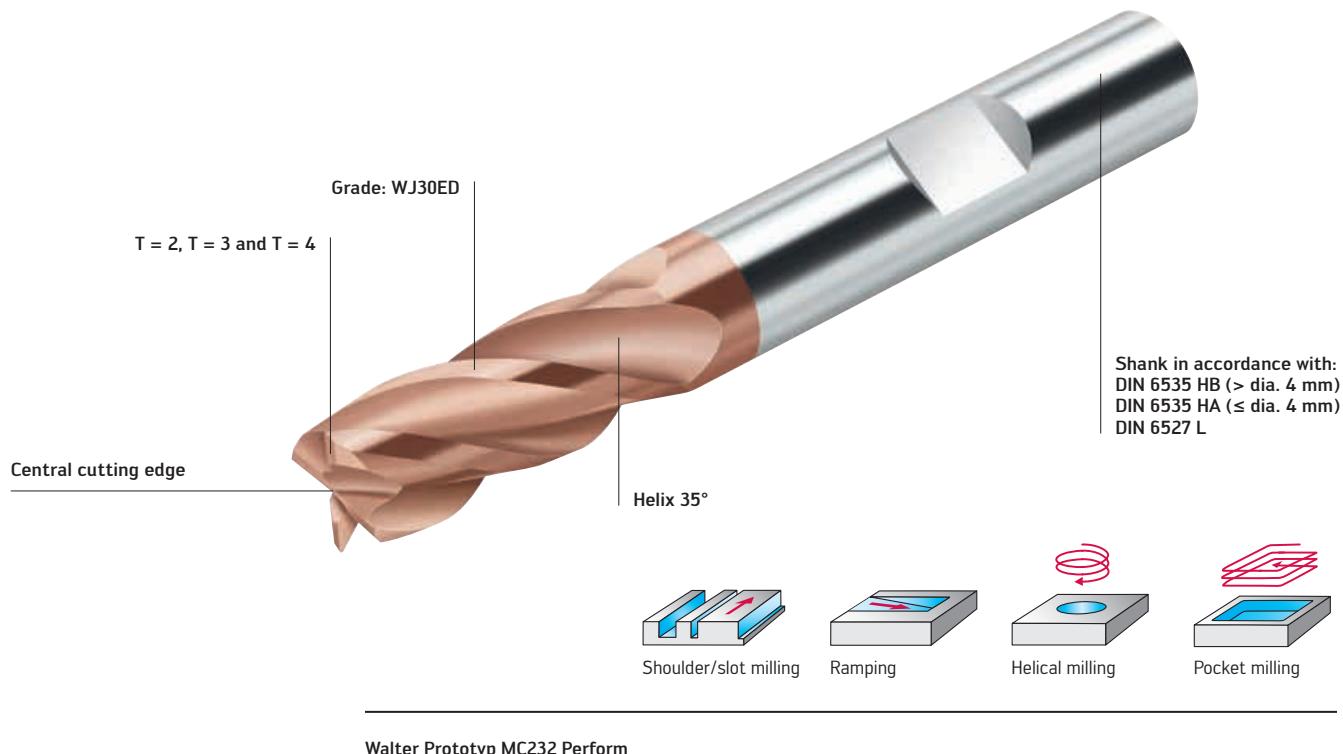
# Walter Prototyp MC232 Perform – universal use in ISO P, M and K.

## THE APPLICATION

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

## THE TOOLS

- Solid carbide cutters from the Perform line
- Three cutter types; 51 dimensions
- With 2, 3 or 4 cutting edges
- Diameter range 2-20 mm
- Diameter range 0.125-0.625 inch

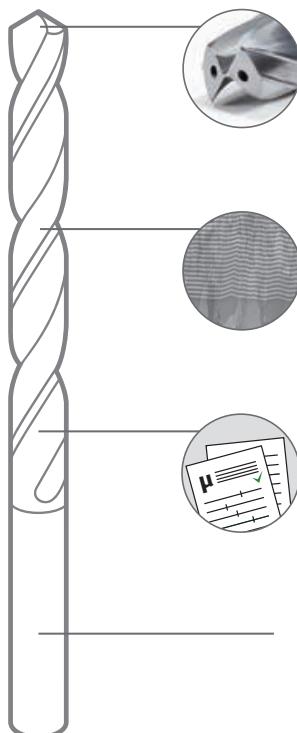


## BENEFITS FOR YOU

- Universal applicability
- Wide range of applications
- High level of cost efficiency for small and medium batch sizes

# Reconditioning to the original manufacturer quality really pays off.

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



## ORIGINAL GEOMETRIES

Cutting edge geometries are extremely complex. During reconditioning, Walter employs its extensive engineering competence to return them to their original condition.

## ORIGINAL COATING

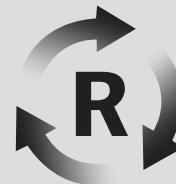
When it comes to tool performance, the coating is key. Only Walter uses the original coating process during reconditioning.

## ORIGINAL TOLERANCES

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

## RECONDITIONING RANGE

- Solid carbide drills and milling cutters
- Solid carbide special boring tools and special milling tools
- High-performance solid carbide reaming tools
- Solid carbide thread milling cutters



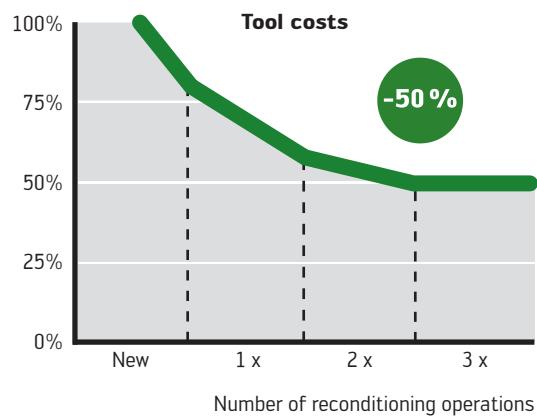
## OUR MARK OF 100% QUALITY

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

## 50% LOWER COSTS

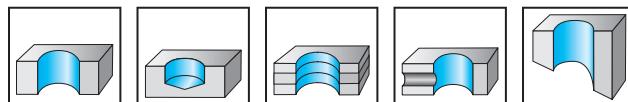
Tools are often disposed of far too early, even though the Walter Reconditioning Service can restore the tool a number of times to original manufacturer quality. You can benefit from reduced costs, reliable production processes and consistent tool life by reconditioning your tools at our Reconditioning Center, which is available worldwide. It could save you up to 50% on your tool costs!

Find out more at: [walter-tools.com/us](http://walter-tools.com/us)



# Solid carbide drill

## DC150 Perform



P	M	K
• •	•	• •
WJ30RE		
S	N	H
•	•	•
O		

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
DC150-03-03.000A0-	3		14	62	20	36	6	
DC150-03-03.100A0-	3.1		14	62	20	36	6	
DC150-03-03.175A0-	3.175	1/8"	14	62	20	36	6	
DC150-03-03.200A0-	3.2		14	62	20	36	6	
DC150-03-03.250A0-	3.25		14	62	20	36	6	
DC150-03-03.300A0-	3.3		14	62	20	36	6	
DC150-03-03.400A0-	3.4		14	62	20	36	6	
DC150-03-03.500A0-	3.5		14	62	20	36	6	
DC150-03-03.572A0-	3.572	9/64"	14	62	20	36	6	
DC150-03-03.600A0-	3.6		14	62	20	36	6	
DC150-03-03.700A0-	3.7		14	62	20	36	6	
DC150-03-03.800A0-	3.8		17	66	24	36	6	
DC150-03-03.900A0-	3.9		17	66	24	36	6	
DC150-03-03.969A0-	3.969	5/32"	17	66	24	36	6	
DC150-03-04.000A0-	4		17	66	24	36	6	
DC150-03-04.100A0-	4.1		17	66	24	36	6	
DC150-03-04.200A0-	4.2		17	66	24	36	6	
DC150-03-04.300A0-	4.3		17	66	24	36	6	
DC150-03-04.366A0-	4.366	11/64"	17	66	24	36	6	
DC150-03-04.400A0-	4.4		17	66	24	36	6	
DC150-03-04.500A0-	4.5		17	66	24	36	6	
DC150-03-04.600A0-	4.6		17	66	24	36	6	
DC150-03-04.650A0-	4.65		17	66	24	36	6	
DC150-03-04.700A0-	4.7		17	66	24	36	6	
DC150-03-04.763A0-	4.763	3/16"	20	66	28	36	6	
DC150-03-04.800A0-	4.8		20	66	28	36	6	
DC150-03-04.900A0-	4.9		20	66	28	36	6	
DC150-03-05.000A0-	5		20	66	28	36	6	
DC150-03-05.100A0-	5.1		20	66	28	36	6	
DC150-03-05.159A0-	5.159	13/64"	20	66	28	36	6	
DC150-03-05.200A0-	5.2		20	66	28	36	6	
DC150-03-05.300A0-	5.3		20	66	28	36	6	
DC150-03-05.400A0-	5.4		20	66	28	36	6	
DC150-03-05.500A0-	5.5		20	66	28	36	6	
DC150-03-05.550A0-	5.55		20	66	28	36	6	
DC150-03-05.556A0-	5.556	7/32"	20	66	28	36	6	
DC150-03-05.600A0-	5.6		20	66	28	36	6	
DC150-03-05.700A0-	5.7		20	66	28	36	6	
DC150-03-05.800A0-	5.8		20	66	28	36	6	
DC150-03-05.900A0-	5.9		20	66	28	36	6	
DC150-03-05.953A0-	5.953	15/64"	20	66	28	36	6	
DC150-03-06.000A0-	6		20	66	28	36	6	
DC150-03-06.100A0-	6.1		24	79	34	36	8	
DC150-03-06.200A0-	6.2		24	79	34	36	8	
DC150-03-06.300A0-	6.3		24	79	34	36	8	
DC150-03-06.350A0-	6.35	1/4"	24	79	34	36	8	
DC150-03-06.400A0-	6.4		24	79	34	36	8	

Ordering example for the WJ30RE grade: DC150-03-03.000A0-WJ30RE  
Some sizes offered with whistle notch shank. Check GPS for availability.

Continued



Continued

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
DC150-03-06.500A0-	6.5		24	79	34	36	8	
DC150-03-06.600A0-	6.6		24	79	34	36	8	
DC150-03-06.700A0-	6.7		24	79	34	36	8	
DC150-03-06.747A0-	6.747	17/64"	24	79	34	36	8	
DC150-03-06.800A0-	6.8		24	79	34	36	8	
DC150-03-06.900A0-	6.9		24	79	34	36	8	
DC150-03-07.000A0-	7		24	79	34	36	8	
DC150-03-07.100A0-	7.1		29	79	41	36	8	
DC150-03-07.144A0-	7.144	9/32"	29	79	41	36	8	
DC150-03-07.200A0-	7.2		29	79	41	36	8	
DC150-03-07.300A0-	7.3		29	79	41	36	8	
DC150-03-07.400A0-	7.4		29	79	41	36	8	
DC150-03-07.500A0-	7.5		29	79	41	36	8	
DC150-03-07.541A0-	7.541	19/64"	29	79	41	36	8	
DC150-03-07.600A0-	7.6		29	79	41	36	8	
DC150-03-07.700A0-	7.7		29	79	41	36	8	
DC150-03-07.800A0-	7.8		29	79	41	36	8	
DC150-03-07.900A0-	7.9		29	79	41	36	8	
DC150-03-07.938A0-	7.938	5/16"	29	79	41	36	8	
DC150-03-08.000A0-	8		29	79	41	36	8	
DC150-03-08.100A0-	8.1		35	89	47	40	10	
DC150-03-08.200A0-	8.2		35	89	47	40	10	
DC150-03-08.300A0-	8.3		35	89	47	40	10	
DC150-03-08.334A0-	8.334	21/64"	35	89	47	40	10	
DC150-03-08.400A0-	8.4		35	89	47	40	10	
DC150-03-08.500A0-	8.5		35	89	47	40	10	
DC150-03-08.600A0-	8.6		35	89	47	40	10	
DC150-03-08.700A0-	8.7		35	89	47	40	10	
DC150-03-08.731A0-	8.731	11/32"	35	89	47	40	10	
DC150-03-08.800A0-	8.8		35	89	47	40	10	
DC150-03-08.900A0-	8.9		35	89	47	40	10	
DC150-03-09.000A0-	9		35	89	47	40	10	
DC150-03-09.100A0-	9.1		35	89	47	40	10	
DC150-03-09.200A0-	9.2		35	89	47	40	10	
DC150-03-09.300A0-	9.3		35	89	47	40	10	
DC150-03-09.400A0-	9.4		35	89	47	40	10	
DC150-03-09.500A0-	9.5		35	89	47	40	10	
DC150-03-09.525A0-	9.525	3/8"	35	89	47	40	10	
DC150-03-09.600A0-	9.6		35	89	47	40	10	
DC150-03-09.700A0-	9.7		35	89	47	40	10	
DC150-03-09.800A0-	9.8		35	89	47	40	10	
DC150-03-09.900A0-	9.9		35	89	47	40	10	
DC150-03-09.922A0-	9.922	25/64"	35	89	47	40	10	
DC150-03-10.000A0-	10		35	89	47	40	10	
DC150-03-10.100A0-	10.1		40	102	55	45	12	
DC150-03-10.200A0-	10.2		40	102	55	45	12	
DC150-03-10.300A0-	10.3		40	102	55	45	12	
DC150-03-10.319A0-	10.319	13/32"	40	102	55	45	12	
DC150-03-10.400A0-	10.4		40	102	55	45	12	
DC150-03-10.500A0-	10.5		40	102	55	45	12	
DC150-03-10.600A0-	10.6		40	102	55	45	12	
DC150-03-10.716A0-	10.716	27/64"	40	102	55	45	12	
DC150-03-10.800A0-	10.8		40	102	55	45	12	
DC150-03-11.000A0-	11		40	102	55	45	12	

Ordering example for the WJ30RE grade: DC150-03-03.000A0-WJ30RE  
 Some sizes offered with whistle notch shank. Check GPS for availability.



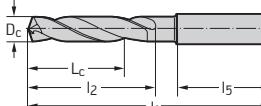
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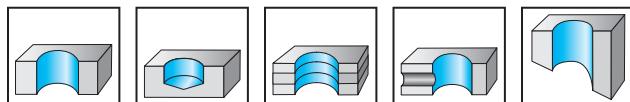
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Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
								
DC150-03-11.100A0-	11.1		40	102	55	45	12	
DC150-03-11.113A0-	11.113	7/16"	40	102	55	45	12	
DC150-03-11.200A0-	11.2		40	102	55	45	12	
DC150-03-11.300A0-	11.3		40	102	55	45	12	
DC150-03-11.400A0-	11.4		40	102	55	45	12	
DC150-03-11.500A0-	11.5		40	102	55	45	12	
DC150-03-11.509A0-	11.509	29/64"	40	102	55	45	12	
DC150-03-11.700A0-	11.7		40	102	55	45	12	
DC150-03-11.800A0-	11.8		40	102	55	45	12	
DC150-03-11.900A0-	11.9		40	102	55	45	12	
DC150-03-12.000A0-	12		40	102	55	45	12	
DC150-03-12.100A0-	12.1		43	107	60	45	14	
DC150-03-12.200A0-	12.2		43	107	60	45	14	
DC150-03-12.250A0-	12.25		43	107	60	45	14	
DC150-03-12.300A0-	12.3		43	107	60	45	14	
DC150-03-12.303A0-	12.303	31/64"	43	107	60	45	14	
DC150-03-12.500A0-	12.5		43	107	60	45	14	
DC150-03-12.700A0-	12.7	1/2"	43	107	60	45	14	
DC150-03-12.800A0-	12.8		43	107	60	45	14	
DC150-03-13.000A0-	13		43	107	60	45	14	
DC150-03-13.100A0-	13.1		43	107	60	45	14	
DC150-03-13.300A0-	13.3		43	107	60	45	14	
DC150-03-13.494A0-	13.494	17/32"	43	107	60	45	14	
DC150-03-13.500A0-	13.5		43	107	60	45	14	
DC150-03-14.000A0-	14		43	107	60	45	14	
DC150-03-14.200A0-	14.2		45	115	65	48	16	
DC150-03-14.288A0-	14.288	9/16"	45	115	65	48	16	
DC150-03-14.500A0-	14.5		45	115	65	48	16	
DC150-03-14.700A0-	14.7		45	115	65	48	16	
DC150-03-14.800A0-	14.8		45	115	65	48	16	
DC150-03-15.000A0-	15		45	115	65	48	16	
DC150-03-15.100A0-	15.1		45	115	65	48	16	
DC150-03-15.500A0-	15.5		45	115	65	48	16	
DC150-03-15.800A0-	15.8		45	115	65	48	16	
DC150-03-15.875A0-	15.875	5/8"	45	115	65	48	16	
DC150-03-16.000A0-	16		45	115	65	48	16	
DC150-03-16.500A0-	16.5		51	123	73	48	18	
DC150-03-16.750A0-	16.75		51	123	73	48	18	
DC150-03-17.000A0-	17		51	123	73	48	18	
DC150-03-17.500A0-	17.5		51	123	73	48	18	
DC150-03-17.800A0-	17.8		51	123	73	48	18	
DC150-03-18.000A0-	18		51	123	73	48	18	
DC150-03-19.000A0-	19		55	131	79	50	20	
DC150-03-20.000A0-	20		55	131	79	50	20	

Ordering example for the WJ30RE grade: DC150-03-03.000A0-WJ30RE  
 Some sizes offered with whistle notch shank. Check GPS for availability.



## Coolant-through solid carbide drill DC150 Perform

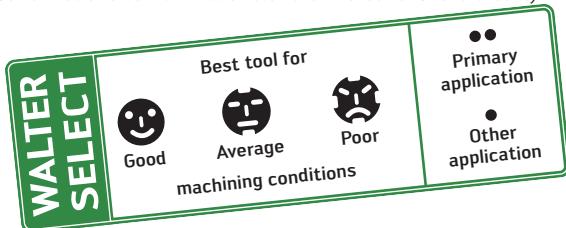


3xD <sub>c</sub>	DIN 6537 K		140°			
P	M	K	N	S	H	O

WJ30RE

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
DC150-03-03.000A1-	3		14	62	20	36	6	
DC150-03-03.100A1-	3.1		14	62	20	36	6	
DC150-03-03.175A1-	3.175	1/8"	14	62	20	36	6	
DC150-03-03.200A1-	3.2		14	62	20	36	6	
DC150-03-03.250A1-	3.25		14	62	20	36	6	
DC150-03-03.300A1-	3.3		14	62	20	36	6	
DC150-03-03.400A1-	3.4		14	62	20	36	6	
DC150-03-03.500A1-	3.5		14	62	20	36	6	
DC150-03-03.572A1-	3.572	9/64"	14	62	20	36	6	
DC150-03-03.600A1-	3.6		14	62	20	36	6	
DC150-03-03.650A1-	3.65		14	62	20	36	6	
DC150-03-03.700A1-	3.7		14	62	20	36	6	
DC150-03-03.800A1-	3.8		17	66	24	36	6	
DC150-03-03.900A1-	3.9		17	66	24	36	6	
DC150-03-03.969A1-	3.969	5/32"	17	66	24	36	6	
DC150-03-04.000A1-	4		17	66	24	36	6	
DC150-03-04.100A1-	4.1		17	66	24	36	6	
DC150-03-04.200A1-	4.2		17	66	24	36	6	
DC150-03-04.300A1-	4.3		17	66	24	36	6	
DC150-03-04.366A1-	4.366	11/64"	17	66	24	36	6	
DC150-03-04.400A1-	4.4		17	66	24	36	6	
DC150-03-04.500A1-	4.5		17	66	24	36	6	
DC150-03-04.600A1-	4.6		17	66	24	36	6	
DC150-03-04.650A1-	4.65		17	66	24	36	6	
DC150-03-04.700A1-	4.7		17	66	24	36	6	
DC150-03-04.763A1-	4.763	3/16"	20	66	28	36	6	
DC150-03-04.800A1-	4.8		20	66	28	36	6	
DC150-03-04.900A1-	4.9		20	66	28	36	6	
DC150-03-05.000A1-	5		20	66	28	36	6	
DC150-03-05.100A1-	5.1		20	66	28	36	6	
DC150-03-05.159A1-	5.159	13/64"	20	66	28	36	6	
DC150-03-05.200A1-	5.2		20	66	28	36	6	
DC150-03-05.300A1-	5.3		20	66	28	36	6	
DC150-03-05.400A1-	5.4		20	66	28	36	6	
DC150-03-05.500A1-	5.5		20	66	28	36	6	
DC150-03-05.550A1-	5.55		20	66	28	36	6	
DC150-03-05.556A1-	5.556	7/32"	20	66	28	36	6	
DC150-03-05.600A1-	5.6		20	66	28	36	6	
DC150-03-05.700A1-	5.7		20	66	28	36	6	
DC150-03-05.800A1-	5.8		20	66	28	36	6	
DC150-03-05.900A1-	5.9		20	66	28	36	6	
DC150-03-05.953A1-	5.953	15/64"	20	66	28	36	6	
DC150-03-06.000A1-	6		20	66	28	36	6	

Ordering example for the WJ30RE grade: DC150-03-03.000A1-WJ30RE  
Some sizes offered with whistle notch shank. Check GPS for availability.



Continued



Continued

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
DC150-03-06.100A1-	6.1		24	79	34	36	8	●
DC150-03-06.200A1-	6.2		24	79	34	36	8	●
DC150-03-06.300A1-	6.3		24	79	34	36	8	●
DC150-03-06.350A1-	6.35	1/4"	24	79	34	36	8	●
DC150-03-06.400A1-	6.4		24	79	34	36	8	●
DC150-03-06.500A1-	6.5		24	79	34	36	8	●
DC150-03-06.600A1-	6.6		24	79	34	36	8	●
DC150-03-06.700A1-	6.7		24	79	34	36	8	●
DC150-03-06.747A1-	6.747	17/64"	24	79	34	36	8	●
DC150-03-06.800A1-	6.8		24	79	34	36	8	●
DC150-03-06.900A1-	6.9		24	79	34	36	8	●
DC150-03-07.000A1-	7		24	79	34	36	8	●
DC150-03-07.100A1-	7.1		29	79	41	36	8	●
DC150-03-07.144A1-	7.144	9/32"	29	79	41	36	8	●
DC150-03-07.200A1-	7.2		29	79	41	36	8	●
DC150-03-07.300A1-	7.3		29	79	41	36	8	●
DC150-03-07.400A1-	7.4		29	79	41	36	8	●
DC150-03-07.500A1-	7.5		29	79	41	36	8	●
DC150-03-07.541A1-	7.541	19/64"	29	79	41	36	8	●
DC150-03-07.600A1-	7.6		29	79	41	36	8	●
DC150-03-07.700A1-	7.7		29	79	41	36	8	●
DC150-03-07.800A1-	7.8		29	79	41	36	8	●
DC150-03-07.900A1-	7.9		29	79	41	36	8	●
DC150-03-07.938A1-	7.938	5/16"	29	79	41	36	8	●
DC150-03-08.000A1-	8		29	79	41	36	8	●
DC150-03-08.100A1-	8.1		35	89	47	40	10	●
DC150-03-08.200A1-	8.2		35	89	47	40	10	●
DC150-03-08.300A1-	8.3		35	89	47	40	10	●
DC150-03-08.334A1-	8.334	21/64"	35	89	47	40	10	●
DC150-03-08.400A1-	8.4		35	89	47	40	10	●
DC150-03-08.500A1-	8.5		35	89	47	40	10	●
DC150-03-08.600A1-	8.6		35	89	47	40	10	●
DC150-03-08.700A1-	8.7		35	89	47	40	10	●
DC150-03-08.731A1-	8.731	11/32"	35	89	47	40	10	●
DC150-03-08.800A1-	8.8		35	89	47	40	10	●
DC150-03-08.900A1-	8.9		35	89	47	40	10	●
DC150-03-09.000A1-	9		35	89	47	40	10	●
DC150-03-09.100A1-	9.1		35	89	47	40	10	●
DC150-03-09.128A1-	9.128	23/64"	35	89	47	40	10	●
DC150-03-09.200A1-	9.2		35	89	47	40	10	●
DC150-03-09.300A1-	9.3		35	89	47	40	10	●
DC150-03-09.400A1-	9.4		35	89	47	40	10	●
DC150-03-09.500A1-	9.5		35	89	47	40	10	●
DC150-03-09.525A1-	9.525	3/8"	35	89	47	40	10	●
DC150-03-09.600A1-	9.6		35	89	47	40	10	●
DC150-03-09.700A1-	9.7		35	89	47	40	10	●
DC150-03-09.800A1-	9.8		35	89	47	40	10	●
DC150-03-09.900A1-	9.9		35	89	47	40	10	●
DC150-03-09.922A1-	9.922	25/64"	35	89	47	40	10	●
DC150-03-10.000A1-	10		35	89	47	40	10	●
DC150-03-10.100A1-	10.1		40	102	55	45	12	●
DC150-03-10.200A1-	10.2		40	102	55	45	12	●
DC150-03-10.300A1-	10.3		40	102	55	45	12	●
DC150-03-10.319A1-	10.319	13/32"	40	102	55	45	12	●
DC150-03-10.400A1-	10.4		40	102	55	45	12	●
DC150-03-10.500A1-	10.5		40	102	55	45	12	●
DC150-03-10.600A1-	10.6		40	102	55	45	12	●
DC150-03-10.700A1-	10.7		40	102	55	45	12	●
DC150-03-10.716A1-	10.716	27/64"	40	102	55	45	12	●
DC150-03-10.800A1-	10.8		40	102	55	45	12	●
DC150-03-10.900A1-	10.9		40	102	55	45	12	●

Ordering example for the WJ30RE grade: DC150-03-03.000A1-WJ30RE  
 Some sizes offered with whistle notch shank. Check GPS for availability.

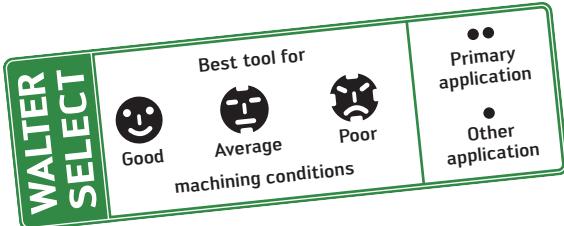
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Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
DC150-03-11.000A1-	11		40	102	55	45	12	●
DC150-03-11.100A1-	11.1		40	102	55	45	12	●
DC150-03-11.113A1-	11.113	7/16"	40	102	55	45	12	●
DC150-03-11.200A1-	11.2		40	102	55	45	12	●
DC150-03-11.300A1-	11.3		40	102	55	45	12	●
DC150-03-11.400A1-	11.4		40	102	55	45	12	●
DC150-03-11.500A1-	11.5		40	102	55	45	12	●
DC150-03-11.509A1-	11.509	29/64"	40	102	55	45	12	●
DC150-03-11.600A1-	11.6		40	102	55	45	12	●
DC150-03-11.700A1-	11.7		40	102	55	45	12	●
DC150-03-11.800A1-	11.8		40	102	55	45	12	●
DC150-03-11.900A1-	11.9		40	102	55	45	12	●
DC150-03-11.906A1-	11.906	15/32"	40	102	55	45	12	●
DC150-03-12.000A1-	12		40	102	55	45	12	●
DC150-03-12.100A1-	12.1		43	107	60	45	14	●
DC150-03-12.200A1-	12.2		43	107	60	45	14	●
DC150-03-12.300A1-	12.3		43	107	60	45	14	●
DC150-03-12.303A1-	12.303	31/64"	43	107	60	45	14	●
DC150-03-12.500A1-	12.5		43	107	60	45	14	●
DC150-03-12.600A1-	12.6		43	107	60	45	14	●
DC150-03-12.700A1-	12.7	1/2"	43	107	60	45	14	●
DC150-03-12.800A1-	12.8		43	107	60	45	14	●
DC150-03-12.900A1-	12.9		43	107	60	45	14	●
DC150-03-13.000A1-	13		43	107	60	45	14	●
DC150-03-13.100A1-	13.1		43	107	60	45	14	●
DC150-03-13.200A1-	13.2		43	107	60	45	14	●
DC150-03-13.300A1-	13.3		43	107	60	45	14	●
DC150-03-13.494A1-	13.494	17/32"	43	107	60	45	14	●
DC150-03-13.500A1-	13.5		43	107	60	45	14	●
DC150-03-13.800A1-	13.8		43	107	60	45	14	●
DC150-03-14.000A1-	14		43	107	60	45	14	●
DC150-03-14.100A1-	14.1		45	115	65	48	16	●
DC150-03-14.200A1-	14.2		45	115	65	48	16	●
DC150-03-14.288A1-	14.288	9/16"	45	115	65	48	16	●
DC150-03-14.500A1-	14.5		45	115	65	48	16	●
DC150-03-14.600A1-	14.6		45	115	65	48	16	●
DC150-03-14.700A1-	14.7		45	115	65	48	16	●
DC150-03-15.000A1-	15		45	115	65	48	16	●
DC150-03-15.100A1-	15.1		45	115	65	48	16	●
DC150-03-15.300A1-	15.3		45	115	65	48	16	●
DC150-03-15.500A1-	15.5		45	115	65	48	16	●
DC150-03-15.700A1-	15.7		45	115	65	48	16	●
DC150-03-15.800A1-	15.8		45	115	65	48	16	●
DC150-03-15.875A1-	15.875	5/8"	45	115	65	48	16	●
DC150-03-16.000A1-	16		45	115	65	48	16	●
DC150-03-16.300A1-	16.3		51	123	73	48	18	●
DC150-03-16.500A1-	16.5		51	123	73	48	18	●
DC150-03-16.700A1-	16.7		51	123	73	48	18	●
DC150-03-17.000A1-	17		51	123	73	48	18	●
DC150-03-17.500A1-	17.5		51	123	73	48	18	●
DC150-03-18.000A1-	18		51	123	73	48	18	●
DC150-03-18.500A1-	18.5		55	131	79	50	20	●
DC150-03-19.000A1-	19		55	131	79	50	20	●
DC150-03-19.050A1-	19.05	3/4"	55	131	79	50	20	●
DC150-03-20.000A1-	20		55	131	79	50	20	●

Ordering example for the WJ30RE grade: DC150-03-03.000A1-WJ30RE  
 Some sizes offered with whistle notch shank. Check GPS for availability.

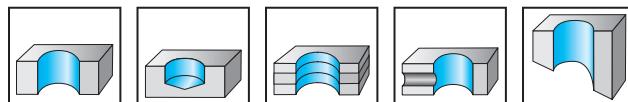


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## Coolant-through solid carbide drill DC150 Perform



WJ30RE

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
DC150-05-03.000A1-	3		23	66	28	36	6	●
DC150-05-03.100A1-	3.1		23	66	28	36	6	●
DC150-05-03.175A1-	3.175	1/8"	23	66	28	36	6	●
DC150-05-03.200A1-	3.2		23	66	28	36	6	●
DC150-05-03.250A1-	3.25		23	66	28	36	6	●
DC150-05-03.300A1-	3.3		23	66	28	36	6	●
DC150-05-03.400A1-	3.4		23	66	28	36	6	●
DC150-05-03.500A1-	3.5		23	66	28	36	6	●
DC150-05-03.572A1-	3.572	9/64"	23	66	28	36	6	●
DC150-05-03.600A1-	3.6		23	66	28	36	6	●
DC150-05-03.650A1-	3.65		23	66	28	36	6	●
DC150-05-03.700A1-	3.7		23	66	28	36	6	●
DC150-05-03.800A1-	3.8		29	74	36	36	6	●
DC150-05-03.900A1-	3.9		29	74	36	36	6	●
DC150-05-03.969A1-	3.969	5/32"	29	74	36	36	6	●
DC150-05-04.000A1-	4		29	74	36	36	6	●
DC150-05-04.100A1-	4.1		29	74	36	36	6	●
DC150-05-04.200A1-	4.2		29	74	36	36	6	●
DC150-05-04.300A1-	4.3		29	74	36	36	6	●
DC150-05-04.366A1-	4.366	11/64"	29	74	36	36	6	●
DC150-05-04.400A1-	4.4		29	74	36	36	6	●
DC150-05-04.500A1-	4.5		29	74	36	36	6	●
DC150-05-04.600A1-	4.6		29	74	36	36	6	●
DC150-05-04.650A1-	4.65		29	74	36	36	6	●
DC150-05-04.700A1-	4.7		29	74	36	36	6	●
DC150-05-04.763A1-	4.763	3/16"	35	82	44	36	6	●
DC150-05-04.800A1-	4.8		35	82	44	36	6	●
DC150-05-04.900A1-	4.9		35	82	44	36	6	●
DC150-05-05.000A1-	5		35	82	44	36	6	●
DC150-05-05.100A1-	5.1		35	82	44	36	6	●
DC150-05-05.159A1-	5.159	13/64"	35	82	44	36	6	●
DC150-05-05.200A1-	5.2		35	82	44	36	6	●
DC150-05-05.300A1-	5.3		35	82	44	36	6	●
DC150-05-05.400A1-	5.4		35	82	44	36	6	●
DC150-05-05.500A1-	5.5		35	82	44	36	6	●
DC150-05-05.550A1-	5.55		35	82	44	36	6	●
DC150-05-05.556A1-	5.556	7/32"	35	82	44	36	6	●
DC150-05-05.600A1-	5.6		35	82	44	36	6	●
DC150-05-05.700A1-	5.7		35	82	44	36	6	●
DC150-05-05.800A1-	5.8		35	82	44	36	6	●
DC150-05-05.900A1-	5.9		35	82	44	36	6	●
DC150-05-05.953A1-	5.953	15/64"	35	82	44	36	6	●
DC150-05-06.000A1-	6		35	82	44	36	6	●
DC150-05-06.100A1-	6.1		43	91	53	36	8	●
DC150-05-06.200A1-	6.2		43	91	53	36	8	●
DC150-05-06.300A1-	6.3		43	91	53	36	8	●
DC150-05-06.350A1-	6.35	1/4"	43	91	53	36	8	●

Ordering example for the WJ30RE grade: DC150-05-03.000A1-WJ30RE  
Some sizes offered with whistle notch shank. Check GPS for availability.

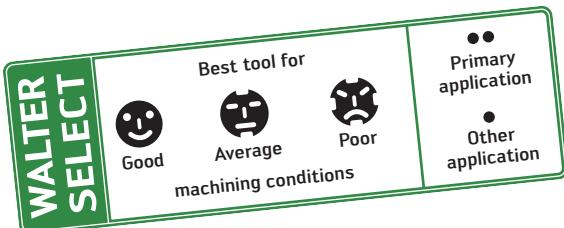
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Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
DC150-05-06.400A1-	6.4		43	91	53	36	8	
DC150-05-06.500A1-	6.5		43	91	53	36	8	
DC150-05-06.600A1-	6.6		43	91	53	36	8	
DC150-05-06.700A1-	6.7		43	91	53	36	8	
DC150-05-06.747A1-	6.747	17/64"	43	91	53	36	8	
DC150-05-06.800A1-	6.8		43	91	53	36	8	
DC150-05-06.900A1-	6.9		43	91	53	36	8	
DC150-05-07.000A1-	7		43	91	53	36	8	
DC150-05-07.100A1-	7.1		43	91	53	36	8	
DC150-05-07.144A1-	7.144	9/32"	43	91	53	36	8	
DC150-05-07.200A1-	7.2		43	91	53	36	8	
DC150-05-07.300A1-	7.3		43	91	53	36	8	
DC150-05-07.400A1-	7.4		43	91	53	36	8	
DC150-05-07.500A1-	7.5		43	91	53	36	8	
DC150-05-07.541A1-	7.541	19/64"	43	91	53	36	8	
DC150-05-07.550A1-	7.55		43	91	53	36	8	
DC150-05-07.600A1-	7.6		43	91	53	36	8	
DC150-05-07.700A1-	7.7		43	91	53	36	8	
DC150-05-07.800A1-	7.8		43	91	53	36	8	
DC150-05-07.900A1-	7.9		43	91	53	36	8	
DC150-05-07.938A1-	7.938	5/16"	43	91	53	36	8	
DC150-05-08.000A1-	8		43	91	53	36	8	
DC150-05-08.100A1-	8.1		49	103	61	40	10	
DC150-05-08.200A1-	8.2		49	103	61	40	10	
DC150-05-08.300A1-	8.3		49	103	61	40	10	
DC150-05-08.334A1-	8.334	21/64"	49	103	61	40	10	
DC150-05-08.400A1-	8.4		49	103	61	40	10	
DC150-05-08.500A1-	8.5		49	103	61	40	10	
DC150-05-08.600A1-	8.6		49	103	61	40	10	
DC150-05-08.700A1-	8.7		49	103	61	40	10	
DC150-05-08.731A1-	8.731	11/32"	49	103	61	40	10	
DC150-05-08.800A1-	8.8		49	103	61	40	10	
DC150-05-08.900A1-	8.9		49	103	61	40	10	
DC150-05-09.000A1-	9		49	103	61	40	10	
DC150-05-09.100A1-	9.1		49	103	61	40	10	
DC150-05-09.128A1-	9.128	23/64"	49	103	61	40	10	
DC150-05-09.200A1-	9.2		49	103	61	40	10	
DC150-05-09.300A1-	9.3		49	103	61	40	10	
DC150-05-09.400A1-	9.4		49	103	61	40	10	
DC150-05-09.500A1-	9.5		49	103	61	40	10	
DC150-05-09.525A1-	9.525	3/8"	49	103	61	40	10	
DC150-05-09.550A1-	9.55		49	103	61	40	10	
DC150-05-09.600A1-	9.6		49	103	61	40	10	
DC150-05-09.700A1-	9.7		49	103	61	40	10	
DC150-05-09.800A1-	9.8		49	103	61	40	10	
DC150-05-09.900A1-	9.9		49	103	61	40	10	
DC150-05-09.922A1-	9.922	25/64"	49	103	61	40	10	
DC150-05-10.000A1-	10		49	103	61	40	10	
DC150-05-10.100A1-	10.1		56	118	71	45	12	
DC150-05-10.200A1-	10.2		56	118	71	45	12	
DC150-05-10.300A1-	10.3		56	118	71	45	12	
DC150-05-10.319A1-	10.319	13/32"	56	118	71	45	12	
DC150-05-10.400A1-	10.4		56	118	71	45	12	
DC150-05-10.500A1-	10.5		56	118	71	45	12	

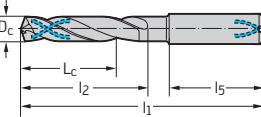
Ordering example for the WJ30RE grade: DC150-05-03.000A1-WJ30RE  
 Some sizes offered with whistle notch shank. Check GPS for availability.



Continued



Continued

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
	DC150-05-10.600A1-	10.6		56	118	71	45	12
	DC150-05-10.700A1-	10.7		56	118	71	45	12
	DC150-05-10.716A1-	10.716	27/64"	56	118	71	45	12
	DC150-05-10.800A1-	10.8		56	118	71	45	12
	DC150-05-10.900A1-	10.9		56	118	71	45	12
	DC150-05-11.000A1-	11		56	118	71	45	12
	DC150-05-11.100A1-	11.1		56	118	71	45	12
	DC150-05-11.113A1-	11.113	7/16"	56	118	71	45	12
	DC150-05-11.200A1-	11.2		56	118	71	45	12
	DC150-05-11.300A1-	11.3		56	118	71	45	12
	DC150-05-11.400A1-	11.4		56	118	71	45	12
	DC150-05-11.500A1-	11.5		56	118	71	45	12
	DC150-05-11.509A1-	11.509	29/64"	56	118	71	45	12
	DC150-05-11.600A1-	11.6		56	118	71	45	12
	DC150-05-11.700A1-	11.7		56	118	71	45	12
	DC150-05-11.800A1-	11.8		56	118	71	45	12
	DC150-05-11.900A1-	11.9		56	118	71	45	12
	DC150-05-11.906A1-	11.906	15/32"	56	118	71	45	12
	DC150-05-12.000A1-	12		56	118	71	45	12
	DC150-05-12.100A1-	12.1		60	124	77	45	14
	DC150-05-12.200A1-	12.2		60	124	77	45	14
	DC150-05-12.250A1-	12.25		60	124	77	45	14
	DC150-05-12.300A1-	12.3		60	124	77	45	14
	DC150-05-12.303A1-	12.303	31/64"	60	124	77	45	14
	DC150-05-12.400A1-	12.4		60	124	77	45	14
	DC150-05-12.500A1-	12.5		60	124	77	45	14
	DC150-05-12.600A1-	12.6		60	124	77	45	14
	DC150-05-12.700A1-	12.7	1/2"	60	124	77	45	14
	DC150-05-12.800A1-	12.8		60	124	77	45	14
	DC150-05-12.900A1-	12.9		60	124	77	45	14
	DC150-05-13.000A1-	13		60	124	77	45	14
	DC150-05-13.100A1-	13.1		60	124	77	45	14
	DC150-05-13.200A1-	13.2		60	124	77	45	14
	DC150-05-13.300A1-	13.3		60	124	77	45	14
	DC150-05-13.400A1-	13.4		60	124	77	45	14
	DC150-05-13.494A1-	13.494	17/32"	60	124	77	45	14
	DC150-05-13.500A1-	13.5		60	124	77	45	14
	DC150-05-13.600A1-	13.6		60	124	77	45	14
	DC150-05-13.700A1-	13.7		60	124	77	45	14
	DC150-05-13.800A1-	13.8		60	124	77	45	14
	DC150-05-13.900A1-	13.9		60	124	77	45	14
	DC150-05-14.000A1-	14		60	124	77	45	14
	DC150-05-14.100A1-	14.1		63	133	83	48	16
	DC150-05-14.200A1-	14.2		63	133	83	48	16
	DC150-05-14.288A1-	14.288	9/16"	63	133	83	48	16
	DC150-05-14.300A1-	14.3		63	133	83	48	16
	DC150-05-14.500A1-	14.5		63	133	83	48	16
	DC150-05-14.600A1-	14.6		63	133	83	48	16
	DC150-05-14.700A1-	14.7		63	133	83	48	16
	DC150-05-14.750A1-	14.75		63	133	83	48	16
	DC150-05-14.800A1-	14.8		63	133	83	48	16
	DC150-05-15.000A1-	15		63	133	83	48	16
	DC150-05-15.100A1-	15.1		63	133	83	48	16
	DC150-05-15.200A1-	15.2		63	133	83	48	16
	DC150-05-15.300A1-	15.3		63	133	83	48	16
	DC150-05-15.500A1-	15.5		63	133	83	48	16
	DC150-05-15.600A1-	15.6		63	133	83	48	16
	DC150-05-15.700A1-	15.7		63	133	83	48	16

Ordering example for the WJ30RE grade: DC150-05-03.000A1-WJ30RE  
 Some sizes offered with whistle notch shank. Check GPS for availability.

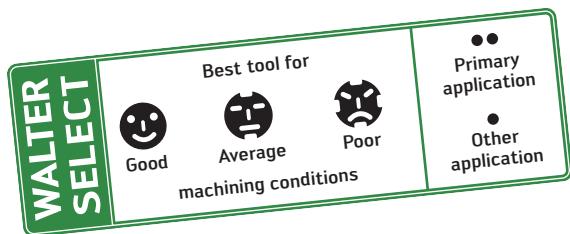
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Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30RE
Shank DIN 6535 HA								
DC150-05-15.800A1-	15.8		63	133	83	48	16	16
DC150-05-15.875A1-	15.875	5/8"	63	133	83	48	16	16
DC150-05-16.000A1-	16		63	133	83	48	16	16
DC150-05-16.100A1-	16.1		71	143	93	48	18	18
DC150-05-16.200A1-	16.2		71	143	93	48	18	18
DC150-05-16.300A1-	16.3		71	143	93	48	18	18
DC150-05-16.500A1-	16.5		71	143	93	48	18	18
DC150-05-16.700A1-	16.7		71	143	93	48	18	18
DC150-05-16.750A1-	16.75		71	143	93	48	18	18
DC150-05-17.000A1-	17		71	143	93	48	18	18
DC150-05-17.100A1-	17.1		71	143	93	48	18	18
DC150-05-17.200A1-	17.2		71	143	93	48	18	18
DC150-05-17.300A1-	17.3		71	143	93	48	18	18
DC150-05-17.500A1-	17.5		71	143	93	48	18	18
DC150-05-17.600A1-	17.6		71	143	93	48	18	18
DC150-05-17.700A1-	17.7		71	143	93	48	18	18
DC150-05-17.800A1-	17.8		71	143	93	48	18	18
DC150-05-17.900A1-	17.9		71	143	93	48	18	18
DC150-05-18.000A1-	18		71	143	93	48	18	18
DC150-05-18.500A1-	18.5		77	153	101	50	20	20
DC150-05-18.900A1-	18.9		77	153	101	50	20	20
DC150-05-19.000A1-	19		77	153	101	50	20	20
DC150-05-19.050A1-	19.05	3/4"	77	153	101	50	20	20
DC150-05-19.300A1-	19.3		77	153	101	50	20	20
DC150-05-19.500A1-	19.5		77	153	101	50	20	20
DC150-05-19.700A1-	19.7		77	153	101	50	20	20
DC150-05-19.800A1-	19.8		77	153	101	50	20	20
DC150-05-20.000A1-	20		77	153	101	50	20	20

Ordering example for the WJ30RE grade: DC150-05-03.000A1-WJ30RE  
 Some sizes offered with whistle notch shank. Check GPS for availability.



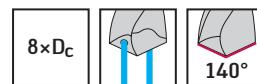
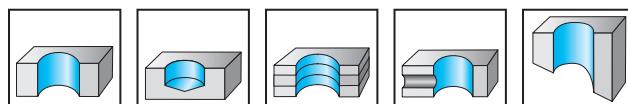
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9

## Coolant-through solid carbide drill DC150 Perform



P	M	K	N	S	H	O
● ●	●	● ●	● ●	● ●	● ●	● ●

WJ30TA

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30TA
<b>Shank DIN 6535 HA</b>								
DC150-08-03.000A1-	3		28	74	34	36	6	● ●
DC150-08-03.100A1-	3.1		28	74	34	36	6	● ●
DC150-08-03.175A1-	3.175	1/8"	28	74	34	36	6	● ●
DC150-08-03.200A1-	3.2		28	74	34	36	6	● ●
DC150-08-03.300A1-	3.3		28	74	34	36	6	● ●
DC150-08-03.400A1-	3.4		28	74	34	36	6	● ●
DC150-08-03.500A1-	3.5		28	74	34	36	6	● ●
DC150-08-03.572A1-	3.572	9/64"	28	74	34	36	6	● ●
DC150-08-03.600A1-	3.6		28	74	34	36	6	● ●
DC150-08-03.700A1-	3.7		28	74	34	36	6	● ●
DC150-08-03.800A1-	3.8		37	85	45	36	6	● ●
DC150-08-03.900A1-	3.9		37	85	45	36	6	● ●
DC150-08-03.969A1-	3.969	5/32"	37	85	45	36	6	● ●
DC150-08-04.000A1-	4		37	85	45	36	6	● ●
DC150-08-04.100A1-	4.1		37	85	45	36	6	● ●
DC150-08-04.200A1-	4.2		37	85	45	36	6	● ●
DC150-08-04.300A1-	4.3		37	85	45	36	6	● ●
DC150-08-04.366A1-	4.366	11/64"	37	85	45	36	6	● ●
DC150-08-04.400A1-	4.4		37	85	45	36	6	● ●
DC150-08-04.500A1-	4.5		37	85	45	36	6	● ●
DC150-08-04.600A1-	4.6		37	85	45	36	6	● ●
DC150-08-04.700A1-	4.7		37	85	45	36	6	● ●
DC150-08-04.763A1-	4.763	3/16"	37	85	45	36	6	● ●
DC150-08-04.800A1-	4.8		48	97	57	36	6	● ●
DC150-08-04.900A1-	4.9		48	97	57	36	6	● ●
DC150-08-05.000A1-	5		48	97	57	36	6	● ●
DC150-08-05.100A1-	5.1		48	97	57	36	6	● ●
DC150-08-05.159A1-	5.159	13/64"	48	97	57	36	6	● ●
DC150-08-05.200A1-	5.2		48	97	57	36	6	● ●
DC150-08-05.300A1-	5.3		48	97	57	36	6	● ●
DC150-08-05.400A1-	5.4		48	97	57	36	6	● ●
DC150-08-05.500A1-	5.5		48	97	57	36	6	● ●
DC150-08-05.556A1-	5.556	7/32"	48	97	57	36	6	● ●
DC150-08-05.600A1-	5.6		48	97	57	36	6	● ●
DC150-08-05.700A1-	5.7		48	97	57	36	6	● ●
DC150-08-05.800A1-	5.8		48	97	57	36	6	● ●
DC150-08-05.900A1-	5.9		48	97	57	36	6	● ●
DC150-08-05.953A1-	5.953	15/64"	48	97	57	36	6	● ●
DC150-08-06.000A1-	6		48	97	57	36	6	● ●
DC150-08-06.100A1-	6.1		55	106	66	36	8	● ●
DC150-08-06.200A1-	6.2		55	106	66	36	8	● ●
DC150-08-06.300A1-	6.3		55	106	66	36	8	● ●
DC150-08-06.350A1-	6.35	1/4"	55	106	66	36	8	● ●
DC150-08-06.400A1-	6.4		55	106	66	36	8	● ●
DC150-08-06.500A1-	6.5		55	106	66	36	8	● ●
DC150-08-06.600A1-	6.6		55	106	66	36	8	● ●
DC150-08-06.700A1-	6.7		55	106	66	36	8	● ●

Ordering example for the WJ30TA grade: DC150-08-03.000A1-WJ30TA

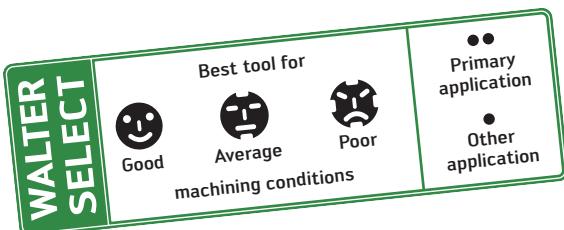
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Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30TA
Shank DIN 6535 HA								
DC150-08-06.747A1-	6.747	17/64"	55	106	66	36	8	●
DC150-08-06.800A1-	6.8		55	106	66	36	8	●
DC150-08-06.900A1-	6.9		55	106	66	36	8	●
DC150-08-07.000A1-	7		55	106	66	36	8	●
DC150-08-07.100A1-	7.1		64	116	76	36	8	●
DC150-08-07.144A1-	7.144	9/32"	64	116	76	36	8	●
DC150-08-07.200A1-	7.2		64	116	76	36	8	●
DC150-08-07.300A1-	7.3		64	116	76	36	8	●
DC150-08-07.400A1-	7.4		64	116	76	36	8	●
DC150-08-07.500A1-	7.5		64	116	76	36	8	●
DC150-08-07.541A1-	7.541	19/64"	64	116	76	36	8	●
DC150-08-07.600A1-	7.6		64	116	76	36	8	●
DC150-08-07.700A1-	7.7		64	116	76	36	8	●
DC150-08-07.800A1-	7.8		64	116	76	36	8	●
DC150-08-07.900A1-	7.9		64	116	76	36	8	●
DC150-08-07.938A1-	7.938	5/16"	64	116	76	36	8	●
DC150-08-08.000A1-	8		64	116	76	36	8	●
DC150-08-08.100A1-	8.1		80	139	95	40	10	●
DC150-08-08.200A1-	8.2		80	139	95	40	10	●
DC150-08-08.300A1-	8.3		80	139	95	40	10	●
DC150-08-08.334A1-	8.334	21/64"	80	139	95	40	10	●
DC150-08-08.400A1-	8.4		80	139	95	40	10	●
DC150-08-08.500A1-	8.5		80	139	95	40	10	●
DC150-08-08.600A1-	8.6		80	139	95	40	10	●
DC150-08-08.700A1-	8.7		80	139	95	40	10	●
DC150-08-08.731A1-	8.731	11/32"	80	139	95	40	10	●
DC150-08-08.800A1-	8.8		80	139	95	40	10	●
DC150-08-08.900A1-	8.9		80	139	95	40	10	●
DC150-08-09.000A1-	9		80	139	95	40	10	●
DC150-08-09.100A1-	9.1		80	139	95	40	10	●
DC150-08-09.128A1-	9.128	23/64"	80	139	95	40	10	●
DC150-08-09.200A1-	9.2		80	139	95	40	10	●
DC150-08-09.300A1-	9.3		80	139	95	40	10	●
DC150-08-09.400A1-	9.4		80	139	95	40	10	●
DC150-08-09.500A1-	9.5		80	139	95	40	10	●
DC150-08-09.525A1-	9.525	3/8"	80	139	95	40	10	●
DC150-08-09.600A1-	9.6		80	139	95	40	10	●
DC150-08-09.700A1-	9.7		80	139	95	40	10	●
DC150-08-09.800A1-	9.8		80	139	95	40	10	●
DC150-08-09.900A1-	9.9		80	139	95	40	10	●
DC150-08-09.922A1-	9.922	25/64"	80	139	95	40	10	●
DC150-08-10.000A1-	10		80	139	95	40	10	●
DC150-08-10.100A1-	10.1		96	163	114	45	12	●
DC150-08-10.200A1-	10.2		96	163	114	45	12	●
DC150-08-10.300A1-	10.3		96	163	114	45	12	●
DC150-08-10.319A1-	10.319	13/32"	96	163	114	45	12	●
DC150-08-10.400A1-	10.4		96	163	114	45	12	●
DC150-08-10.500A1-	10.5		96	163	114	45	12	●
DC150-08-10.700A1-	10.7		96	163	114	45	12	●
DC150-08-10.716A1-	10.716	27/64"	96	163	114	45	12	●
DC150-08-10.800A1-	10.8		96	163	114	45	12	●
DC150-08-10.900A1-	10.9		96	163	114	45	12	●
DC150-08-11.000A1-	11		96	163	114	45	12	●
DC150-08-11.100A1-	11.1		96	163	114	45	12	●

Ordering example for the WJ30TA grade: DC150-08-03.000A1-WJ30TA



Continued



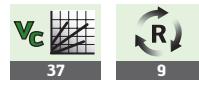
37

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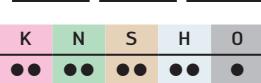
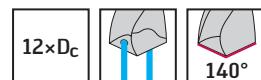
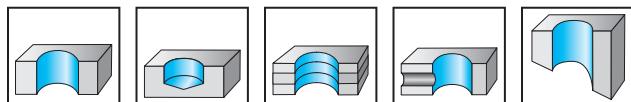
Continued

Designation	$D_c$ m7 mm	$D_c$ Inch/no.	$L_c$ mm	$l_1$ mm	$l_2$ mm	$l_5$ mm	$d_1$ h6 mm	WJ30TA
Shank DIN 6535 HA								
DC150-08-11.113A1-	11.113	7/16"	96	163	114	45	12	Ⓜ
DC150-08-11.200A1-	11.2		96	163	114	45	12	Ⓜ
DC150-08-11.300A1-	11.3		96	163	114	45	12	Ⓜ
DC150-08-11.500A1-	11.5		96	163	114	45	12	Ⓜ
DC150-08-11.600A1-	11.6		96	163	114	45	12	Ⓜ
DC150-08-11.700A1-	11.7		96	163	114	45	12	Ⓜ
DC150-08-11.800A1-	11.8		96	163	114	45	12	Ⓜ
DC150-08-11.900A1-	11.9		96	163	114	45	12	Ⓜ
DC150-08-11.906A1-	11.906	15/32"	96	163	114	45	12	Ⓜ
DC150-08-12.000A1-	12		96	163	114	45	12	Ⓜ
DC150-08-12.303A1-	12.303	31/64"	119	182	133	45	14	Ⓜ
DC150-08-12.500A1-	12.5		119	182	133	45	14	Ⓜ
DC150-08-12.700A1-	12.7	1/2"	119	182	133	45	14	Ⓜ
DC150-08-13.000A1-	13		119	182	133	45	14	Ⓜ
DC150-08-13.494A1-	13.494	17/32"	119	182	133	45	14	Ⓜ
DC150-08-13.500A1-	13.5		119	182	133	45	14	Ⓜ
DC150-08-14.000A1-	14		119	182	133	45	14	Ⓜ
DC150-08-14.288A1-	14.288	9/16"	136	204	152	48	16	Ⓜ
DC150-08-14.500A1-	14.5		136	204	152	48	16	Ⓜ
DC150-08-15.000A1-	15		136	204	152	48	16	Ⓜ
DC150-08-15.500A1-	15.5		136	204	152	48	16	Ⓜ
DC150-08-15.875A1-	15.875	5/8"	136	204	152	48	16	Ⓜ
DC150-08-16.000A1-	16		136	204	152	48	16	Ⓜ
DC150-08-16.500A1-	16.5		153	223	171	48	18	Ⓜ
DC150-08-17.000A1-	17		153	223	171	48	18	Ⓜ
DC150-08-17.500A1-	17.5		153	223	171	48	18	Ⓜ
DC150-08-18.000A1-	18		153	223	171	48	18	Ⓜ
DC150-08-18.500A1-	18.5		170	244	190	50	20	Ⓜ
DC150-08-19.000A1-	19		170	244	190	50	20	Ⓜ
DC150-08-19.050A1-	19.05	3/4"	170	244	190	50	20	Ⓜ
DC150-08-19.500A1-	19.5		170	244	190	50	20	Ⓜ
DC150-08-20.000A1-	20		170	244	190	50	20	Ⓜ

Ordering example for the WJ30TA grade: DC150-08-03.000A1-WJ30TA



## Coolant-through solid carbide drill DC150 Perform

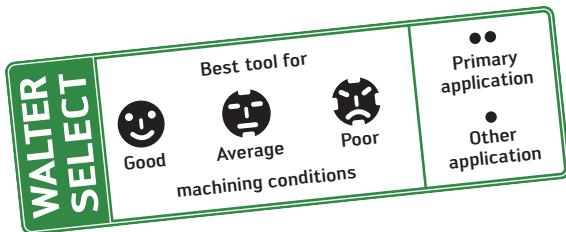


P	M	K	N	S	H	O
● ●	●	● ●	● ●	● ●	● ●	●

WJ30TA

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30TA
Shank DIN 6535 HA								
DC150-12-03.000A1-	3		48	92	54	36	6	● ●
DC150-12-03.100A1-	3.1		48	92	54	36	6	● ●
DC150-12-03.175A1-	3.175	1/8"	48	92	54	36	6	● ●
DC150-12-03.200A1-	3.2		48	92	54	36	6	● ●
DC150-12-03.300A1-	3.3		48	92	54	36	6	● ●
DC150-12-03.400A1-	3.4		48	92	54	36	6	● ●
DC150-12-03.500A1-	3.5		48	92	54	36	6	● ●
DC150-12-03.572A1-	3.572	9/64"	48	92	54	36	6	● ●
DC150-12-03.600A1-	3.6		48	92	54	36	6	● ●
DC150-12-03.700A1-	3.7		48	92	54	36	6	● ●
DC150-12-03.800A1-	3.8		56	102	64	36	6	● ●
DC150-12-03.900A1-	3.9		56	102	64	36	6	● ●
DC150-12-03.969A1-	3.969	5/32"	56	102	64	36	6	● ●
DC150-12-04.000A1-	4		56	102	64	36	6	● ●
DC150-12-04.100A1-	4.1		56	102	64	36	6	● ●
DC150-12-04.200A1-	4.2		56	102	64	36	6	● ●
DC150-12-04.300A1-	4.3		56	102	64	36	6	● ●
DC150-12-04.366A1-	4.366	11/64"	56	102	64	36	6	● ●
DC150-12-04.400A1-	4.4		56	102	64	36	6	● ●
DC150-12-04.500A1-	4.5		56	102	64	36	6	● ●
DC150-12-04.600A1-	4.6		56	102	64	36	6	● ●
DC150-12-04.700A1-	4.7		56	102	64	36	6	● ●
DC150-12-04.763A1-	4.763	3/16"	74	121	83	36	6	● ●
DC150-12-04.800A1-	4.8		74	121	83	36	6	● ●
DC150-12-04.900A1-	4.9		74	121	83	36	6	● ●
DC150-12-05.000A1-	5		74	121	83	36	6	● ●
DC150-12-05.100A1-	5.1		74	121	83	36	6	● ●
DC150-12-05.159A1-	5.159	13/64"	74	121	83	36	6	● ●
DC150-12-05.200A1-	5.2		74	121	83	36	6	● ●
DC150-12-05.300A1-	5.3		74	121	83	36	6	● ●
DC150-12-05.400A1-	5.4		74	121	83	36	6	● ●
DC150-12-05.500A1-	5.5		74	121	83	36	6	● ●
DC150-12-05.550A1-	5.55		74	121	83	36	6	● ●
DC150-12-05.556A1-	5.556	7/32"	74	121	83	36	6	● ●
DC150-12-05.600A1-	5.6		74	121	83	36	6	● ●
DC150-12-05.700A1-	5.7		74	121	83	36	6	● ●
DC150-12-05.800A1-	5.8		74	121	83	36	6	● ●
DC150-12-05.900A1-	5.9		74	121	83	36	6	● ●
DC150-12-06.000A1-	6		74	121	83	36	6	● ●
DC150-12-06.100A1-	6.1		98	148	110	36	8	● ●
DC150-12-06.200A1-	6.2		98	148	110	36	8	● ●
DC150-12-06.300A1-	6.3		98	148	110	36	8	● ●
DC150-12-06.350A1-	6.35	1/4"	98	148	110	36	8	● ●

Ordering example for the WJ30TA grade: DC150-12-03.000A1-WJ30TA



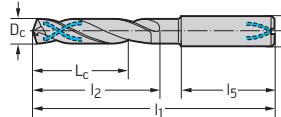
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Continued

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30TA
Shank DIN 6535 HA								
								
DC150-12-06.400A1-	6.4		98	148	110	36	8	
DC150-12-06.500A1-	6.5		98	148	110	36	8	
DC150-12-06.600A1-	6.6		98	148	110	36	8	
DC150-12-06.700A1-	6.7		98	148	110	36	8	
DC150-12-06.747A1-	6.747	17/64"	98	148	110	36	8	
DC150-12-06.800A1-	6.8		98	148	110	36	8	
DC150-12-06.900A1-	6.9		98	148	110	36	8	
DC150-12-07.000A1-	7		98	148	110	36	8	
DC150-12-07.100A1-	7.1		98	148	110	36	8	
DC150-12-07.144A1-	7.144	9/32"	98	148	110	36	8	
DC150-12-07.200A1-	7.2		98	148	110	36	8	
DC150-12-07.300A1-	7.3		98	148	110	36	8	
DC150-12-07.400A1-	7.4		98	148	110	36	8	
DC150-12-07.500A1-	7.5		98	148	110	36	8	
DC150-12-07.541A1-	7.541	19/64"	98	148	110	36	8	
DC150-12-07.800A1-	7.8		98	148	110	36	8	
DC150-12-07.900A1-	7.9		98	148	110	36	8	
DC150-12-07.938A1-	7.938	5/16"	98	148	110	36	8	
DC150-12-08.000A1-	8		98	148	110	36	8	
DC150-12-08.100A1-	8.1		123	180	138	40	10	
DC150-12-08.200A1-	8.2		123	180	138	40	10	
DC150-12-08.300A1-	8.3		123	180	138	40	10	
DC150-12-08.400A1-	8.4		123	180	138	40	10	
DC150-12-08.500A1-	8.5		123	180	138	40	10	
DC150-12-08.600A1-	8.6		123	180	138	40	10	
DC150-12-08.700A1-	8.7		123	180	138	40	10	
DC150-12-08.731A1-	8.731	11/32"	123	180	138	40	10	
DC150-12-08.800A1-	8.8		123	180	138	40	10	
DC150-12-09.000A1-	9		123	180	138	40	10	
DC150-12-09.128A1-	9.128	23/64"	123	180	138	40	10	
DC150-12-09.200A1-	9.2		123	180	138	40	10	
DC150-12-09.300A1-	9.3		123	180	138	40	10	
DC150-12-09.500A1-	9.5		123	180	138	40	10	
DC150-12-09.525A1-	9.525	3/8"	123	180	138	40	10	
DC150-12-09.600A1-	9.6		123	180	138	40	10	
DC150-12-09.700A1-	9.7		123	180	138	40	10	
DC150-12-09.800A1-	9.8		123	180	138	40	10	
DC150-12-09.922A1-	9.922	25/64"	123	180	138	40	10	
DC150-12-10.000A1-	10		123	180	138	40	10	
DC150-12-10.100A1-	10.1		140	206	158	45	12	
DC150-12-10.200A1-	10.2		140	206	158	45	12	
DC150-12-10.300A1-	10.3		140	206	158	45	12	
DC150-12-10.319A1-	10.319	13/32"	140	206	158	45	12	
DC150-12-10.500A1-	10.5		140	206	158	45	12	
DC150-12-10.716A1-	10.716	27/64"	140	206	158	45	12	
DC150-12-10.800A1-	10.8		140	206	158	45	12	
DC150-12-11.000A1-	11		140	206	158	45	12	
DC150-12-11.100A1-	11.1		140	206	158	45	12	
DC150-12-11.113A1-	11.113	7/16"	140	206	158	45	12	
DC150-12-11.200A1-	11.2		140	206	158	45	12	
DC150-12-11.500A1-	11.5		140	206	158	45	12	
DC150-12-11.509A1-	11.509	29/64"	140	206	158	45	12	
DC150-12-11.700A1-	11.7		140	206	158	45	12	
DC150-12-11.800A1-	11.8		140	206	158	45	12	
DC150-12-11.906A1-	11.906	15/32"	140	206	158	45	12	
DC150-12-12.000A1-	12		140	206	158	45	12	
DC150-12-12.100A1-	12.1		168	230	182	45	14	
DC150-12-12.200A1-	12.2		168	230	182	45	14	

Ordering example for the WJ30TA grade: DC150-08-03.000A1-WJ30TA

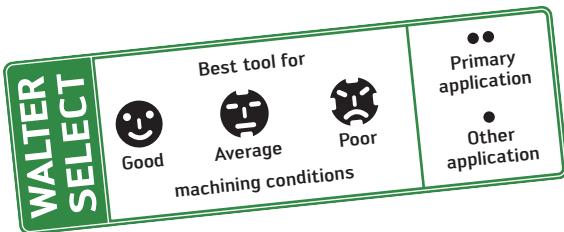
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Continued

Designation	D <sub>c</sub> m7 mm	D <sub>c</sub> Inch/no.	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>5</sub> mm	d <sub>1</sub> h6 mm	WJ30TA
Shank DIN 6535 HA								
DC150-12-12.300A1-	12.3		168	230	182	45	14	12
DC150-12-12.303A1-	12.303	31/64"	168	230	182	45	14	12
DC150-12-12.500A1-	12.5		168	230	182	45	14	12
DC150-12-12.600A1-	12.6		168	230	182	45	14	12
DC150-12-12.700A1-	12.7	1/2"	168	230	182	45	14	12
DC150-12-13.000A1-	13		168	230	182	45	14	12
DC150-12-13.494A1-	13.494	17/32"	168	230	182	45	14	12
DC150-12-13.500A1-	13.5		168	230	182	45	14	12
DC150-12-14.000A1-	14		168	230	182	45	14	12
DC150-12-14.288A1-	14.288	9/16"	192	260	208	48	16	12
DC150-12-14.500A1-	14.5		192	260	208	48	16	12
DC150-12-15.000A1-	15		192	260	208	48	16	12
DC150-12-15.500A1-	15.5		192	260	208	48	16	12
DC150-12-15.875A1-	15.875	5/8"	192	260	208	48	16	12
DC150-12-16.000A1-	16		192	260	208	48	16	12
DC150-12-16.500A1-	16.5		216	285	234	48	18	12
DC150-12-17.000A1-	17		216	285	234	48	18	12
DC150-12-17.500A1-	17.5		216	285	234	48	18	12
DC150-12-18.000A1-	18		216	285	234	48	18	12
DC150-12-19.000A1-	19		238	310	258	50	20	12
DC150-12-20.000A1-	20		238	310	258	50	20	12

Ordering example for the WJ30TA grade: DC150-12-03.000A1-WJ30TA



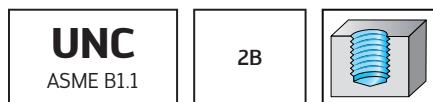
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## HSS-E machine taps TC115 Perform



- For long-chipping materials



$\leq 3 \times D_N$	C=2-3		32HRC 1000-200 N/mm²
P	M	K	N
● ●	● ●	● ●	●
WY80AA	S	H	O

### DIN/ANSI

Designation	D <sub>N</sub> -P	D <sub>N</sub> inch	l <sub>1</sub> inch	L <sub>c</sub> inch	l <sub>3</sub> inch	d <sub>1</sub> h9 inch	l <sub>9</sub> Inches/ no.	N	WY80AA
									WY80AA
TC115DUNC6-C0-	UNC 6-32	0.138	2.205	0.256	0.787	0.141	0.110	3/16"	3
TC115DUNC8-C0-	UNC 8-32	0.164	2.480	0.276	0.827	0.168	0.131	1/4"	3
TC115DUNC10-C0-	UNC 10-24	0.190	2.756	0.315	0.984	0.194	0.152	1/4"	3
TC115DUNC1/4-C0-	UNC 1/4-20	0.250	3.150	0.394	1.181	0.255	0.191	5/16"	3
TC115DUNC5/16-C0-	UNC 5/16-18	0.313	3.543	0.472	1.378	0.318	0.238	3/8"	3
TC115DUNC3/8-C0-	UNC 3/8-16	0.375	3.937	0.591	1.535	0.381	0.286	7/16"	3

DIN length/ANSI shank

Ordering example for the WY80FC grade: TC115DUNC6-C0-WY80AA

### DIN/ANSI

Designation	D <sub>N</sub> -P	D <sub>N</sub> inch	l <sub>1</sub> inch	L <sub>c</sub> inch	l <sub>3</sub> inch	d <sub>1</sub> h9 inch	l <sub>9</sub> Inches/ no.	N	WY80AA
									WY80AA
TC115DUNC1/2-L0-	UNC 1/2-13	0.500	4.331	0.709	3.224	0.367	0.275	7/16"	3
TC115DUNC5/8-L0-	UNC 5/8-11	0.625	4.331	0.787	2.587	0.480	0.360	9/16"	3
TC115DUNC3/4-L0-	UNC 3/4-10	0.750	4.921	0.984	3.051	0.590	0.442	11/16"	4

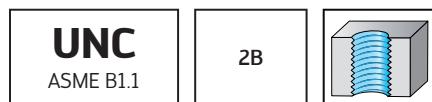
DIN length/ANSI shank

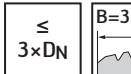
Ordering example for the WY80AA grade: TC115DUNC1/2-L0-WY80AA

## HSS-E machine taps TC216 Perform



- For long-chipping materials

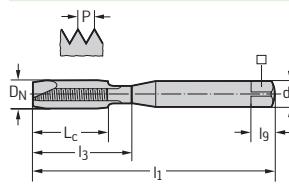


$\leq 3 \times D_N$	$B=3.5-5$	$32HRC$
		$1000 - 200 N/mm^2$
		

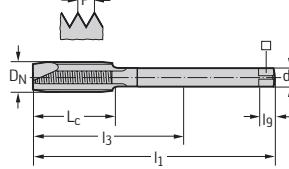
P	M	K	N	S	H	O
●●	●●	●●	●●	●●		

WY80AA

DIN/ANSI	Designation	$D_N-P$	$D_N$ inch	$l_1$ $h9$ inch	$L_c$ inch	$l_3$ inch	$d_1$ inch	$\square$ inch	$l_g$ Inches/ no.	WY80AA
	TC216DUNC6-C0-	UNC 6-32	0.138	2.205	0.433	0.787	0.141	0.110	3/16"	3
	TC216DUNC8-C0-	UNC 8-32	0.164	2.480	0.472	0.827	0.168	0.131	1/4"	3
	TC216DUNC10-C0-	UNC 10-24	0.190	2.756	0.512	0.984	0.194	0.152	1/4"	3
	TC216DUNC1/4-C0-	UNC 1/4-20	0.250	3.150	0.591	1.181	0.255	0.191	5/16"	3
	TC216DUNC5/16-C0-	UNC 5/16-18	0.313	3.543	0.709	1.378	0.318	0.238	3/8"	3
	TC216DUNC3/8-C0-	UNC 3/8-16	0.375	3.937	0.787	1.535	0.381	0.286	7/16"	3

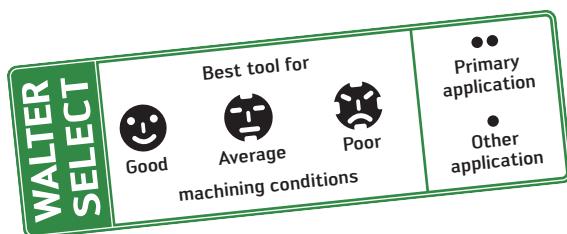
DIN length/ANSI shank

Ordering example for the WY80AA grade: TC216DUNC6-C0-WY80AA

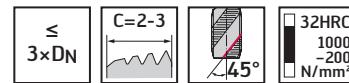
DIN/ANSI	Designation	$D_N-P$	$D_N$ inch	$l_1$ $h9$ inch	$L_c$ inch	$l_3$ inch	$d_1$ inch	$\square$ inch	$l_g$ Inches/ no.	WY80AA
	TC216DUNC1/2-L0-	UNC 1/2-13	0.500	4.331	0.906	3.224	0.367	0.275	7/16"	4
	TC216DUNC5/8-L0-	UNC 5/8-11	0.625	4.331	0.984	2.587	0.480	0.360	9/16"	4
	TC216DUNC3/4-L0-	UNC 3/4-10	0.750	4.921	1.181	3.051	0.590	0.442	11/16"	4

DIN length/ANSI shank

Ordering example for the WY80AA grade: TC216DUNC1/2-L0-WY80AA



## HSS-E machine taps TC115 Perform



- For long-chipping materials



P	M	K	N	S	H	O
● ●	● ●	● ●	●			
● ●	● ●	● ●	●			

### DIN 371

Designation	D <sub>N</sub>	P mm	l <sub>1</sub> mm	L <sub>c</sub> mm	l <sub>3</sub> mm	d <sub>1</sub> h9 mm	□ mm	l <sub>9</sub> mm	N	WY80AA	WY80FC
TC115-M3-C0-	M 3	0.5	56	6	18	3.5	2.7	6	3		
TC115-M4-C0-	M 4	0.7	63	7	21	4.5	3.4	6	3		
TC115-M5-C0-	M 5	0.8	70	8	25	6	4.9	8	3		
TC115-M6-C0-	M 6	1	80	10	30	6	4.9	8	3		
TC115-M8-C0-	M 8	1.25	90	12	35	8	6.2	9	3		
TC115-M10-C0-	M 10	1.5	100	15	39	10	8	11	3		

Ordering example for the WY80FC grade: TC115-M3-C0-WY80FC

### DIN 376

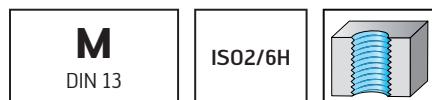
Designation	D <sub>N</sub>	P mm	l <sub>1</sub> mm	L <sub>c</sub> mm	l <sub>3</sub> mm	d <sub>1</sub> h9 mm	□ mm	l <sub>9</sub> mm	N	WY80AA	WY80FC
TC115-M12-L0-	M 12	1.75	110	16	83	9	7	10	3		
TC115-M14-L0-	M 14	2	110	20	81	11	9	12	3		
TC115-M16-L0-	M 16	2	110	20	68	12	9	12	3		
TC115-M20-L0-	M 20	2.5	140	25	95	16	12	15	4		

Ordering example for the WY80FC grade: TC115-M12-L0-WY80FC

## HSS-E machine taps TC216 Perform



- For long-chipping materials



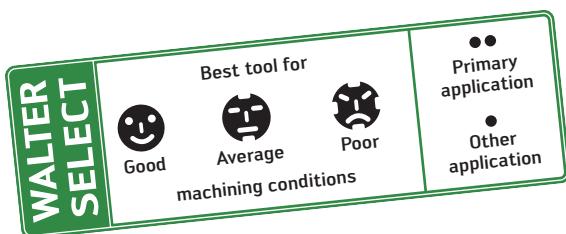
$\leq 3 \times D_N$	$B=3.5-5$	32HRC 1000-200 N/mm²
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DIN 371	Designation	$D_N$	P mm	$l_1$ mm	$L_c$ mm	$l_3$ mm	$d_1 h9$ mm	$\square$ mm	$l_g$ mm	N	WY80AA	WY80FC
	TC216-M3-C0-	M 3	0.5	56	9	18	3.5	2.7	6	2		
	TC216-M4-C0-	M 4	0.7	63	12	21	4.5	3.4	6	3		
	TC216-M5-C0-	M 5	0.8	70	13	25	6	4.9	8	3		
	TC216-M6-C0-	M 6	1	80	15	30	6	4.9	8	3		
	TC216-M8-C0-	M 8	1.25	90	18	35	8	6.2	9	3		
	TC216-M10-C0-	M 10	1.5	100	20	39	10	8	11	3		

Ordering example for the WY80FC grade: TC216-M3-C0-WY80FC

DIN 376	Designation	$D_N$	P mm	$l_1$ mm	$L_c$ mm	$l_3$ mm	$d_1 h9$ mm	$\square$ mm	$l_g$ mm	N	WY80AA	WY80FC
	TC216-M12-L0-	M 12	1.75	110	23	83	9	7	10	3		
	TC216-M14-L0-	M 14	2	110	25	81	11	9	12	4		
	TC216-M16-L0-	M 16	2	110	25	68	12	9	12	4		
	TC216-M20-L0-	M 20	2.5	140	30	95	16	12	15	4		

Ordering example for the WY80FC grade: TC216-M12-L0-WY80FC

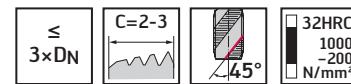


## HSS-E machine taps TC115 Perform



- For long-chipping materials

<b>MF</b> DIN 13	ISO2/6H	
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P	M	K	N	S	H	O
● ●	● ●	● ●	●			
● ●	● ●	● ●	●			

### DIN 374

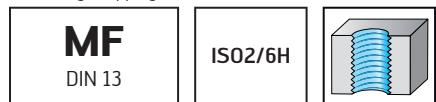
Designation	D <sub>N</sub>	P mm	l <sub>1</sub> mm	L <sub>c</sub> mm	l <sub>3</sub> mm	d <sub>1</sub> h9 mm	□ mm	l <sub>g</sub> mm	N	WY80AA	WY80FC
TC115-M8x1-L0-	MF 8x1	1	90	12	67	6	4.9	8	3		
TC115-M10x1-L0-	MF 10x1	1	90	12	67	7	5.5	8	3		
TC115-M12x1.25-L0-	MF 12x1.25	1.25	100	13	73	9	7	10	4		
TC115-M12x1.5-L0-	MF 12x1.5	1.5	100	13	73	9	7	10	4		
TC115-M14x1.5-L0-	MF 14x1.5	1.5	100	15	71	11	9	12	4		
TC115-M16x1.5-L0-	MF 16x1.5	1.5	100	15	58	12	9	12	4		
TC115-M18x1.5-L0-	MF 18x1.5	1.5	110	17	66	14	11	14	4		

Ordering example for the WY80FC grade: TC115-M8x1-L0-WY80FC

## HSS-E machine taps TC216 Perform



- For long-chipping materials



$\leq 3 \times D_N$	$B=3.5-5$	32HRC 1000 -200 N/mm <sup>2</sup>
P	M	K N S H O
WY80AA	● ●	● ● ● ●

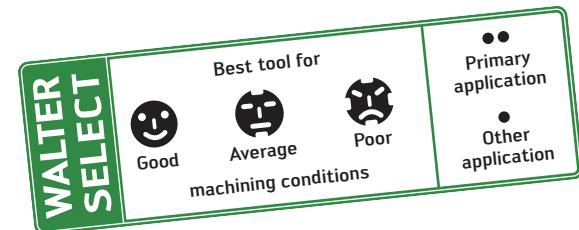
  

WY80FC	● ●	● ● ● ●
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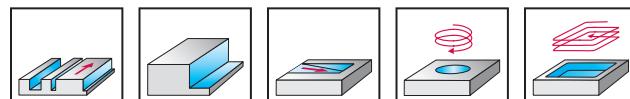
### DIN 374

Designation	D <sub>N</sub>	P mm	l <sub>1</sub> mm	L <sub>c</sub> mm	l <sub>3</sub> mm	d <sub>1</sub> h9 mm	□ mm	l <sub>g</sub> mm	N	WY80AA	WY80FC
TC216-M8X1-L0-	MF 8x1	1	90	18	67	6	4.9	8	3		
TC216-M10X1-L0-	MF 10x1	1	90	20	67	7	5.5	8	3		
TC216-M12X1.25-L0-	MF 12x1.25	1.25	100	21	73	9	7	10	4		
TC216-M12X1.5-L0-	MF 12x1.5	1.5	100	21	73	9	7	10	4		
TC216-M14X1.5-L0-	MF 14x1.5	1.5	100	21	71	11	9	12	4		
TC216-M16X1.5-L0-	MF 16x1.5	1.5	100	21	58	12	9	12	4		
TC216-M18X1.5-L0-	MF 18x1.5	1.5	110	24	66	14	11	14	4		

Ordering example for the WY80FC grade: TC216-M8X1-L0-WY80FC



## Solid carbide shoulder/slot milling cutter MC232 Perform\* inch



Z= 2-4          

P	M	K	N	S	H	O
● ●	●	●				

WJ30ED

DIN 6527 L	Designation	D <sub>c</sub> h12 inch	L <sub>c</sub> inch	l <sub>1</sub> inch	l <sub>4</sub> inch	d <sub>1</sub> h6 inch	Z	WJ30ED
Shank DIN 6535 HA	MC232.3.18A2D-	0.125	0.500	2.500	1.083	0.250	2	
	MC232.6.35A2D-	0.250	0.750	2.500	1.083	0.250	2	
Shank DIN 6535 HB	MC232.9.53W2D-	0.375	0.875	3.000	1.437	0.375	2	
	MC232.12.7W2D-	0.500	1.000	3.500	1.717	0.500	2	
	MC232.15.9W2D-	0.625	1.250	3.500	1.594	0.625	2	

Ordering example for the WJ30ED grade: MC232.3.18A2D-WJ30ED

DIN 6527 L	Designation	D <sub>c</sub> h12 inch	L <sub>c</sub> inch	l <sub>1</sub> inch	l <sub>4</sub> inch	d <sub>1</sub> h6 inch	Z	WJ30ED
Shank DIN 6535 HA	MC232.3.18A3D-	0.125	0.500	2.500	1.083	0.250	3	
	MC232.6.35A3D-	0.250	0.750	2.500	1.083	0.250	3	
Shank DIN 6535 HB	MC232.9.53W3D-	0.375	0.875	3.000	1.437	0.375	3	
	MC232.12.7W3D-	0.500	1.000	3.500	1.717	0.500	3	
	MC232.15.9W3D-	0.625	1.250	3.500	1.594	0.625	3	

Ordering example for the WJ30ED grade: MC232.3.18A3D-WJ30ED

Continued

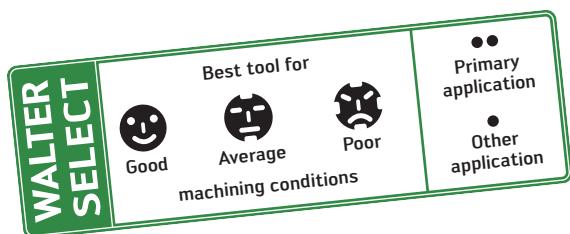


\*Available starting July 2016

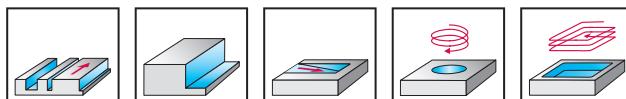
Continued

DIN 6527 L	Designation	$D_c$ h12 inch	$L_c$ inch	$l_1$ inch	$l_4$ inch	$d_1$ h6 inch	Z	WJ30ED
Shank DIN 6535 HA	MC232.3.18A4D-	0.125	0.500	2.500	1.083	0.250	4	
	MC232.6.35A4D-	0.250	0.750	2.500	1.083	0.250	4	
Shank DIN 6535 HB	MC232.9.53W4D-	0.375	0.875	3.000	1.437	0.375	4	
	MC232.12.7W4D-	0.500	1.000	3.500	1.717	0.500	4	
	MC232.15.9W4D-	0.625	1.250	3.500	1.594	0.625	4	

Ordering example for the WJ30ED grade: MC232.3.18A4D-WJ30ED



## Solid carbide shoulder/slot milling cutter MC232 Perform



Z =  
2-4



35°

WJ30ED	P	M	K	N	S	H	O
	● ●	●	●	●	●	●	●

### DIN 6527 L

Designation	D <sub>c</sub> h12 mm	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>4</sub> mm	d <sub>1</sub> h6 mm	Z	WJ30ED
Shank DIN 6535 HA							
MC232-02.0A2B-	2	6	57	21	4	2	●
MC232-02.5A2B-	2.5	7	57	21	4	2	●
MC232-03.0A2B-	3	7	57	21	4	2	●
MC232-03.5A2B-	3.5	7	57	21	4	2	●
MC232-04.0A2B-	4	8	57	21	4	2	●
Shank DIN 6535 HB							
MC232-05.0W2B-	5	10	57	21	6	2	●
MC232-06.0W2B-	6	10	57	21	6	2	●
MC232-08.0W2B-	8	16	63	27	8	2	●
MC232-10.0W2B-	10	19	72	32	10	2	●
MC232-12.0W2B-	12	22	83	38	12	2	●
MC232-16.0W2B-	16	26	92	44	16	2	●
MC232-20.0W2B-	20	32	104	54	20	2	●

Ordering example for the WJ30ED grade: MC232-02.0A2B-WJ30ED

### DIN 6527 L

Designation	D <sub>c</sub> h12 mm	L <sub>c</sub> mm	l <sub>1</sub> mm	l <sub>4</sub> mm	d <sub>1</sub> h6 mm	Z	WJ30ED
Shank DIN 6535 HA							
MC232-02.0A3B-	2	6	57	21	4	3	●
MC232-02.5A3B-	2.5	7	57	21	4	3	●
MC232-03.0A3B-	3	7	57	21	4	3	●
MC232-03.5A3B-	3.5	7	57	21	4	3	●
MC232-04.0A3B-	4	8	57	21	4	3	●
Shank DIN 6535 HB							
MC232-05.0W3B-	5	10	57	21	6	3	●
MC232-06.0W3B-	6	10	57	21	6	3	●
MC232-08.0W3B-	8	16	63	27	8	3	●
MC232-10.0W3B-	10	19	72	32	10	3	●
MC232-12.0W3B-	12	22	83	38	12	3	●
MC232-16.0W3B-	16	26	92	44	16	3	●
MC232-20.0W3B-	20	32	104	54	20	3	●

Ordering example for the WJ30ED grade: MC232-02.0A3B-WJ30ED

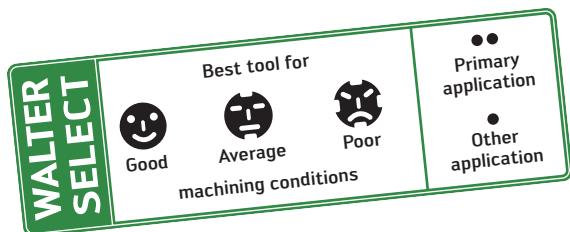
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Continued

DIN 6527 L	Designation	$D_c$ h12 mm	$L_c$ mm	$l_1$ mm	$l_4$ mm	$d_1$ h6 mm	Z	WJ30ED
Shank DIN 6535 HA	MC232-02.0A4B-	2	7	57	21	4	4	😊
	MC232-02.5A4B-	2.5	8	57	21	4	4	😊
	MC232-03.0A4B-	3	8	57	21	4	4	😊
	MC232-03.5A4B-	3.5	10	57	21	4	4	😊
	MC232-04.0A4B-	4	11	57	21	4	4	😊
Shank DIN 6535 HB	MC232-05.0W4B-	5	13	57	21	6	4	😊
	MC232-06.0W4B-	6	13	57	21	6	4	😊
	MC232-08.0W4B-	8	19	63	27	8	4	😊
	MC232-10.0W4B-	10	22	72	32	10	4	😊
	MC232-12.0W4B-	12	26	83	38	12	4	😊
	MC232-16.0W4B-	16	32	92	44	16	4	😊
	MC232-20.0W4B-	20	38	104	54	20	4	😊

Ordering example for the WJ30ED grade: MC232-02.0A4B-WJ30ED



## Cutting data for solid carbide drills

<p> = Cutting data for wet machining  = Dry machining is possible, cutting data must be selected from Walter GPS</p> <p><b>E</b> = Emulsion    <b>v<sub>c</sub></b> = Cutting speed (SFM)  <b>O</b> = Oil            <sup>1)</sup><b>VRR</b> = Feed rate chart on page 38  <b>M</b> = MQL  <b>L</b> = Dry</p>				Drilling depth		3 × D <sub>c</sub>						
				Product family		DC150						
				Dimensions		DIN 6537 short						
				Dia. range (mm)		3.00–20.00						
				Cooling		External cooling						
				Cutting tool material		WJ30RE						
				Page		10						
Overview of the main material groups and code letters												
Material				Brinell hardness HB		Tensile strength R <sub>m</sub> N/mm <sup>2</sup>		Machining group <sup>1</sup>				
<b>P</b>	Non-alloyed steel			C ≤ 0.25%	Annealed	125	430	P1	330	10	E O	M L
				C > 0.25... ≤ 0.55%	Annealed	190	640	P2	300	10	E O	M L
				C > 0.25... ≤ 0.55%	Heat-treated	210	710	P3	280	10	E O	M L
				C > 0.55%	Annealed	190	640	P4	300	10	E O	M L
				C > 0.55%	Heat-treated	300	1010	P5	210	8	E O	M L
				Free cutting steel (short-chipping)	Annealed	220	750	P6	330	10	E O	M L
<b>M</b>	Low-alloyed steel			Annealed	175	590	P7	300	10	E O	M L	
				Heat-treated	285	960	P8	210	8	E O	M L	
				Heat-treated	380	1280	P9	140	5	O E		
				Heat-treated	430	1480	P10	110	3	O E		
<b>K</b>	High-alloyed steel and high-alloyed tool steel			Annealed	200	680	P11	180	7	E O		
				Hardened and tempered	300	1010	P12	170	6	E O		
				Hardened and tempered	380	1280	P13	110	3	O E		
				Stainless steel	Ferritic/martensitic, annealed	200	680	P14	190	7	E O	
<b>N</b>	Stainless steel			Martensitic, heat-treated	330	1110	P15	120	5	E O		
				Austenitic, quench hardened			200					
				Austenitic, precipitation hardened (PH)			300			150		
<b>S</b>	Malleable cast iron			Austenitic/ferritic, duplex	230	780	M3					
				Pearlitic	200	400	K1	280	16	E O	M L	
				Grey cast iron	260	700	K2	210	12	E O	M L	
				Low tensile strength	180	200	K3	330	16	E O	M L	
				High tensile strength/austenitic	245	350	K4	280	16	E O	M L	
<b>H</b>	Cast iron with spheroidal graphite			Ferritic	155	400	K5	280	16	E O	M L	
				Pearlitic	265	700	K6	210	12	E O	M L	
				GGV (CGI)	230	400	K7	250	16	E O	M L	
				Aluminum wrought alloys	Cannot be hardened	30	—	N1				
<b>O</b>	Cast aluminum alloys			Hardenable, hardened	100	340	N2					
				≤ 12% Si, cannot be hardened	75	260	N3	720	16	E O		
				≤ 12% Si, hardenable, hardened	90	310	N4	660	16	E O		
				> 12% Si, cannot be hardened	130	450	N5	520	12	E O		
<b>S</b>	Magnesium alloys			Non-alloyed, electrolytic copper	70	250	N6					
				Copper and copper alloys (bronze/brass)	Brass, bronze, red brass	100	340	N7	620	6	E O	M
				Cu alloys, short-chipping	90	310	N8	520	10	E O		
				High-strength, Ampco	110	380	N9	590	16	E O	M L	
<b>H</b>	Tungsten alloys			Annealed	200	680	S1	130	5	O E		
				Hardened	375	1260	S2	110	4	O E		
				β alloys	410	1400	S3					
				Molybdenum alloys	300	1010	S4	220	8	E O		
<b>O</b>	Hardened steel			Annealed and tempered	50 HRC	—	H1	90	3	O E		
				Hardened and tempered	55 HRC	—	H2	70	3	O E		
				Hardened and tempered	60 HRC	—	H3					
				Hardened cast iron	55 HRC	—	H4	70	3	O E		
<b>O</b>	Thermoplastics			Without abrasive fillers			O1	280	16	E O		
				Thermosetting plastics			O2	</td				

The specified cutting data are average recommended values.  
For special applications, adjustment is recommended.

3 × D <sub>c</sub>			5 × D <sub>c</sub>			8 × D <sub>c</sub>			12 × D <sub>c</sub>			
DC150			DC150			DC150			DC150			
DIN 6537 short			DIN 6537 long			Walter standard			Walter standard			
3.00–20.00			3.00–20.00			3.00–20.00			3.00–20.00			
Internal cooling			Internal cooling			Internal cooling			Internal cooling			
WJ30RE			WJ30RE			WJ30TA			WJ30TA			
13			16			20			23			
												
 Cooling			 Cooling			 Cooling			 Cooling			
V <sub>c</sub>	1) <sup>1)</sup> VRR	Cooling	V <sub>c</sub>	1) <sup>1)</sup> VRR	Cooling	V <sub>c</sub>	1) <sup>1)</sup> VRR	Cooling	V <sub>c</sub>	1) <sup>1)</sup> VRR	Cooling	
380	10	E0	ML	370	10	E0	ML	340	10	E0	ML	330
310	10	E0	ML	310	10	E0	ML	280	10	E0	ML	270
300	10	E0	ML	290	10	E0	ML	270	10	E0	ML	260
310	10	E0	ML	310	10	E0	ML	280	10	E0	ML	270
230	8	E0	ML	220	8	E0	ML	200	7	E0	ML	190
380	12	E0	ML	370	12	E0	ML	340	12	E0	ML	330
310	10	E0	ML	310	10	E0	ML	280	10	E0	ML	270
220	8	E0	ML	220	8	E0	ML	200	7	E0	ML	190
150	6	O E		150	6	O E		140	6	O E		130
120	4	O E		120	4	O E		110	4	O E		100
200	8	E0		190	8	E0		180	8	E0		170
180	7	E0		170	7	E0		160	6	E0		150
120	5	O E		120	4	O E		110	4	O E		100
200	8	E0		190	8	E0		180	8	E0		170
130	7	E0		120	7	E0		110	6	E0		110
130	5	E0		130	5	E0		120	5	E0		120
170	6	E0		170	6	E0		160	6	E0		150
110	5	E0		100	5	E0		100	5	E0		100
290	16	E0	ML	290	16	E0	ML	250	12	E0	ML	240
220	16	E0	ML	210	12	E0	ML	190	12	E0	ML	180
370	16	E0	ML	360	16	E0	ML	320	12	E0	ML	310
290	16	E0	ML	290	16	E0	ML	260	12	E0	ML	240
290	16	E0	ML	290	16	E0	ML	260	12	E0	ML	240
220	16	E0	ML	210	12	E0	ML	190	12	E0	ML	180
260	16	E0	ML	260	16	E0	ML	240	12	E0	ML	220
1310	16	E0	M	1310	16	E0	M	1250	16	E0	M	1250
1310	16	E0	M	1310	16	E0	M	1250	16	E0	M	1250
790	16	E0	M	740	16	E0	M	710	16	E0	M	670
750	16	E0	M	720	16	E0	M	680	16	E0	M	640
600	16	E0	M	560	16	E0	M	530	16	E0	M	510
750	16		ML	720	16		ML	680	16		ML	640
570	9	E0	M	540	8	E0	M	510	7	E0	M	480
470	10	E0		450	10	E0		420	9	E0		400
600	16	E0	M	560	16	E0	M	530	12	E0	M	510
180	7	E0		170	7	E0		160	7	E0		150
130	5	E0		130	5	E0		130	5	E0		120
80	4	O E		80	4	O E		70	4	O E		70
100	4	E0		90	4	E0		90	4	E0		90
50	3	O E		50	3	O E		50	3	O E		40
60	3	O E		60	3	O E		60	3	O E		60
150	6	O E		150	6	O E		150	6	O E		150
130	5	O E		120	5	O E		120	5	O E		120
40	3	O E		40	3	O E		40	3	O E		40
180	7	E0		180	7	E0		170	7	E0		170
180	7	E0		180	7	E0		170	7	E0		170
90	3	O E		90	3	O E		90	3	O E		80
80	3	O E		80	3	O E		70	3	O E		70
80	3	O E		80	3	O E		70	3	O E		70
330	16	E0		330	16	E0		310	16	E0		310

## VRR: Feed rate charts for drills

VRR	Feed f (inch/rev) for dia. (inch)								
	0.098	0.157	0.197	0.236	0.315	0.394	0.472	0.591	0.787
1	0.0003	0.0005	0.0007	0.0007	0.0008	0.0009	0.0010	0.0011	0.0013
2	0.0007	0.0011	0.0013	0.0015	0.0017	0.0019	0.0020	0.0023	0.0026
3	0.0010	0.0016	0.0020	0.0022	0.0025	0.0028	0.0030	0.0034	0.0039
4	0.0013	0.0021	0.0026	0.0029	0.0033	0.0037	0.0039	0.0047	0.0051
5	0.0017	0.0026	0.0033	0.0036	0.0043	0.0047	0.0051	0.0055	0.0067
6	0.0020	0.0031	0.0039	0.0043	0.0051	0.0055	0.0059	0.0067	0.0079
7	0.0023	0.0037	0.0047	0.0051	0.0059	0.0063	0.0071	0.0079	0.0091
8	0.0026	0.0043	0.0051	0.0059	0.0067	0.0075	0.0083	0.0091	0.0106
9	0.0030	0.0047	0.0059	0.0063	0.0075	0.0083	0.0091	0.0102	0.0118
10	0.0033	0.0051	0.0067	0.0071	0.0083	0.0094	0.0102	0.0114	0.0130
12	0.0039	0.0063	0.0079	0.0087	0.0098	0.0110	0.0122	0.0138	0.0157
16	0.0051	0.0083	0.0106	0.0114	0.0134	0.0150	0.0161	0.0181	0.0209
20	0.0067	0.0106	0.0130	0.0146	0.0165	0.0185	0.0205	0.0228	0.0264
25	0.0083	0.0130	0.0165	0.0181	0.0209	0.0232	0.0256	0.0283	0.0327
30	0.0098	0.0157	0.0197	0.0217	0.0248	0.0280	0.0303	0.0343	0.0394

VRR	Feed f (mm/rev) for dia. (mm)								
	2.5	4	5	6	8	10	12	15	20
1	0.008	0.013	0.017	0.018	0.021	0.024	0.026	0.029	0.033
2	0.017	0.027	0.033	0.037	0.042	0.047	0.052	0.058	0.067
3	0.025	0.040	0.050	0.055	0.063	0.071	0.077	0.087	0.10
4	0.033	0.053	0.067	0.073	0.084	0.094	0.10	0.12	0.13
5	0.042	0.067	0.083	0.091	0.11	0.12	0.13	0.14	0.17
6	0.050	0.080	0.10	0.11	0.13	0.14	0.15	0.17	0.20
7	0.058	0.093	0.12	0.13	0.15	0.16	0.18	0.20	0.23
8	0.067	0.11	0.13	0.15	0.17	0.19	0.21	0.23	0.27
9	0.075	0.12	0.15	0.16	0.19	0.21	0.23	0.26	0.30
10	0.083	0.13	0.17	0.18	0.21	0.24	0.26	0.29	0.33
12	0.10	0.16	0.20	0.22	0.25	0.28	0.31	0.35	0.40
16	0.13	0.21	0.27	0.29	0.34	0.38	0.41	0.46	0.53
20	0.17	0.27	0.33	0.37	0.42	0.47	0.52	0.58	0.67
25	0.21	0.33	0.42	0.46	0.53	0.59	0.65	0.72	0.83
30	0.25	0.40	0.50	0.55	0.63	0.71	0.77	0.87	1.00

# Cutting data for taps

The specified cutting data are average recommended values.  
For special applications, adjustment is recommended.

Material group	Overview of the main material groups and code letters						Perform (Surface Speed SFM)					
				Designation		TC115 / TC216						
				Standard		DIN 371 / DIN 376						
							WY80AA	WY80FC				
<b>P</b>	Non-alloyed steel	C ≤ 0.25%	Annealed	125	430	P1	100	80	---	40	30	30
		C > 0.25... ≤ 0.55%	Annealed	190	640	P2	60	50	40	50	40	40
		C > 0.25... ≤ 0.55%	Heat-treated	210	710	P3	60	50	40	20	20	20
		C > 0.55%	Annealed	190	640	P4	60	50	40	20	20	20
		C > 0.55%	Heat-treated	300	1010	P5	40	30	30	10	10	10
	Low-alloyed steel	Free cutting steel (short-chipping)			220	750	P6	60	50	40	20	20
		Annealed		175	590	P7	60	50	40	20	20	20
		Heat-treated		300	1010	P8	40	40	30	10	10	10
		Heat-treated		380	1280	P9	40	40	30	10	10	10
	High-alloyed steel and high-alloyed tool steel	Heat-treated		430	1480	P10	40	40	30	10	10	10
		Annealed		200	680	P11	60	50	40	20	20	20
		Hardened and tempered		300	1010	P12						
<b>M</b>	Stainless steel	Hardened and tempered		400	1360	P13						
		Ferritic/martensitic, annealed		200	680	P14	20	10		10	10	10
		Martensitic, heat-treated		330	1110	P15						
	Stainless steel	Austenitic, quench hardened		200	680	M1	20	20		10	10	10
		Austenitic, precipitation hardened (PH)		300	1010	M2						
<b>K</b>	Malleable cast iron	Austenitic/ferritic, duplex		230	780	M3	10	10		10	10	10
		Ferritic		200	680	K1	70	50	50	20	20	20
	Grey cast iron	Pearlitic		260	870	K2	30	30	20	20	10	10
		Low tensile strength		180	600	K3	130	100	90	50	40	30
	Cast iron with spheroidal graphite	High tensile strength/austenitic		245	830	K4	50	40	30	30	30	20
		Ferritic		155	520	K5	70	50	50	20	20	20
		Pearlitic		265	890	K6	30	30	20	20	10	10
	GGV (CGI)			200	680	K7						
		Aluminum wrought alloys	Cannot be hardened	30	–	N1						
		Cast aluminum alloys	Hardenable, hardened	100	340	N2	90	80	60	50	40	30
		≤ 12% Si, cannot be hardened		75	260	N3	60	50	40	40	30	30
		≤ 12% Si, hardenable, hardened		90	310	N4	60	50	40	40	30	30
<b>N</b>	Magnesium alloys	> 12% Si, cannot be hardened		130	450	N5						
				70	250	N6						
	Copper and copper alloys (bronze/brass)	Non-alloyed, electrolytic copper		100	340	N7	40	30	30	20	20	10
		Brass, bronze, red brass		90	310	N8	100	80	70	60	50	40
		Cu alloys, short-chipping		110	380	N9	130	100	90	80	70	60
		High-strength, Ampco		300	1010	N10						
	Heat-resistant alloys	Fe-based	Annealed	200	680	S1						
			Hardened	280	940	S2						
		Ni or Co base	Annealed	250	840	S3						
			Hardened	350	1180	S4						
			Cast	320	1080	S5						
<b>S</b>	Titanium alloys	Pure titanium		200	680	S6						
		α and β alloys, hardened		375	1260	S7						
		β alloys		410	1400	S8						
	Tungsten alloys			300	1010	S9						
		Molybdenum alloys		300	1010	S10						
	H	Hardened steel	Hardened and tempered	50 HRC	–	H1						
			Hardened and tempered	55 HRC	–	H2						
		Hardened cast iron	Hardened and tempered	60 HRC	–	H3						
<b>O</b>	Thermoplastics	Without abrasive fillers			01							
	Thermosetting plastics	Without abrasive fillers			02							
	Plastic, glass-fiber reinforced	GFRP			03							
	Plastic, carbon-fiber reinforced	CFRP			04							
	Plastic, aramid-fiber reinforced	AFRP			05							
	Graphite (technical)			80 Shore		06						

# Cutting data for solid carbide milling cutters

The specified cutting data are average recommended values.  
For special applications, adjustment is recommended.

Material group	<b>VT</b> = Use feed matrices table starting on page 41  <b>Overview of the main material groups and code letters</b>				Perform					
					Dimensions acc. to DIN 6527 L	Product family MC232	$\lambda$	Pages 32–35		
		Dia. range (mm)			Ø 2–20 mm					
		Number of teeth			2–4					
		Brinell hardness HB	Tensile strength R <sub>m</sub> N/mm <sup>2</sup>	Machining group	WJ30ED					
					Starting values for cutting speed v <sub>c</sub> [SFM]					
					a <sub>e</sub> / D <sub>c</sub>	1/10	VT			
		1/1	1/2							
<b>P</b>	Non-alloyed steel  Low-alloyed steel  High-alloyed steel and high-alloyed tool steel  Stainless steel	C ≤ 0.25%	Annealed	125	430	P1	160	190	240	A
		C > 0.25... ≤ 0.55%	Annealed	190	640	P2	15	180	220	A
		C > 0.25... ≤ 0.55%	Heat-treated	210	710	P3	130	160	190	A
		C > 0.55%	Annealed	190	640	P4	130	160	190	A
		C > 0.55%	Heat-treated	300	1010	P5	90	110	140	A
		Free cutting steel (short-chipping)	Annealed	220	750	P6	130	160	190	A
<b>M</b>	Stainless steel	Annealed		175	590	P7	130	160	190	A
		Heat-treated		285	960	P8				
		Heat-treated		380	1280	P9				
		Heat-treated		430	1480	P10				
		Annealed		200	680	P11	130	160	190	A
		Hardened and tempered		300	1010	P12				
<b>K</b>	Malleable cast iron  Grey cast iron  Cast iron with spheroidal graphite  GGV (CGI)	Hardened and tempered		380	1280	P13				
		Ferritic/martensitic, annealed		200	680	P14	60	80	100	A
		Martensitic, heat-treated		330	1110	P15	30	40	50	A
		Austenitic, quench hardened		200	680	M1	60	70	100	B
		Austenitic, precipitation hardened (PH)		300	1010	M2	30	40	50	B
		Austenitic/ferritic, duplex		230	780	M3	30	40	50	B
<b>N</b>	Aluminum wrought alloys  Cast aluminum alloys  Magnesium alloys  Copper and copper alloys (bronze/brass)	Ferritic		200	400	K1	130	150	180	A
		Pearlitic		260	700	K2	100	120	140	A
		Low tensile strength		180	200	K3	130	150	180	A
		High tensile strength/austenitic		245	350	K4	100	120	140	A
		Ferritic		155	400	K5	130	150	180	A
		Pearlitic		265	700	K6	100	120	140	A
<b>S</b>	Heat-resistant alloys  Titanium alloys  Tungsten alloys  Molybdenum alloys	Cannot be hardened		30	–	N1				
		Hardenable, hardened		100	340	N2				
		≤ 12% Si, cannot be hardened		75	260	N3				
		≤ 12% Si, hardenable, hardened		90	310	N4				
		> 12% Si, cannot be hardened		130	450	N5				
		Magnesium alloys		70	250	N6				
<b>O</b>	Thermoplastics  Thermosetting plastics  Plastic, glass-fiber reinforced  Plastic, carbon-fiber reinforced  Graphite (technical)	Non-alloyed, electrolytic copper		100	340	N7				
		Brass, bronze, red brass		90	310	N8				
		Cu alloys, short-chipping		110	380	N9				
		High-strength, Ampco		300	1010	N10				
		Fe-based	Annealed	200	680	S1				
			Hardened	280	940	S2				
<b>H</b>	Heat-resistant alloys  Hardened steel  Hardened cast iron	Ni or Co base	Annealed	250	840	S3				
			Hardened	350	1180	S4				
			Cast	320	1080	S5				
		Titanium alloys		200	680	S6				
		α and β alloys, hardened		375	1260	S7				
		β alloys		410	1400	S8				
<b>G</b>	Tungsten alloys  Molybdenum alloys			300	1010	S9				
				300	1010	S10				
		Hardened and tempered		50 HRC	–	H1				
		Hardened and tempered		55 HRC	–	H2				
		Hardened and tempered		60 HRC	–	H3				
		Hardened and tempered		55 HRC	–	H4				
<b>W</b>	Thermoplastics  Thermosetting plastics  Plastic, glass-fiber reinforced  Plastic, carbon-fiber reinforced  Graphite (technical)	Without abrasive fillers				O1				
		Without abrasive fillers				O2				
		GFRP				O3				
		CFRP				O4				
		AFRP				O5				
		Graphite (technical)		80 Shore		O6				

## Feed matrices – $f_z$ table inch

The specified cutting data are average recommended values.  
For special applications, adjustment is recommended.

### A Material groups ISO P, ISO K and titanium alloys

$a_e$ [inch]*	Feed per tooth in inches $f_z$ [inch]													
	Dia. 1/64	Dia. 1/32	Dia. 1/16	Dia. 1/8	Dia. 3/16	Dia. 1/4	Dia. 5/16	Dia. 3/8	Dia. 1/2	Dia. 9/16	Dia. 5/8	Dia. 11/16	Dia. 3/4	Dia. 1
0.0005	0.0008	0.0012	0.0024	0.0035	0.0047	0.0059	0.0059	0.0079						
0.0020	0.0006	0.0010	0.0016	0.0028	0.0039	0.0047	0.0059	0.0079						
0.0040	0.0005	0.0008	0.0014	0.0020	0.0031	0.0039	0.0059	0.0079	0.0079	0.0079				
0.0080	0.0004	0.0006	0.0012	0.0016	0.0024	0.0031	0.0059	0.0071	0.0079	0.0079	0.0079	0.0079	0.0098	
0.0156	0.0004	0.0005	0.0010	0.0012	0.0020	0.0028	0.0047	0.0059	0.0059	0.0059	0.0059	0.0079	0.0098	0.0098
0.0312		0.0004	0.0010	0.0012	0.0016	0.0024	0.0035	0.0047	0.0047	0.0047	0.0047	0.0059	0.0079	0.0098
0.0625			0.0008	0.0012	0.0012	0.0020	0.0031	0.0043	0.0047	0.0047	0.0047	0.0059	0.0079	0.0079
0.1250				0.0008	0.0010	0.0018	0.0030	0.0041	0.0047	0.0047	0.0047	0.0053	0.0069	0.0079
0.1875					0.0008	0.0016	0.0028	0.0039	0.0047	0.0047	0.0047	0.0047	0.0059	0.0079
0.2500						0.0012	0.0024	0.0031	0.0039	0.0039	0.0047	0.0047	0.0059	0.0079
0.3125							0.0020	0.0028	0.0035	0.0039	0.0047	0.0047	0.0059	0.0079
0.3750								0.0024	0.0031	0.0039	0.0047	0.0047	0.0055	0.0063
0.5000									0.0028	0.0035	0.0043	0.0047	0.0055	0.0063
0.5625										0.0031	0.0039	0.0047	0.0051	0.0059
0.6250											0.0035	0.0039	0.0047	0.0059
0.6875												0.0039	0.0043	0.0051
0.7500													0.0039	0.0047
1.0000														0.0039

### B Material groups ISO M, ISO H, heat-resistant alloys, tungsten alloys and molybdenum alloys

$a_e$ [inch]*	Feed per tooth in inches $f_z$ [inch]													
	Dia. 1/64	Dia. 1/32	Dia. 1/16	Dia. 1/8	Dia. 3/16	Dia. 1/4	Dia. 5/16	Dia. 3/8	Dia. 1/2	Dia. 9/16	Dia. 5/8	Dia. 11/16	Dia. 3/4	Dia. 1
0.0005	0.0006	0.0012	0.0020	0.0031	0.0039	0.0047	0.0047	0.0063						
0.0020	0.0005	0.0008	0.0016	0.0024	0.0031	0.0039	0.0047	0.0063						
0.0040	0.0004	0.0006	0.0012	0.0016	0.0024	0.0031	0.0047	0.0063	0.0063	0.0063	0.0063			
0.0080	0.0003	0.0005	0.0010	0.0014	0.0020	0.0024	0.0047	0.0055	0.0063	0.0063	0.0063	0.0063	0.0079	
0.0156	0.0003	0.0004	0.0008	0.0010	0.0016	0.0024	0.0039	0.0047	0.0047	0.0047	0.0047	0.0063	0.0079	
0.0312		0.0004	0.0008	0.0010	0.0012	0.0019	0.0031	0.0039	0.0039	0.0039	0.0039	0.0047	0.0063	0.0079
0.0625			0.0006	0.0008	0.0010	0.0020	0.0028	0.0035	0.0039	0.0039	0.0039	0.0047	0.0063	0.0063
0.1250				0.0006	0.0009	0.0018	0.0026	0.0033	0.0039	0.0039	0.0043	0.0055	0.0063	
0.1875					0.0008	0.0016	0.0024	0.0031	0.0039	0.0039	0.0039	0.0047	0.0063	
0.2500						0.0012	0.0020	0.0028	0.0031	0.0031	0.0039	0.0039	0.0047	0.0063
0.3125							0.0016	0.0024	0.0031	0.0031	0.0039	0.0039	0.0047	0.0063
0.3750								0.0020	0.0028	0.0031	0.0039	0.0039	0.0047	0.0055
0.5000									0.0024	0.0028	0.0035	0.0039	0.0047	0.0055
0.5625										0.0028	0.0031	0.0039	0.0047	0.0055
0.6250											0.0028	0.0031	0.0039	0.0047
0.6875												0.0031	0.0039	0.0047
0.7500													0.0031	0.0039
1.0000														0.0039

## Feed matrices – $f_z$ table metric

The specified cutting data are average recommended values.  
For special applications, adjustment is recommended.

### A ISO P, ISO K material groups

$a_e$ [mm]*	Feed per tooth $f_z$ [mm]								
	$\emptyset$ 2 mm	$\emptyset$ 3 mm	$\emptyset$ 4 mm	$\emptyset$ 6 mm	$\emptyset$ 8 mm	$\emptyset$ 10 mm	$\emptyset$ 12 mm	$\emptyset$ 16 mm	$\emptyset$ 20 mm
0.01	0.06	0.09	0.12	0.15	0.15	0.20			
0.05	0.04	0.07	0.10	0.12	0.15	0.20			
0.1	0.03	0.05	0.08	0.10	0.15	0.20	0.20	0.20	
0.2	0.03	0.04	0.06	0.08	0.15	0.18	0.20	0.20	0.25
0.5	0.02	0.03	0.05	0.07	0.12	0.15	0.15	0.15	0.25
1	0.02	0.03	0.04	0.06	0.09	0.12	0.12	0.12	0.20
2	0.02	0.03	0.03	0.05	0.08	0.11	0.12	0.12	0.20
3		0.02	0.02	0.04	0.07	0.10	0.12	0.12	0.18
5			0.02	0.04	0.07	0.10	0.12	0.12	0.15
6				0.03	0.06	0.08	0.10	0.12	0.15
8					0.05	0.07	0.09	0.12	0.15
10						0.06	0.08	0.12	0.14
12							0.07	0.11	0.14
14								0.10	0.13
16								0.09	0.12
18									0.11
20									0.10
25									
32									
40									
50									
63									
80									
100									
160									
200									

### B ISO M material groups

$a_e$ [mm]*	Feed per tooth $f_z$ [mm]								
	$\emptyset$ 2 mm	$\emptyset$ 3 mm	$\emptyset$ 4 mm	$\emptyset$ 6 mm	$\emptyset$ 8 mm	$\emptyset$ 10 mm	$\emptyset$ 12 mm	$\emptyset$ 16 mm	$\emptyset$ 20 mm
0.01	0.05	0.07	0.10	0.12	0.12	0.16			
0.05	0.03	0.06	0.08	0.10	0.12	0.16			
0.1	0.03	0.04	0.06	0.08	0.12	0.16	0.16	0.16	
0.2	0.02	0.03	0.05	0.06	0.12	0.14	0.16	0.16	0.20
0.5	0.02	0.02	0.04	0.06	0.10	0.12	0.12	0.12	0.20
1	0.02	0.02	0.03	0.05	0.07	0.10	0.10	0.10	0.16
2	0.02	0.02	0.02	0.04	0.06	0.09	0.10	0.10	0.16
3		0.02	0.02	0.04	0.06	0.08	0.10	0.10	0.14
5			0.02	0.03	0.06	0.08	0.10	0.10	0.12
6				0.02	0.05	0.06	0.08	0.10	0.12
8					0.04	0.06	0.07	0.10	0.12
10						0.05	0.06	0.10	0.11
12							0.06	0.09	0.11
14								0.08	0.10
16								0.07	0.10
18									0.09
20									0.08
25									
32									
40									
50									
63									
80									
100									
160									
200									

\* Radial feed in mm

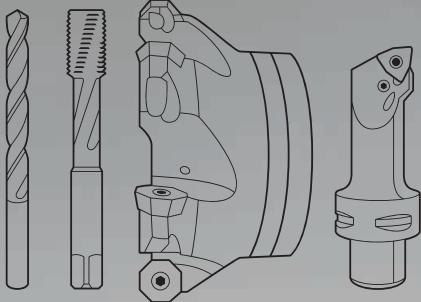


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