SELECTION

Solid carbide drilling for general applications

from the CERATIZIT CoreLine

CERATIZIT is a high-technology engineering group specialized in cutting tools and hard material solutions.

Tooling a Sustainable Future

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CERATIZIT GROUP

Contents

Explanation of symbols

Shank

Smooth cylindrical shank

Cylindrical shank with lateral driving face „Weldon“

Cylindrical shank with lateral driving face
(similar to ISO 9766)

Version

Internal coolant supply

Self-centering

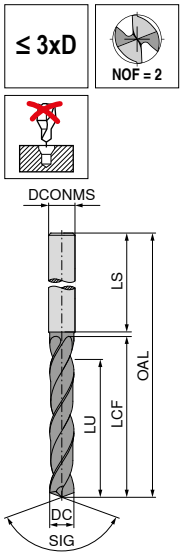
● = **Main application**

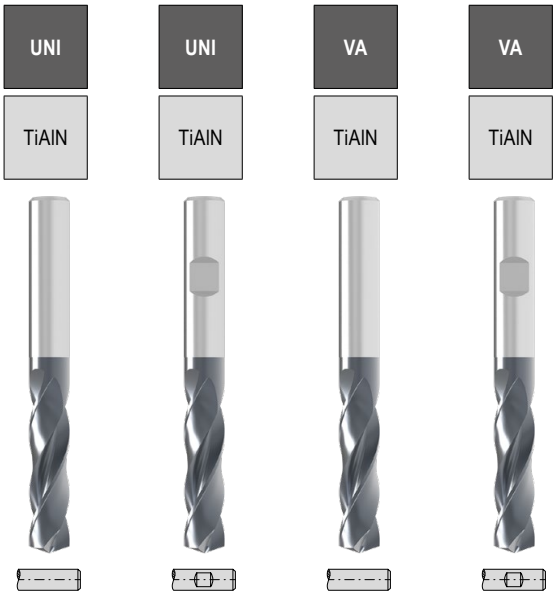
○ = Secondary application

Overview Solid Carbide Drills

	Product name	Tool type	Hole depth	Diameter in inch Ø DC	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	coated ■	uncoated □	Page
High performance drills without thro' coolant														
	WPC	UNI	≤ 3xD	1 – 20	●		●					■		4–7
	WPC	VA	≤ 3xD	1 – 20	○	●		○	○		○	■		4–7
	WPC	UNI	≤ 5xD	3 – 20	●		●					■		12–14
High performance drills with thro' coolant														
	WPC	UNI	≤ 3xD	1 – 20	●	●	●	○				■		8–11
	WPC	VA	≤ 3xD	1 – 20	○	●		●	○		○	■		8–11
	WPC	UNI	≤ 5xD	1 – 20	●	●	●	○				■		15–18
	WPC	VA	≤ 5xD	1 – 20	○	●		●	○		○	■		15–18
	WPC	UNI	≤ 8xD	3 – 20	●	●	●					■		19–21
	WPC	UNI	≤ 12xD	3 – 20	●	●	●					■		22–24
Drill with replaceable cutting heads														
Replaceable cutting heads														
	WPC	Change UNI		14 – 30	●		●					■		25
Tool holder														
	WPC	Change		14 – 30								3xD / 5xD		26

WPC – High Performance Drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	11 706 ...	11 707 ...	11 711 ...	11 712 ...
1.00	4	45	7	5.5	28	01000		01000	
1.10	4	45	7	5.3	28	01100		01100	
1.20	4	45	7	5.2	28	01200		01200	
1.30	4	45	7	5.0	28	01300		01300	
1.40	4	45	7	4.9	28	01400		01400	
1.50	4	55	14	11.7	28	01500		01500	
1.60	4	55	14	11.6	28	01600		01600	
1.70	4	55	14	11.4	28	01700		01700	
1.80	4	55	14	11.3	28	01800		01800	
1.90	4	55	14	11.1	28	01900		01900	
2.00	4	55	20	17.0	28	02000		02000	
2.10	4	55	20	16.8	28	02100		02100	
2.20	4	55	20	16.7	28	02200		02200	
2.30	4	55	20	16.5	28	02300		02300	
2.40	4	55	20	16.4	28	02400		02400	
2.50	4	55	20	16.2	28	02500		02500	
2.60	4	55	20	16.1	28	02600		02600	
2.70	4	55	20	15.9	28	02700		02700	
2.80	4	55	20	15.8	28	02800		02800	
2.90	4	55	20	15.6	28	02900		02900	
3.00	6	62	20	14.0	36	03000	03000	03000	03000
3.10	6	62	20	14.0	36	03100	03100	03100	03100
3.20	6	62	20	14.0	36	03200	03200	03200	03200
3.25	6	62	20	14.0	36	03250	03250	03250	03250
3.30	6	62	20	14.0	36	03300	03300	03300	03300
3.40	6	62	20	14.0	36	03400	03400	03400	03400
3.50	6	62	20	14.0	36	03500	03500	03500	03500
3.60	6	62	20	14.0	36	03600	03600	03600	03600
3.70	6	62	20	14.0	36	03700	03700	03700	03700
3.80	6	66	24	17.0	36	03800	03800	03800	03800
3.90	6	66	24	17.0	36	03900	03900	03900	03900
4.00	6	66	24	17.0	36	04000	04000	04000	04000
4.10	6	66	24	17.0	36	04100	04100	04100	04100
4.20	6	66	24	17.0	36	04200	04200	04200	04200
4.30	6	66	24	17.0	36	04300	04300	04300	04300
4.40	6	66	24	17.0	36	04400	04400	04400	04400
4.50	6	66	24	17.0	36	04500	04500	04500	04500
4.60	6	66	24	17.0	36	04600	04600	04600	04600
4.65	6	66	24	17.0	36	04650	04650	04650	04650
4.70	6	66	24	17.0	36	04700	04700	04700	04700
4.80	6	66	28	20.0	36	04800	04800	04800	04800
4.90	6	66	28	20.0	36	04900	04900	04900	04900
P						●	●	○	○
M								●	●
K						●	●		
N								○	○
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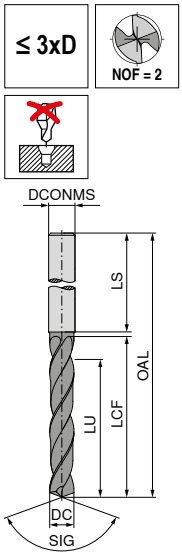
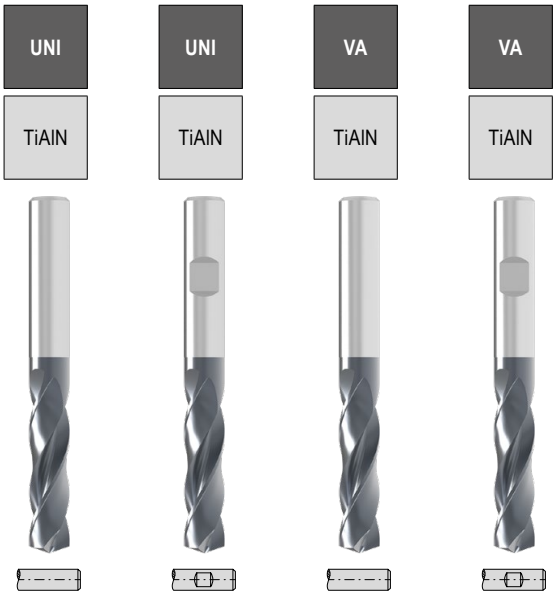
WPC – High Performance Drill, DIN 6537





SIG 140°
Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SIG 140° Solid carbide **11 706 ...**	SIG 140° Solid carbide **11 707 ...**	SIG 140° Solid carbide **11 711 ...**	SIG 140° Solid carbide **11 712 ...**
5.00	6	66	28	20.0	36	**05000**	**05000**	**05000**	**05000**
5.10	6	66	28	20.0	36	**05100**	**05100**	**05100**	**05100**
5.20	6	66	28	20.0	36	**05200**	**05200**	**05200**	**05200**
5.30	6	66	28	20.0	36	**05300**	**05300**	**05300**	**05300**
5.40	6	66	28	20.0	36	**05400**	**05400**	**05400**	**05400**
5.50	6	66	28	20.0	36	**05500**	**05500**	**05500**	**05500**
5.55	6	66	28	20.0	36	**05550**	**05550**	**05550**	**05550**
5.60	6	66	28	20.0	36	**05600**	**05600**	**05600**	**05600**
5.65	6	66	28	20.0	36	**05650**	**05650**		
5.70	6	66	28	20.0	36	**05700**	**05700**	**05700**	**05700**
5.80	6	66	28	20.0	36	**05800**	**05800**	**05800**	**05800**
5.90	6	66	28	20.0	36	**05900**	**05900**	**05900**	**05900**
6.00	6	66	28	20.0	36	**06000**	**06000**	**06000**	**06000**
6.10	8	79	34	24.0	36	**06100**	**06100**	**06100**	**06100**
6.20	8	79	34	24.0	36	**06200**	**06200**	**06200**	**06200**
6.30	8	79	34	24.0	36	**06300**	**06300**	**06300**	**06300**
6.40	8	79	34	24.0	36	**06400**	**06400**	**06400**	**06400**
6.50	8	79	34	24.0	36	**06500**	**06500**	**06500**	**06500**
6.60	8	79	34	24.0	36	**06600**	**06600**	**06600**	**06600**
6.70	8	79	34	24.0	36	**06700**	**06700**	**06700**	**06700**
6.80	8	79	34	24.0	36	**06800**	**06800**	**06800**	**06800**
6.90	8	79	34	24.0	36	**06900**	**06900**	**06900**	**06900**
7.00	8	79	34	24.0	36	**07000**	**07000**	**07000**	**07000**
7.10	8	79	41	29.0	36	**07100**	**07100**	**07100**	**07100**
7.20	8	79	41	29.0	36	**07200**	**07200**	**07200**	**07200**
7.30	8	79	41	29.0	36	**07300**	**07300**	**07300**	**07300**
7.40	8	79	41	29.0	36	**07400**	**07400**	**07400**	**07400**
7.50	8	79	41	29.0	36	**07500**	**07500**	**07500**	**07500**
7.55	8	79	41	29.0	36	**07550**	**07550**		
7.60	8	79	41	29.0	36	**07600**	**07600**	**07600**	**07600**
7.65	8	79	41	29.0	36	**07650**	**07650**		
7.70	8	79	41	29.0	36	**07700**	**07700**	**07700**	**07700**
7.80	8	79	41	29.0	36	**07800**	**07800**	**07800**	**07800**
7.90	8	79	41	29.0	36	**07900**	**07900**	**07900**	**07900**
8.00	8	79	41	29.0	36	**08000**	**08000**	**08000**	**08000**
8.10	10	89	47	35.0	40	**08100**	**08100**	**08100**	**08100**
8.20	10	89	47	35.0	40	**08200**	**08200**	**08200**	**08200**
8.30	10	89	47	35.0	40	**08300**	**08300**	**08300**	**08300**
8.40	10	89	47	35.0	40	**08400**	**08400**	**08400**	**08400**
8.50	10	89	47	35.0	40	**08500**	**08500**	**08500**	**08500**
8.60	10	89	47	35.0	40	**08600**	**08600**	**08600**	**08600**
8.70	10	89	47	35.0	40	**08700**	**08700**	**08700**	**08700**
P						●	●	○	○
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K						●	●		
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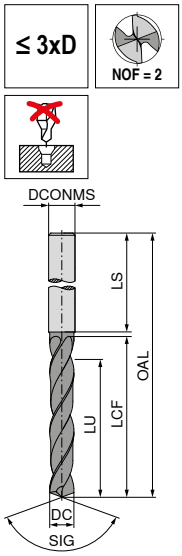

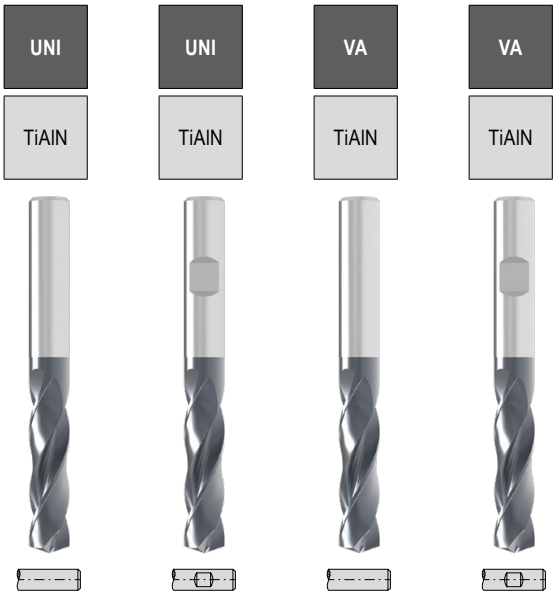

SIG 140°
Solid carbide

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Solid carbide

SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	11 706 ...	11 707 ...	11 711 ...	11 712 ...
8.80	10	89	47	35.0	40	08800	08800	08800	08800
8.90	10	89	47	35.0	40	08900	08900	08900	08900
9.00	10	89	47	35.0	40	09000	09000	09000	09000
9.10	10	89	47	35.0	40	09100	09100	09100	09100
9.20	10	89	47	35.0	40	09200	09200	09200	09200
9.30	10	89	47	35.0	40	09300	09300	09300	09300
9.40	10	89	47	35.0	40	09400	09400	09400	09400
9.50	10	89	47	35.0	40	09500	09500	09500	09500
9.60	10	89	47	35.0	40	09600	09600	09600	09600
9.70	10	89	47	35.0	40	09700	09700	09700	09700
9.80	10	89	47	35.0	40	09800	09800	09800	09800
9.90	10	89	47	35.0	40	09900	09900	09900	09900
10.00	10	89	47	35.0	40	10000	10000	10000	10000
10.10	12	102	55	40.0	45	10100	10100	10100	10100
10.20	12	102	55	40.0	45	10200	10200	10200	10200
10.30	12	102	55	40.0	45	10300	10300	10300	10300
10.40	12	102	55	40.0	45	10400	10400	10400	10400
10.50	12	102	55	40.0	45	10500	10500	10500	10500
10.60	12	102	55	40.0	45	10600	10600	10600	10600
10.70	12	102	55	40.0	45	10700	10700	10700	10700
10.80	12	102	55	40.0	45	10800	10800	10800	10800
10.90	12	102	55	40.0	45	10900	10900	10900	10900
11.00	12	102	55	40.0	45	11000	11000	11000	11000
11.10	12	102	55	40.0	45	11100	11100	11100	11100
11.20	12	102	55	40.0	45	11200	11200	11200	11200
11.30	12	102	55	40.0	45	11300	11300	11300	11300
11.40	12	102	55	40.0	45	11400	11400	11400	11400
11.50	12	102	55	40.0	45	11500	11500	11500	11500
11.60	12	102	55	40.0	45	11600	11600	11600	11600
11.70	12	102	55	40.0	45	11700	11700	11700	11700
11.80	12	102	55	40.0	45	11800	11800	11800	11800
11.90	12	102	55	40.0	45	11900	11900	11900	11900
12.00	12	102	55	40.0	45	12000	12000	12000	12000
12.20	14	107	60	43.0	45	12200	12200	12200	12200
12.50	14	107	60	43.0	45	12500	12500	12500	12500
12.70	14	107	60	43.0	45	12700	12700	12700	12700
12.80	14	107	60	43.0	45	12800	12800	12800	12800
13.00	14	107	60	43.0	45	13000	13000	13000	13000
13.10	14	107	60	43.0	45	13100	13100	13100	13100
13.50	14	107	60	43.0	45	13500	13500	13500	13500
13.70	14	107	60	43.0	45			13700	13700
13.80	14	107	60	43.0	45	13800	13800	13800	13800
P						●	●	○	○
M								●	●
K						●	●		
N								○	○
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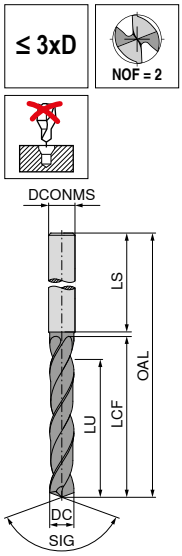
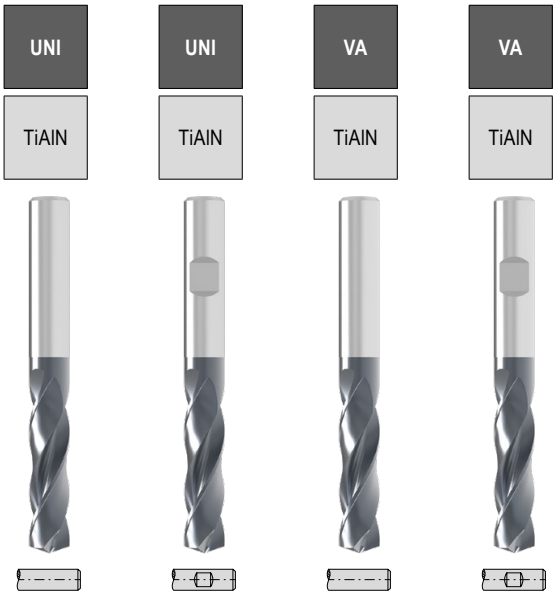
WPC – High Performance Drill, DIN 6537





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	**11 706 ...**	**11 707 ...**	**11 711 ...**	**11 712 ...**
14.00	14	107	60	43.0	45	**14000**	**14000**	**14000**	**14000**
14.20	16	115	65	45.0	48	**14200**	**14200**	**14200**	**14200**
14.40	16	115	65	45.0	48	**14400**	**14400**	**14400**	**14400**
14.50	16	115	65	45.0	48	**14500**	**14500**	**14500**	**14500**
14.70	16	115	65	45.0	48			**14700**	**14700**
14.80	16	115	65	45.0	48	**14800**	**14800**	**14800**	**14800**
15.00	16	115	65	45.0	48	**15000**	**15000**	**15000**	**15000**
15.10	16	115	65	45.0	48	**15100**	**15100**	**15100**	**15100**
15.20	16	115	65	45.0	48	**15200**	**15200**	**15200**	**15200**
15.50	16	115	65	45.0	48	**15500**	**15500**	**15500**	**15500**
15.70	16	115	65	45.0	48			**15700**	**15700**
15.80	16	115	65	45.0	48	**15800**	**15800**	**15800**	**15800**
16.00	16	115	65	45.0	48	**16000**	**16000**	**16000**	**16000**
16.50	18	123	73	51.0	48	**16500**	**16500**	**16500**	**16500**
17.00	18	123	73	51.0	48	**17000**	**17000**	**17000**	**17000**
17.50	18	123	73	51.0	48	**17500**	**17500**	**17500**	**17500**
18.00	18	123	73	51.0	48	**18000**	**18000**	**18000**	**18000**
18.50	20	131	79	55.0	50	**18500**	**18500**	**18500**	**18500**
18.90	20	131	79	55.0	50	**18900**	**18900**	**18900**	**18900**
19.00	20	131	79	55.0	50	**19000**	**19000**	**19000**	**19000**
19.50	20	131	79	55.0	50	**19500**	**19500**	**19500**	**19500**
20.00	20	131	79	55.0	50	**20000**	**20000**	**20000**	**20000**

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

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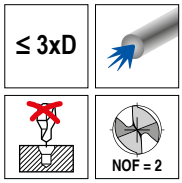
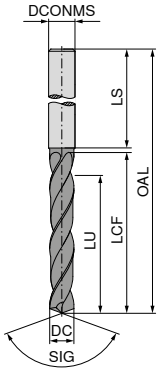
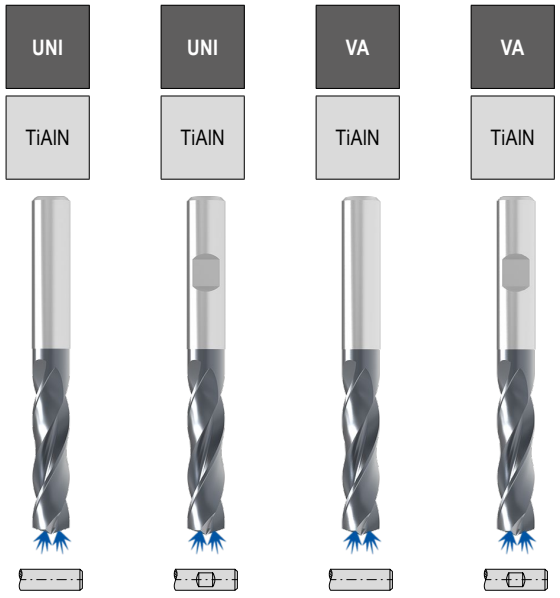
WPC – High Performance Drill, DIN 6537







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	11 700 ...	11 701 ...	11 713 ...	11 714 ...
1.00	4	45	7	5.5	28	01000		01000	
1.10	4	45	7	5.3	28	01100		01100	
1.20	4	45	7	5.2	28	01200		01200	
1.30	4	45	7	5.0	28	01300		01300	
1.40	4	45	7	4.9	28	01400		01400	
1.50	4	55	14	11.7	28	01500		01500	
1.60	4	55	14	11.6	28	01600		01600	
1.70	4	55	14	11.4	28	01700		01700	
1.80	4	55	14	11.3	28	01800		01800	
1.90	4	55	14	11.1	28	01900		01900	
2.00	4	55	20	17.0	28	02000		02000	
2.10	4	55	20	16.8	28	02100		02100	
2.20	4	55	20	16.7	28	02200		02200	
2.30	4	55	20	16.5	28	02300		02300	
2.40	4	55	20	16.4	28	02400		02400	
2.50	4	55	20	16.2	28	02500		02500	
2.60	4	55	20	16.1	28	02600		02600	
2.70	4	55	20	15.9	28	02700		02700	
2.80	4	55	20	15.8	28	02800		02800	
2.90	4	55	20	15.6	28	02900		02900	
3.00	6	62	20	14.0	36	03000	03000	03000	03000
3.10	6	62	20	14.0	36	03100	03100	03100	03100
3.20	6	62	20	14.0	36	03200	03200	03200	03200
3.25	6	62	20	14.0	36	03250	03250	03250	03250
3.30	6	62	20	14.0	36	03300	03300	03300	03300
3.40	6	62	20	14.0	36	03400	03400	03400	03400
3.50	6	62	20	14.0	36	03500	03500	03500	03500
3.60	6	62	20	14.0	36	03600	03600	03600	03600
3.70	6	62	20	14.0	36	03700	03700	03700	03700
3.80	6	66	24	17.0	36	03800	03800	03800	03800
3.90	6	66	24	17.0	36	03900	03900	03900	03900
4.00	6	66	24	17.0	36	04000	04000	04000	04000
4.10	6	66	24	17.0	36	04100	04100	04100	04100
4.20	6	66	24	17.0	36	04200	04200	04200	04200
4.30	6	66	24	17.0	36	04300	04300	04300	04300
4.40	6	66	24	17.0	36	04400	04400	04400	04400
4.50	6	66	24	17.0	36	04500	04500	04500	04500
4.60	6	66	24	17.0	36	04600	04600	04600	04600
4.65	6	66	24	17.0	36	04650	04650	04650	04650
4.70	6	66	24	17.0	36	04700	04700	04700	04700
4.80	6	66	28	20.0	36	04800	04800	04800	04800
4.90	6	66	28	20.0	36	04900	04900	04900	04900

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

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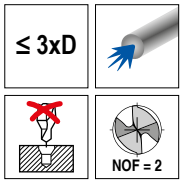
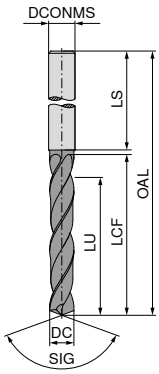
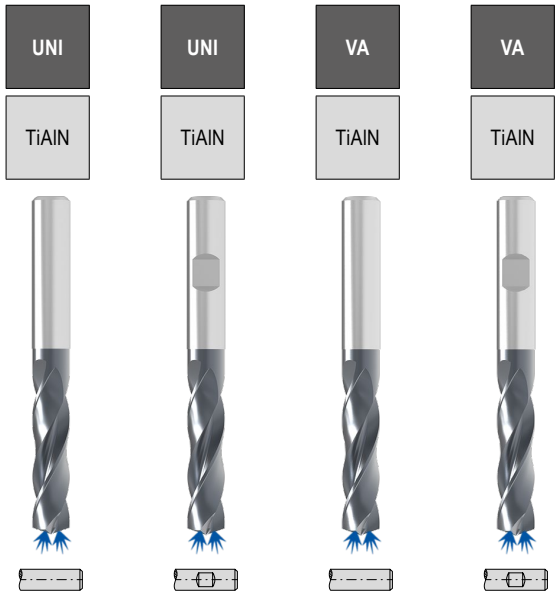
WPC – High Performance Drill, DIN 6537







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	11 700 ...	11 701 ...	11 713 ...	11 714 ...
5.00	6	66	28	20.0	36	05000	05000	05000	05000
5.10	6	66	28	20.0	36	05100	05100	05100	05100
5.20	6	66	28	20.0	36	05200	05200	05200	05200
5.30	6	66	28	20.0	36	05300	05300	05300	05300
5.40	6	66	28	20.0	36	05400	05400	05400	05400
5.50	6	66	28	20.0	36	05500	05500	05500	05500
5.55	6	66	28	20.0	36	05550	05550	05550	05550
5.60	6	66	28	20.0	36	05600	05600	05600	05600
5.65	6	66	28	20.0	36	05650	05650		
5.70	6	66	28	20.0	36	05700	05700	05700	05700
5.80	6	66	28	20.0	36	05800	05800	05800	05800
5.90	6	66	28	20.0	36	05900	05900	05900	05900
6.00	6	66	28	20.0	36	06000	06000	06000	06000
6.10	8	79	34	24.0	36	06100	06100	06100	06100
6.20	8	79	34	24.0	36	06200	06200	06200	06200
6.30	8	79	34	24.0	36	06300	06300	06300	06300
6.40	8	79	34	24.0	36	06400	06400	06400	06400
6.50	8	79	34	24.0	36	06500	06500	06500	06500
6.60	8	79	34	24.0	36	06600	06600	06600	06600
6.70	8	79	34	24.0	36	06700	06700	06700	06700
6.80	8	79	34	24.0	36	06800	06800	06800	06800
6.90	8	79	34	24.0	36	06900	06900	06900	06900
7.00	8	79	34	24.0	36	07000	07000	07000	07000
7.10	8	79	41	29.0	36	07100	07100	07100	07100
7.20	8	79	41	29.0	36	07200	07200	07200	07200
7.30	8	79	41	29.0	36	07300	07300	07300	07300
7.40	8	79	41	29.0	36	07400	07400	07400	07400
7.50	8	79	41	29.0	36	07500	07500	07500	07500
7.55	8	79	41	29.0	36	07550	07550		
7.60	8	79	41	29.0	36	07600	07600	07600	07600
7.65	8	79	41	29.0	36	07650	07650		
7.70	8	79	41	29.0	36	07700	07700	07700	07700
7.80	8	79	41	29.0	36	07800	07800	07800	07800
7.90	8	79	41	29.0	36	07900	07900	07900	07900
8.00	8	79	41	29.0	36	08000	08000	08000	08000
8.10	10	89	47	35.0	40	08100	08100	08100	08100
8.20	10	89	47	35.0	40	08200	08200	08200	08200
8.30	10	89	47	35.0	40	08300	08300	08300	08300
8.40	10	89	47	35.0	40	08400	08400	08400	08400
8.50	10	89	47	35.0	40	08500	08500	08500	08500
8.60	10	89	47	35.0	40	08600	08600	08600	08600
8.70	10	89	47	35.0	40	08700	08700	08700	08700
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

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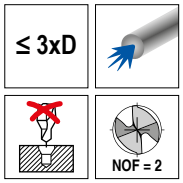
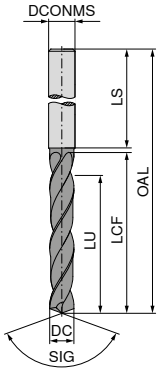
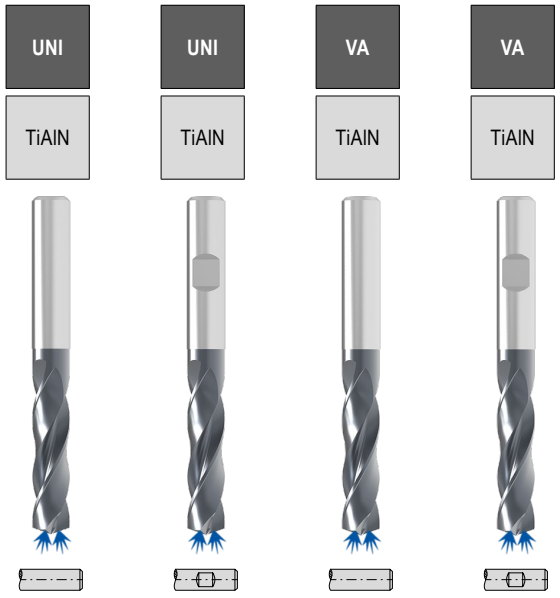
WPC – High Performance Drill, DIN 6537







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	11 700 ...	11 701 ...	11 713 ...	11 714 ...
8.80	10	89	47	35.0	40	08800	08800	08800	08800
8.90	10	89	47	35.0	40	08900	08900	08900	08900
9.00	10	89	47	35.0	40	09000	09000	09000	09000
9.10	10	89	47	35.0	40	09100	09100	09100	09100
9.20	10	89	47	35.0	40	09200	09200	09200	09200
9.30	10	89	47	35.0	40	09300	09300	09300	09300
9.40	10	89	47	35.0	40	09400	09400	09400	09400
9.50	10	89	47	35.0	40	09500	09500	09500	09500
9.60	10	89	47	35.0	40	09600	09600	09600	09600
9.70	10	89	47	35.0	40	09700	09700	09700	09700
9.80	10	89	47	35.0	40	09800	09800	09800	09800
9.90	10	89	47	35.0	40	09900	09900	09900	09900
10.00	10	89	47	35.0	40	10000	10000	10000	10000
10.10	12	102	55	40.0	45	10100	10100	10100	10100
10.20	12	102	55	40.0	45	10200	10200	10200	10200
10.30	12	102	55	40.0	45	10300	10300	10300	10300
10.40	12	102	55	40.0	45	10400	10400	10400	10400
10.50	12	102	55	40.0	45	10500	10500	10500	10500
10.60	12	102	55	40.0	45	10600	10600	10600	10600
10.70	12	102	55	40.0	45	10700	10700	10700	10700
10.80	12	102	55	40.0	45	10800	10800	10800	10800
10.90	12	102	55	40.0	45	10900	10900	10900	10900
11.00	12	102	55	40.0	45	11000	11000	11000	11000
11.10	12	102	55	40.0	45	11100	11100	11100	11100
11.20	12	102	55	40.0	45	11200	11200	11200	11200
11.30	12	102	55	40.0	45	11300	11300	11300	11300
11.40	12	102	55	40.0	45	11400	11400	11400	11400
11.50	12	102	55	40.0	45	11500	11500	11500	11500
11.60	12	102	55	40.0	45	11600	11600	11600	11600
11.70	12	102	55	40.0	45	11700	11700	11700	11700
11.80	12	102	55	40.0	45	11800	11800	11800	11800
11.90	12	102	55	40.0	45	11900	11900	11900	11900
12.00	12	102	55	40.0	45	12000	12000	12000	12000
12.20	14	107	60	43.0	45	12200	12200	12200	12200
12.30	14	107	60	43.0	45	12300	12300	12300	12300
12.50	14	107	60	43.0	45	12500	12500	12500	12500
12.70	14	107	60	43.0	45	12700	12700	12700	12700
12.80	14	107	60	43.0	45	12800	12800	12800	12800
12.90	14	107	60	43.0	45	12900	12900	12900	12900
13.00	14	107	60	43.0	45	13000	13000	13000	13000
13.50	14	107	60	43.0	45	13500	13500	13500	13500
13.70	14	107	60	43.0	45			13700	13700
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

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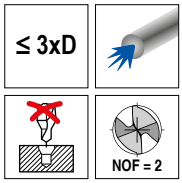
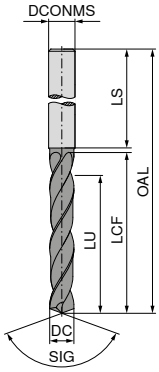
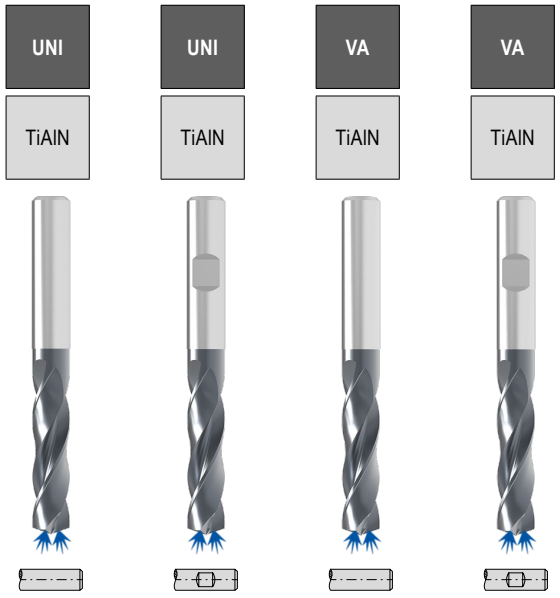
WPC – High Performance Drill, DIN 6537







SIG 140°
Solid carbide

SIG 140°
Solid carbide

SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	**11 700 ...**	**11 701 ...**	**11 713 ...**	**11 714 ...**
13.80	14	107	60	43.0	45	**13800**	**13800**	**13800**	**13800**
14.00	14	107	60	43.0	45	**14000**	**14000**	**14000**	**14000**
14.20	16	115	65	45.0	48	**14200**	**14200**	**14200**	**14200**
14.40	16	115	65	45.0	48	**14400**	**14400**	**14400**	**14400**
14.50	16	115	65	45.0	48	**14500**	**14500**	**14500**	**14500**
14.70	16	115	65	45.0	48			**14700**	**14700**
14.80	16	115	65	45.0	48	**14800**	**14800**	**14800**	**14800**
15.00	16	115	65	45.0	48	**15000**	**15000**	**15000**	**15000**
15.10	16	115	65	45.0	48	**15100**	**15100**	**15100**	**15100**
15.20	16	115	65	45.0	48	**15200**	**15200**	**15200**	**15200**
15.50	16	115	65	45.0	48	**15500**	**15500**	**15500**	**15500**
15.70	16	115	65	45.0	48			**15700**	**15700**
15.80	16	115	65	45.0	48	**15800**	**15800**	**15800**	**15800**
16.00	16	115	65	45.0	48	**16000**	**16000**	**16000**	**16000**
16.50	18	123	73	51.0	48	**16500**	**16500**	**16500**	**16500**
17.00	18	123	73	51.0	48	**17000**	**17000**	**17000**	**17000**
17.50	18	123	73	51.0	48	**17500**	**17500**	**17500**	**17500**
18.00	18	123	73	51.0	48	**18000**	**18000**	**18000**	**18000**
18.50	20	131	79	55.0	50	**18500**	**18500**	**18500**	**18500**
18.90	20	131	79	55.0	50	**18900**	**18900**	**18900**	**18900**
19.00	20	131	79	55.0	50	**19000**	**19000**	**19000**	**19000**
19.30	20	131	79	55.0	50	**19300**	**19300**	**19300**	**19300**
19.50	20	131	79	55.0	50	**19500**	**19500**	**19500**	**19500**
20.00	20	131	79	55.0	50	**20000**	**20000**	**20000**	**20000**
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

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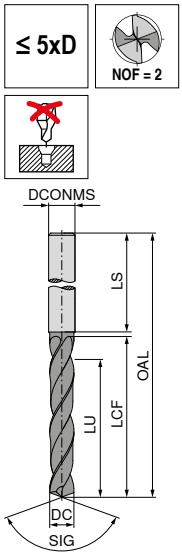
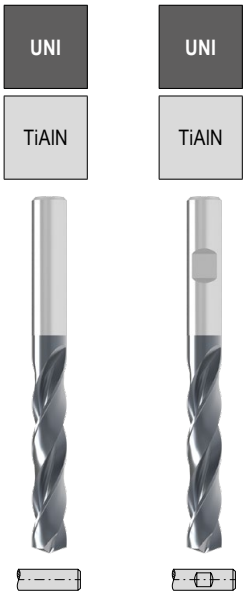
WPC – High Performance Drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	**11 710 ...**	**11 709 ...**
3.00	6	66	28	23.0	36	**03000**	**03000**
3.10	6	66	28	23.0	36	**03100**	**03100**
3.20	6	66	28	23.0	36	**03200**	**03200**
3.25	6	66	28	23.0	36	**03250**	**03250**
3.30	6	66	28	23.0	36	**03300**	**03300**
3.40	6	66	28	23.0	36	**03400**	**03400**
3.50	6	66	28	23.0	36	**03500**	**03500**
3.60	6	66	28	23.0	36	**03600**	**03600**
3.70	6	66	28	23.0	36	**03700**	**03700**
3.80	6	74	36	29.0	36	**03800**	**03800**
3.90	6	74	36	29.0	36	**03900**	**03900**
4.00	6	74	36	29.0	36	**04000**	**04000**
4.10	6	74	36	29.0	36	**04100**	**04100**
4.20	6	74	36	29.0	36	**04200**	**04200**
4.30	6	74	36	29.0	36	**04300**	**04300**
4.40	6	74	36	29.0	36	**04400**	**04400**
4.50	6	74	36	29.0	36	**04500**	**04500**
4.60	6	74	36	29.0	36	**04600**	**04600**
4.65	6	74	36	29.0	36	**04650**	**04650**
4.70	6	74	36	29.0	36	**04700**	**04700**
4.80	6	82	44	35.0	36	**04800**	**04800**
4.90	6	82	44	35.0	36	**04900**	**04900**
5.00	6	82	44	35.0	36	**05000**	**05000**
5.10	6	82	44	35.0	36	**05100**	**05100**
5.20	6	82	44	35.0	36	**05200**	**05200**
5.30	6	82	44	35.0	36	**05300**	**05300**
5.40	6	82	44	35.0	36	**05400**	**05400**
5.50	6	82	44	35.0	36	**05500**	**05500**
5.55	6	82	44	35.0	36	**05550**	**05550**
5.60	6	82	44	35.0	36	**05600**	**05600**
5.65	6	82	44	35.0	36	**05650**	**05650**
5.70	6	82	44	35.0	36	**05700**	**05700**
5.80	6	82	44	35.0	36	**05800**	**05800**
5.90	6	82	44	35.0	36	**05900**	**05900**
6.00	6	82	44	35.0	36	**06000**	**06000**
6.10	8	91	53	43.0	36	**06100**	**06100**
6.20	8	91	53	43.0	36	**06200**	**06200**
6.30	8	91	53	43.0	36	**06300**	**06300**
6.40	8	91	53	43.0	36	**06400**	**06400**
6.50	8	91	53	43.0	36	**06500**	**06500**
6.60	8	91	53	43.0	36	**06600**	**06600**
6.70	8	91	53	43.0	36	**06700**	**06700**
6.80	8	91	53	43.0	36	**06800**	**06800**
6.90	8	91	53	43.0	36	**06900**	**06900**
P						●	●
M							
K						●	●
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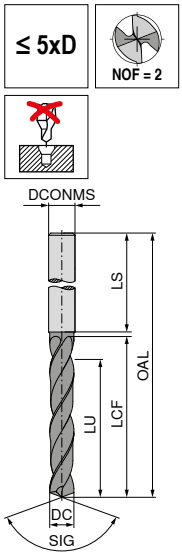
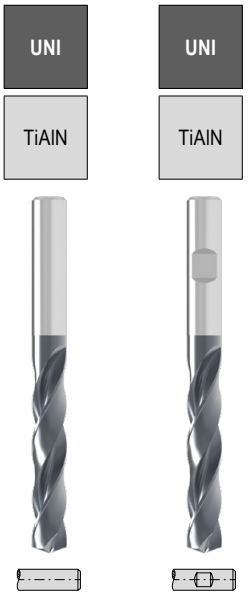
WPC – High Performance Drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	11 710 ...		11 709 ...	
7.00	8	91	53	43.0	36	07000		07000	
7.10	8	91	53	43.0	36	07100		07100	
7.20	8	91	53	43.0	36	07200		07200	
7.30	8	91	53	43.0	36	07300		07300	
7.40	8	91	53	43.0	36	07400		07400	
7.50	8	91	53	43.0	36	07500		07500	
7.55	8	91	53	43.0	36	07550		07550	
7.60	8	91	53	43.0	36	07600		07600	
7.65	8	91	53	43.0	36	07650		07650	
7.70	8	91	53	43.0	36	07700		07700	
7.80	8	91	53	43.0	36	07800		07800	
7.90	8	91	53	43.0	36	07900		07900	
8.00	8	91	53	43.0	36	08000		08000	
8.10	10	103	61	49.0	40	08100		08100	
8.20	10	103	61	49.0	40	08200		08200	
8.30	10	103	61	49.0	40	08300		08300	
8.40	10	103	61	49.0	40	08400		08400	
8.50	10	103	61	49.0	40	08500		08500	
8.60	10	103	61	49.0	40	08600		08600	
8.70	10	103	61	49.0	40	08700		08700	
8.80	10	103	61	49.0	40	08800		08800	
8.90	10	103	61	49.0	40	08900		08900	
9.00	10	103	61	49.0	40	09000		09000	
9.10	10	103	61	49.0	40	09100		09100	
9.20	10	103	61	49.0	40	09200		09200	
9.30	10	103	61	49.0	40	09300		09300	
9.40	10	103	61	49.0	40	09400		09400	
9.50	10	103	61	49.0	40	09500		09500	
9.60	10	103	61	49.0	40	09600		09600	
9.70	10	103	61	49.0	40	09700		09700	
9.80	10	103	61	49.0	40	09800		09800	
9.90	10	103	61	49.0	40	09900		09900	
10.00	10	103	61	49.0	40	10000		10000	
10.10	12	118	71	56.0	45	10100		10100	
10.20	12	118	71	56.0	45	10200		10200	
10.30	12	118	71	56.0	45	10300		10300	
10.40	12	118	71	56.0	45	10400		10400	
10.50	12	118	71	56.0	45	10500		10500	
10.60	12	118	71	56.0	45	10600		10600	
10.70	12	118	71	56.0	45	10700		10700	
10.80	12	118	71	56.0	45	10800		10800	
10.90	12	118	71	56.0	45	10900		10900	
11.00	12	118	71	56.0	45	11000		11000	
11.10	12	118	71	56.0	45	11100		11100	
P						●		●	
M									
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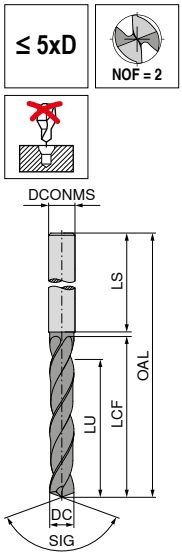
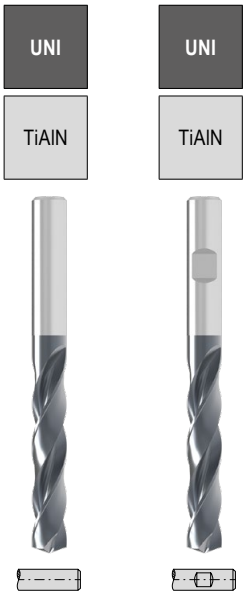
WPC – High Performance Drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	11 710 ...		11 709 ...	
11.20	12	118	71	56.0	45	**11200**		**11200**	
11.30	12	118	71	56.0	45	**11300**		**11300**	
11.40	12	118	71	56.0	45	**11400**		**11400**	
11.50	12	118	71	56.0	45	**11500**		**11500**	
11.60	12	118	71	56.0	45	**11600**		**11600**	
11.70	12	118	71	56.0	45	**11700**		**11700**	
11.80	12	118	71	56.0	45	**11800**		**11800**	
11.90	12	118	71	56.0	45	**11900**		**11900**	
12.00	12	118	71	56.0	45	**12000**		**12000**	
12.10	14	124	77	60.0	45	**12100**		**12100**	
12.20	14	124	77	60.0	45	**12200**		**12200**	
12.25	14	124	77	60.0	45	**12250**		**12250**	
12.50	14	124	77	60.0	45	**12500**		**12500**	
12.70	14	124	77	60.0	45	**12700**		**12700**	
12.80	14	124	77	60.0	45	**12800**		**12800**	
13.00	14	124	77	60.0	45	**13000**		**13000**	
13.20	14	124	77	60.0	45	**13200**		**13200**	
13.50	14	124	77	60.0	45	**13500**		**13500**	
13.80	14	124	77	60.0	45	**13800**		**13800**	
14.00	14	124	77	60.0	45	**14000**		**14000**	
14.20	16	133	83	63.0	48	**14200**		**14200**	
14.40	16	133	83	63.0	48	**14400**		**14400**	
14.50	16	133	83	63.0	48	**14500**		**14500**	
14.80	16	133	83	63.0	48	**14800**		**14800**	
15.00	16	133	83	63.0	48	**15000**		**15000**	
15.20	16	133	83	63.0	48	**15200**		**15200**	
15.50	16	133	83	63.0	48	**15500**		**15500**	
15.80	16	133	83	63.0	48	**15800**		**15800**	
16.00	16	133	83	63.0	48	**16000**		**16000**	
16.50	18	143	93	71.0	48	**16500**		**16500**	
17.00	18	143	93	71.0	48	**17000**		**17000**	
17.50	18	143	93	71.0	48	**17500**		**17500**	
18.00	18	143	93	71.0	48	**18000**		**18000**	
18.50	20	153	101	77.0	50	**18500**		**18500**	
18.90	20	153	101	77.0	50	**18900**		**18900**	
19.00	20	153	101	77.0	50	**19000**		**19000**	
19.50	20	153	101	77.0	50	**19500**		**19500**	
20.00	20	153	101	77.0	50	**20000**		**20000**	
P						●		●	
M									
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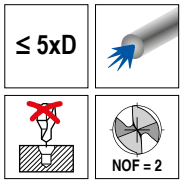
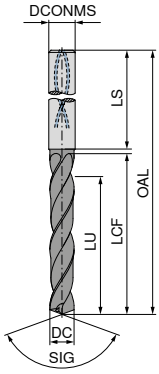
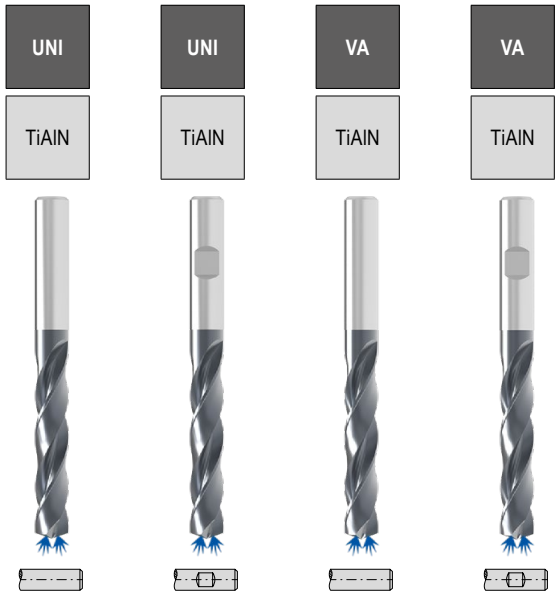
WPC – High Performance Drill, DIN 6537







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	11 702 ...	11 703 ...	11 715 ...	11 716 ...
1.00	4	55	8	6.5	28	01000		01000	
1.10	4	55	12	10.3	28	01100		01100	
1.20	4	55	12	10.2	28	01200		01200	
1.30	4	55	12	10.0	28	01300		01300	
1.40	4	55	12	9.9	28	01400		01400	
1.50	4	55	12	9.7	28	01500		01500	
1.60	4	55	16	13.6	28	01600		01600	
1.70	4	55	16	13.4	28	01700		01700	
1.80	4	55	16	13.3	28	01800		01800	
1.90	4	55	16	13.1	28	01900		01900	
2.00	4	57	21	18.0	28	02000		02000	
2.10	4	57	21	17.8	28	02100		02100	
2.20	4	57	21	17.7	28	02200		02200	
2.30	4	57	21	17.5	28	02300		02300	
2.40	4	57	21	17.4	28	02400		02400	
2.50	4	57	21	17.2	28	02500		02500	
2.60	4	57	21	17.1	28	02600		02600	
2.70	4	57	21	16.9	28	02700		02700	
2.80	4	57	21	16.8	28	02800		02800	
2.90	4	57	21	16.6	28	02900		02900	
3.00	6	66	28	23.0	36	03000	03000	03000	03000
3.10	6	66	28	23.0	36	03100	03100	03100	03100
3.20	6	66	28	23.0	36	03200	03200	03200	03200
3.25	6	66	28	23.0	36	03250	03250	03250	03250
3.30	6	66	28	23.0	36	03300	03300	03300	03300
3.40	6	66	28	23.0	36	03400	03400	03400	03400
3.50	6	66	28	23.0	36	03500	03500	03500	03500
3.60	6	66	28	23.0	36	03600	03600	03600	03600
3.70	6	66	28	23.0	36	03700	03700	03700	03700
3.80	6	74	36	29.0	36	03800	03800	03800	03800
3.85	6	74	36	29.0	36	03850	03850		
3.90	6	74	36	29.0	36	03900	03900	03900	03900
4.00	6	74	36	29.0	36	04000	04000	04000	04000
4.10	6	74	36	29.0	36	04100	04100	04100	04100
4.20	6	74	36	29.0	36	04200	04200	04200	04200
4.30	6	74	36	29.0	36	04300	04300	04300	04300
4.40	6	74	36	29.0	36	04400	04400	04400	04400
4.50	6	74	36	29.0	36	04500	04500	04500	04500
4.60	6	74	36	29.0	36	04600	04600	04600	04600
4.65	6	74	36	29.0	36	04650	04650	04650	04650
4.70	6	74	36	29.0	36	04700	04700	04700	04700
4.80	6	82	44	35.0	36	04800	04800	04800	04800
4.90	6	82	44	35.0	36	04900	04900	04900	04900
5.00	6	82	44	35.0	36	05000	05000	05000	05000
5.10	6	82	44	35.0	36	05100	05100	05100	05100
5.20	6	82	44	35.0	36	05200	05200	05200	05200

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

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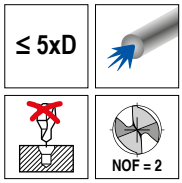
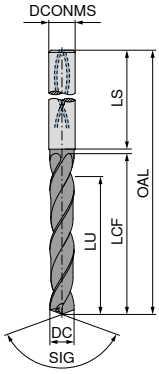
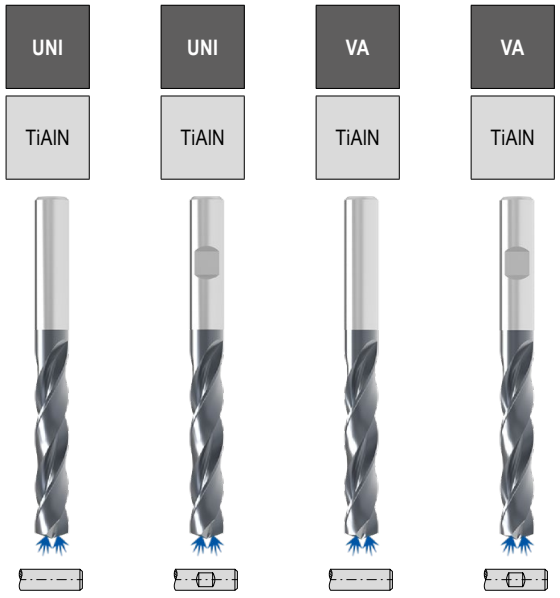
WPC – High Performance Drill, DIN 6537







SIG 140°
Solid carbide

SIG 140°
Solid carbide

SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	**11 702 ...**	**11 703 ...**	**11 715 ...**	**11 716 ...**
5.30	6	82	44	35.0	36	**05300**	**05300**	**05300**	**05300**
5.40	6	82	44	35.0	36	**05400**	**05400**	**05400**	**05400**
5.50	6	82	44	35.0	36	**05500**	**05500**	**05500**	**05500**
5.55	6	82	44	35.0	36	**05550**	**05550**	**05550**	**05550**
5.60	6	82	44	35.0	36	**05600**	**05600**	**05600**	**05600**
5.65	6	82	44	35.0	36	**05650**	**05650**		
5.70	6	82	44	35.0	36	**05700**	**05700**	**05700**	**05700**
5.80	6	82	44	35.0	36	**05800**	**05800**	**05800**	**05800**
5.90	6	82	44	35.0	36	**05900**	**05900**	**05900**	**05900**
6.00	6	82	44	35.0	36	**06000**	**06000**	**06000**	**06000**
6.10	8	91	53	43.0	36	**06100**	**06100**	**06100**	**06100**
6.20	8	91	53	43.0	36	**06200**	**06200**	**06200**	**06200**
6.30	8	91	53	43.0	36	**06300**	**06300**	**06300**	**06300**
6.40	8	91	53	43.0	36	**06400**	**06400**	**06400**	**06400**
6.50	8	91	53	43.0	36	**06500**	**06500**	**06500**	**06500**
6.60	8	91	53	43.0	36	**06600**	**06600**	**06600**	**06600**
6.70	8	91	53	43.0	36	**06700**	**06700**	**06700**	**06700**
6.80	8	91	53	43.0	36	**06800**	**06800**	**06800**	**06800**
6.90	8	91	53	43.0	36	**06900**	**06900**	**06900**	**06900**
7.00	8	91	53	43.0	36	**07000**	**07000**	**07000**	**07000**
7.10	8	91	53	43.0	36	**07100**	**07100**	**07100**	**07100**
7.20	8	91	53	43.0	36	**07200**	**07200**	**07200**	**07200**
7.30	8	91	53	43.0	36	**07300**	**07300**	**07300**	**07300**
7.40	8	91	53	43.0	36	**07400**	**07400**	**07400**	**07400**
7.45	8	91	53	43.0	36	**07450**	**07450**	**07450**	**07450**
7.50	8	91	53	43.0	36	**07500**	**07500**	**07500**	**07500**
7.55	8	91	53	43.0	36	**07550**	**07550**	**07550**	**07550**
7.60	8	91	53	43.0	36	**07600**	**07600**	**07600**	**07600**
7.65	8	91	53	43.0	36	**07650**	**07650**		
7.70	8	91	53	43.0	36	**07700**	**07700**	**07700**	**07700**
7.80	8	91	53	43.0	36	**07800**	**07800**	**07800**	**07800**
7.90	8	91	53	43.0	36	**07900**	**07900**	**07900**	**07900**
8.00	8	91	53	43.0	36	**08000**	**08000**	**08000**	**08000**
8.10	10	103	61	49.0	40	**08100**	**08100**	**08100**	**08100**
8.20	10	103	61	49.0	40	**08200**	**08200**	**08200**	**08200**
8.30	10	103	61	49.0	40	**08300**	**08300**	**08300**	**08300**
8.40	10	103	61	49.0	40	**08400**	**08400**	**08400**	**08400**
8.50	10	103	61	49.0	40	**08500**	**08500**	**08500**	**08500**
8.60	10	103	61	49.0	40	**08600**	**08600**	**08600**	**08600**
8.70	10	103	61	49.0	40	**08700**	**08700**	**08700**	**08700**
8.80	10	103	61	49.0	40	**08800**	**08800**	**08800**	**08800**
8.90	10	103	61	49.0	40	**08900**	**08900**	**08900**	**08900**
9.00	10	103	61	49.0	40	**09000**	**09000**	**09000**	**09000**
9.10	10	103	61	49.0	40	**09100**	**09100**	**09100**	**09100**
9.20	10	103	61	49.0	40	**09200**	**09200**	**09200**	**09200**
9.25	10	103	61	49.0	40	**09250**	**09250**	**09250**	
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
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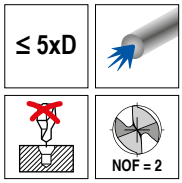
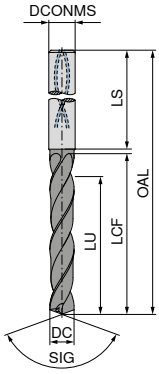
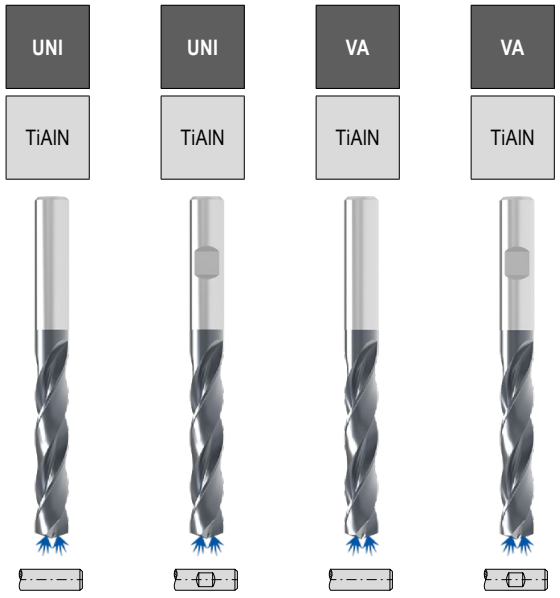
WPC – High Performance Drill, DIN 6537







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	11 702 ...	11 703 ...	11 715 ...	11 716 ...
9.30	10	103	61	49.0	40	09300	09300	09300	09300
9.35	10	103	61	49.0	40	09350	09350	09350	
9.40	10	103	61	49.0	40	09400	09400	09400	09400
9.50	10	103	61	49.0	40	09500	09500	09500	09500
9.55	10	103	61	49.0	40	09550	09550		
9.60	10	103	61	49.0	40	09600	09600	09600	09600
9.70	10	103	61	49.0	40	09700	09700	09700	09700
9.80	10	103	61	49.0	40	09800	09800	09800	09800
9.90	10	103	61	49.0	40	09900	09900	09900	09900
10.00	10	103	61	49.0	40	10000	10000	10000	10000
10.10	12	118	71	56.0	45	10100	10100	10100	10100
10.20	12	118	71	56.0	45	10200	10200	10200	10200
10.30	12	118	71	56.0	45	10300	10300	10300	10300
10.40	12	118	71	56.0	45	10400	10400	10400	10400
10.50	12	118	71	56.0	45	10500	10500	10500	10500
10.60	12	118	71	56.0	45	10600	10600	10600	10600
10.70	12	118	71	56.0	45	10700	10700	10700	10700
10.80	12	118	71	56.0	45	10800	10800	10800	10800
10.90	12	118	71	56.0	45	10900	10900	10900	10900
11.00	12	118	71	56.0	45	11000	11000	11000	11000
11.10	12	118	71	56.0	45	11100	11100	11100	11100
11.20	12	118	71	56.0	45	11200	11200	11200	11200
11.25	12	118	71	56.0	45	11250	11250	11250	
11.30	12	118	71	56.0	45	11300	11300	11300	11300
11.40	12	118	71	56.0	45	11400	11400	11400	11400
11.50	12	118	71	56.0	45	11500	11500	11500	11500
11.60	12	118	71	56.0	45	11600	11600	11600	11600
11.70	12	118	71	56.0	45	11700	11700	11700	11700
11.80	12	118	71	56.0	45	11800	11800	11800	11800
11.90	12	118	71	56.0	45	11900	11900	11900	11900
12.00	12	118	71	56.0	45	12000	12000	12000	12000
12.10	14	124	77	60.0	45	12100	12100	12100	12100
12.20	14	124	77	60.0	45	12200	12200	12200	12200
12.25	14	124	77	60.0	45	12250	12250	12250	
12.40	14	124	77	60.0	45	12400	12400	12400	12400
12.50	14	124	77	60.0	45	12500	12500	12500	12500
12.60	14	124	77	60.0	45	12600	12600	12600	12600
12.70	14	124	77	60.0	45	12700	12700	12700	12700
12.80	14	124	77	60.0	45	12800	12800	12800	12800
12.90	14	124	77	60.0	45	12900	12900		
13.00	14	124	77	60.0	45	13000	13000	13000	13000
13.10	14	124	77	60.0	45	13100	13100	13100	13100
13.20	14	124	77	60.0	45	13200	13200	13200	13200
13.30	14	124	77	60.0	45	13300	13300	13300	13300
13.50	14	124	77	60.0	45	13500	13500	13500	13500
13.70	14	124	77	60.0	45	13700	13700	13700	13700
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
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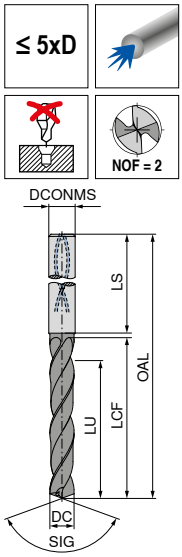
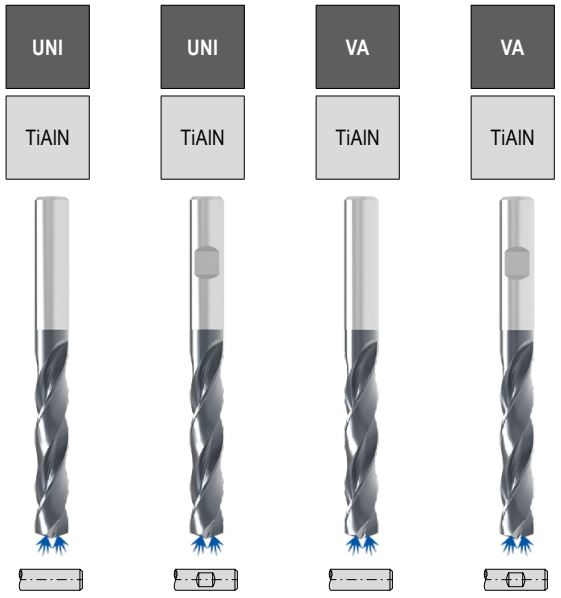
WPC – High Performance Drill, DIN 6537





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	**11 702 ...**	**11 703 ...**	**11 715 ...**	**11 716 ...**
13.80	14	124	77	60.0	45	**13800**	**13800**	**13800**	**13800**
14.00	14	124	77	60.0	45	**14000**	**14000**	**14000**	**14000**
14.20	16	133	83	63.0	48	**14200**	**14200**	**14200**	**14200**
14.30	16	133	83	63.0	48	**14300**	**14300**	**14300**	**14300**
14.40	16	133	83	63.0	48	**14400**	**14400**	**14400**	**14400**
14.50	16	133	83	63.0	48	**14500**	**14500**	**14500**	**14500**
14.70	16	133	83	63.0	48	**14700**	**14700**	**14700**	**14700**
14.80	16	133	83	63.0	48	**14800**	**14800**	**14800**	**14800**
15.00	16	133	83	63.0	48	**15000**	**15000**	**15000**	**15000**
15.10	16	133	83	63.0	48	**15100**	**15100**	**15100**	**15100**
15.20	16	133	83	63.0	48	**15200**	**15200**	**15200**	**15200**
15.25	16	133	83	63.0	48	**15250**	**15250**		
15.30	16	133	83	63.0	48	**15300**	**15300**	**15300**	**15300**
15.50	16	133	83	63.0	48	**15500**	**15500**	**15500**	**15500**
15.70	16	133	83	63.0	48	**15700**	**15700**	**15700**	**15700**
15.80	16	133	83	63.0	48	**15800**	**15800**	**15800**	**15800**
16.00	16	133	83	63.0	48	**16000**	**16000**	**16000**	**16000**
16.20	18	143	93	71.0	48	**16200**	**16200**	**16200**	**16200**
16.30	18	143	93	71.0	48	**16300**	**16300**	**16300**	**16300**
16.50	18	143	93	71.0	48	**16500**	**16500**	**16500**	**16500**
16.80	18	143	93	71.0	48	**16800**	**16800**	**16800**	**16800**
17.00	18	143	93	71.0	48	**17000**	**17000**	**17000**	**17000**
17.30	18	143	93	71.0	48	**17300**	**17300**	**17300**	**17300**
17.50	18	143	93	71.0	48	**17500**	**17500**	**17500**	**17500**
17.60	18	143	93	71.0	48	**17600**	**17600**		
17.80	18	143	93	71.0	48	**17800**	**17800**		
18.00	18	143	93	71.0	48	**18000**	**18000**	**18000**	**18000**
18.50	20	153	101	77.0	50	**18500**	**18500**	**18500**	**18500**
18.80	20	153	101	77.0	50	**18800**	**18800**		
18.90	20	153	101	77.0	50	**18900**	**18900**	**18900**	**18900**
19.00	20	153	101	77.0	50	**19000**	**19000**	**19000**	**19000**
19.20	20	153	101	77.0	50	**19200**	**19200**	**19200**	**19200**
19.30	20	153	101	77.0	50	**19300**	**19300**	**19300**	**19300**
19.50	20	153	101	77.0	50	**19500**	**19500**	**19500**	**19500**
19.70	20	153	101	77.0	50	**19700**	**19700**	**19700**	**19700**
19.80	20	153	101	77.0	50	**19800**	**19800**		
20.00	20	153	101	77.0	50	**20000**	**20000**	**20000**	**20000**
P						●	●	○	○
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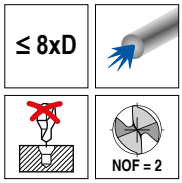
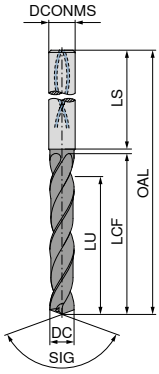
→ v_c Page 29+31

WPC – High Performance Drill, factory standard





UNI

TiAlN

SIG 135°
Solid carbide

11 704 ...

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	
3.00	6	72	34	29.0	36	**03000**
3.10	6	72	34	29.0	36	**03100**
3.20	6	72	34	29.0	36	**03200**
3.30	6	72	34	29.0	36	**03300**
3.40	6	72	34	29.0	36	**03400**
3.50	6	72	34	29.0	36	**03500**
3.60	6	72	34	29.0	36	**03600**
3.70	6	72	34	29.0	36	**03700**
3.80	6	81	43	36.0	36	**03800**
3.90	6	81	43	36.0	36	**03900**
4.00	6	81	43	36.0	36	**04000**
4.10	6	81	43	36.0	36	**04100**
4.20	6	81	43	36.0	36	**04200**
4.30	6	81	43	36.0	36	**04300**
4.40	6	81	43	36.0	36	**04400**
4.50	6	81	43	36.0	36	**04500**
4.60	6	81	43	36.0	36	**04600**
4.70	6	81	43	36.0	36	**04700**
4.80	6	95	57	48.0	36	**04800**
4.90	6	95	57	48.0	36	**04900**
5.00	6	95	57	48.0	36	**05000**
5.10	6	95	57	48.0	36	**05100**
5.20	6	95	57	48.0	36	**05200**
5.30	6	95	57	48.0	36	**05300**
5.40	6	95	57	48.0	36	**05400**
5.50	6	95	57	48.0	36	**05500**
5.60	6	95	57	48.0	36	**05600**
5.70	6	95	57	48.0	36	**05700**
5.80	6	95	57	48.0	36	**05800**
5.90	6	95	57	48.0	36	**05900**
6.00	6	95	57	48.0	36	**06000**
6.10	8	114	76	64.0	36	**06100**
6.20	8	114	76	64.0	36	**06200**
6.30	8	114	76	64.0	36	**06300**
6.40	8	114	76	64.0	36	**06400**
6.50	8	114	76	64.0	36	**06500**
6.60	8	114	76	64.0	36	**06600**
6.70	8	114	76	64.0	36	**06700**
6.80	8	114	76	64.0	36	**06800**

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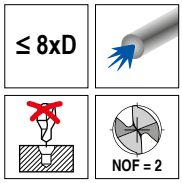
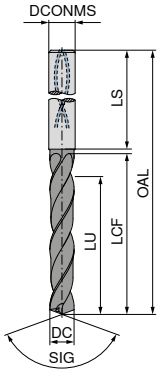
WPC – High Performance Drill, factory standard





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TiAlN

SIG 135°
Solid carbide

11 704 ...

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	
6.90	8	114	76	64.0	36	**06900**
7.00	8	114	76	64.0	36	**07000**
7.10	8	114	76	64.0	36	**07100**
7.20	8	114	76	64.0	36	**07200**
7.30	8	114	76	64.0	36	**07300**
7.40	8	114	76	64.0	36	**07400**
7.50	8	114	76	64.0	36	**07500**
7.60	8	114	76	64.0	36	**07600**
7.70	8	114	76	64.0	36	**07700**
7.80	8	114	76	64.0	36	**07800**
7.90	8	114	76	64.0	36	**07900**
8.00	8	114	76	64.0	36	**08000**
8.10	10	142	95	80.0	40	**08100**
8.20	10	142	95	80.0	40	**08200**
8.30	10	142	95	80.0	40	**08300**
8.40	10	142	95	80.0	40	**08400**
8.50	10	142	95	80.0	40	**08500**
8.60	10	142	95	80.0	40	**08600**
8.70	10	142	95	80.0	40	**08700**
8.80	10	142	95	80.0	40	**08800**
8.90	10	142	95	80.0	40	**08900**
9.00	10	142	95	80.0	40	**09000**
9.10	10	142	95	80.0	40	**09100**
9.20	10	142	95	80.0	40	**09200**
9.30	10	142	95	80.0	40	**09300**
9.40	10	142	95	80.0	40	**09400**
9.50	10	142	95	80.0	40	**09500**
9.60	10	142	95	80.0	40	**09600**
9.70	10	142	95	80.0	40	**09700**
9.80	10	142	95	80.0	40	**09800**
9.90	10	142	95	80.0	40	**09900**
10.00	10	142	95	80.0	40	**10000**
10.20	12	162	114	96.0	45	**10200**
10.50	12	162	114	96.0	45	**10500**
10.80	12	162	114	96.0	45	**10800**
11.00	12	162	114	96.0	45	**11000**
11.20	12	162	114	96.0	45	**11200**
11.50	12	162	114	96.0	45	**11500**
11.80	12	162	114	96.0	45	**11800**

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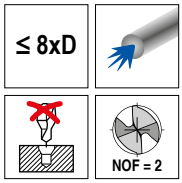
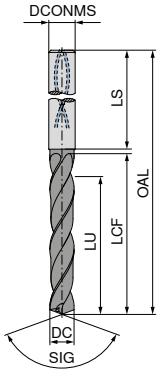
WPC – High Performance Drill, factory standard





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TiAlN

SIG 135°
Solid carbide

11 704 ...

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	
12.00	12	162	114	96.0	45	**12000**
12.20	14	178	131	112.0	45	**12200**
12.50	14	178	131	112.0	45	**12500**
12.70	14	178	131	112.0	45	**12700**
13.00	14	178	131	112.0	45	**13000**
13.50	14	178	131	112.0	45	**13500**
14.00	14	178	131	112.0	45	**14000**
14.50	16	203	152	128.0	48	**14500**
15.00	16	203	152	128.0	48	**15000**
15.50	16	203	152	128.0	48	**15500**
16.00	16	203	152	128.0	48	**16000**
16.50	18	222	171	144.0	48	**16500**
17.00	18	222	171	144.0	48	**17000**
17.50	18	222	171	144.0	48	**17500**
18.00	18	222	171	144.0	48	**18000**
18.50	20	243	190	160.0	50	**18500**
19.00	20	243	190	160.0	50	**19000**
19.50	20	243	190	160.0	50	**19500**
20.00	20	243	190	160.0	50	**20000**

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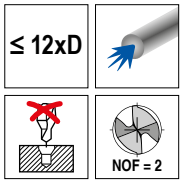
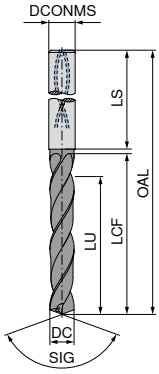
WPC – High Performance Drill, factory standard





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TiAlN

SIG 135°
Solid carbide

11 705 ...

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	
3.00	6	92	54	48.0	36	**03000**
3.10	6	92	54	48.0	36	**03100**
3.20	6	92	54	48.0	36	**03200**
3.30	6	92	54	48.0	36	**03300**
3.40	6	92	54	48.0	36	**03400**
3.50	6	92	54	48.0	36	**03500**
3.60	6	92	54	48.0	36	**03600**
3.70	6	92	54	48.0	36	**03700**
3.80	6	102	64	58.0	36	**03800**
3.90	6	102	64	58.0	36	**03900**
4.00	6	102	64	58.0	36	**04000**
4.10	6	102	64	58.0	36	**04100**
4.20	6	102	64	58.0	36	**04200**
4.30	6	102	64	58.0	36	**04300**
4.40	6	102	64	58.0	36	**04400**
4.50	6	102	64	58.0	36	**04500**
4.60	6	102	64	58.0	36	**04600**
4.70	6	102	64	58.0	36	**04700**
4.80	6	116	78	70.0	36	**04800**
4.90	6	116	78	70.0	36	**04900**
5.00	6	116	78	70.0	36	**05000**
5.10	6	116	78	70.0	36	**05100**
5.20	6	116	78	70.0	36	**05200**
5.30	6	116	78	70.0	36	**05300**
5.40	6	116	78	70.0	36	**05400**
5.50	6	116	78	70.0	36	**05500**
5.60	6	116	78	70.0	36	**05600**
5.70	6	116	78	70.0	36	**05700**
5.80	6	116	78	70.0	36	**05800**
5.90	6	116	78	70.0	36	**05900**
6.00	6	116	78	70.0	36	**06000**
6.10	8	146	108	94.0	36	**06100**
6.20	8	146	108	94.0	36	**06200**
6.30	8	146	108	94.0	36	**06300**
6.40	8	146	108	94.0	36	**06400**
6.50	8	146	108	94.0	36	**06500**
6.60	8	146	108	94.0	36	**06600**
6.70	8	146	108	94.0	36	**06700**
6.80	8	146	108	94.0	36	**06800**

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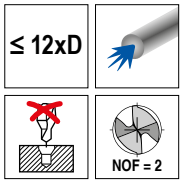
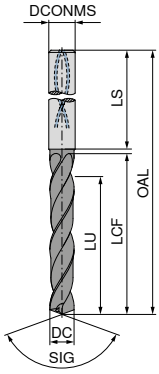
WPC – High Performance Drill, factory standard





UNI

TiAlN

SIG 135°
Solid carbide

11 705 ...

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	
6.90	8	146	108	94.0	36	**06900**
7.00	8	146	108	94.0	36	**07000**
7.10	8	146	108	94.0	36	**07100**
7.20	8	146	108	94.0	36	**07200**
7.30	8	146	108	94.0	36	**07300**
7.40	8	146	108	94.0	36	**07400**
7.50	8	146	108	94.0	36	**07500**
7.60	8	146	108	94.0	36	**07600**
7.70	8	146	108	94.0	36	**07700**
7.80	8	146	108	94.0	36	**07800**
7.90	8	146	108	94.0	36	**07900**
8.00	8	146	108	94.0	36	**08000**
8.10	10	162	120	110.0	40	**08100**
8.20	10	162	120	110.0	40	**08200**
8.30	10	162	120	110.0	40	**08300**
8.40	10	162	120	110.0	40	**08400**
8.50	10	162	120	110.0	40	**08500**
8.60	10	162	120	110.0	40	**08600**
8.70	10	162	120	110.0	40	**08700**
8.80	10	162	120	110.0	40	**08800**
8.90	10	162	120	110.0	40	**08900**
9.00	10	162	120	110.0	40	**09000**
9.10	10	162	120	110.0	40	**09100**
9.20	10	162	120	110.0	40	**09200**
9.30	10	162	120	110.0	40	**09300**
9.40	10	162	120	110.0	40	**09400**
9.50	10	162	120	110.0	40	**09500**
9.60	10	162	120	110.0	40	**09600**
9.70	10	162	120	110.0	40	**09700**
9.80	10	162	120	110.0	40	**09800**
9.90	10	162	120	110.0	40	**09900**
10.00	10	162	120	110.0	40	**10000**
10.20	12	204	156	142.0	45	**10200**
10.50	12	204	156	142.0	45	**10500**
10.80	12	204	156	142.0	45	**10800**
11.00	12	204	156	142.0	45	**11000**
11.50	12	204	156	142.0	45	**11500**
11.80	12	204	156	142.0	45	**11800**
12.00	12	204	156	142.0	45	**12000**

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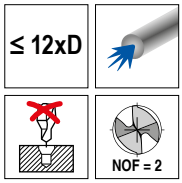
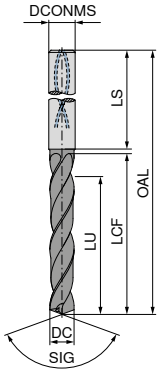
WPC – High Performance Drill, factory standard





UNI

TiAlN

SIG 135°
Solid carbide

11 705 ...

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	
12.50	14	230	182	166.0	45	**12500**
12.70	14	230	182	166.0	45	**12700**
12.80	14	230	182	166.0	45	**12800**
13.00	14	230	182	166.0	45	**13000**
13.50	14	230	182	166.0	45	**13500**
13.80	14	230	182	166.0	45	**13800**
14.00	14	230	182	166.0	45	**14000**
14.50	16	260	208	192.0	48	**14500**
14.80	16	260	208	192.0	48	**14800**
15.00	16	260	208	192.0	48	**15000**
15.50	16	260	208	192.0	48	**15500**
15.80	16	260	208	192.0	48	**15800**
16.00	16	260	208	192.0	48	**16000**
16.50	18	285	234	216.0	48	**16500**
17.00	18	285	234	216.0	48	**17000**
17.50	18	285	234	216.0	48	**17500**
18.00	18	285	234	216.0	48	**18000**
18.50	20	310	258	240.0	50	**18500**
19.00	20	310	258	240.0	50	**19000**
19.50	20	310	258	240.0	50	**19500**
20.00	20	310	258	240.0	50	**20000**

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WPC – Indexable insert for indexable insert drill

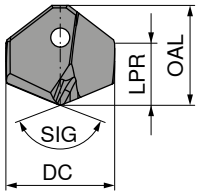
Scope of supply:

Indexable insert (clamping screws can be ordered separately, if necessary)

NEW

Change UNI

TPX74S



SIG 135°

HM

11 910 ...

DC $_{m7}$ mm	OAL mm	LPR mm	S mm	11 910 ...
14.00	12.8	7.73	5.0	**14000**
14.10	12.8	7.73	5.0	**14100**
14.20	12.8	7.73	5.0	**14200**
14.30	12.8	7.73	5.0	**14300**
14.40	12.8	7.73	5.0	**14400**
14.50	13.1	7.84	5.0	**14500**
14.60	13.1	7.84	5.0	**14600**
14.70	13.1	7.84	5.0	**14700**
14.80	13.1	7.84	5.0	**14800**
14.90	13.1	7.84	5.0	**14900**
15.00	13.4	7.95	5.0	**15000**
15.10	13.4	7.95	5.0	**15100**
15.20	13.4	7.95	5.0	**15200**
15.30	13.4	7.95	5.0	**15300**
15.40	13.4	7.95	5.0	**15400**
15.50	13.7	8.05	5.0	**15500**
15.60	13.7	8.05	5.0	**15600**
15.70	13.7	8.05	5.0	**15700**
15.80	13.7	8.05	5.0	**15800**
15.90	13.7	8.05	5.0	**15900**
16.00	14.4	9.06	5.8	**16000**
16.10	14.4	9.06	5.8	**16100**
16.20	14.4	9.06	5.8	**16200**
16.30	14.4	9.06	5.8	**16300**
16.40	14.4	9.06	5.8	**16400**
16.50	14.7	9.17	5.8	**16500**
16.60	14.7	9.17	5.8	**16600**
16.70	14.7	9.17	5.8	**16700**
16.80	14.7	9.17	5.8	**16800**
16.90	14.7	9.17	5.8	**16900**
17.00	15.0	9.28	5.8	**17000**
17.10	15.0	9.28	5.8	**17100**
17.20	15.0	9.28	5.8	**17200**
17.30	15.0	9.28	5.8	**17300**
17.40	15.0	9.28	5.8	**17400**
17.50	15.3	9.39	5.8	**17500**
17.60	15.3	9.39	5.8	**17600**
17.70	15.3	9.39	5.8	**17700**
17.80	15.3	9.39	5.8	**17800**
17.90	15.3	9.39	5.8	**17900**
18.00	16.3	10.19	6.5	**18000**
18.10	16.3	10.19	6.5	**18100**
18.20	16.3	10.19	6.5	**18200**
18.30	16.3	10.19	6.5	**18300**
18.40	16.3	10.19	6.5	**18400**
18.50	16.6	10.30	6.5	**18500**
18.60	16.6	10.30	6.5	**18600**
18.70	16.6	10.30	6.5	**18700**
18.80	16.6	10.30	6.5	**18800**
18.90	16.6	10.30	6.5	**18900**
19.00	16.9	10.41	6.5	**19000**
19.10	16.9	10.41	6.5	**19100**
19.20	16.9	10.41	6.5	**19200**
19.30	16.9	10.41	6.5	**19300**
19.40	16.9	10.41	6.5	**19400**
19.50	17.2	10.52	6.5	**19500**
19.60	17.2	10.52	6.5	**19600**
19.70	17.2	10.52	6.5	**19700**
19.80	17.2	10.52	6.5	**19800**
19.90	17.2	10.52	6.5	**19900**

11 910 ...

DC $_{m7}$ mm	OAL mm	LPR mm	S mm	11 910 ...
20.00	18.2	11.33	7.2	**20000**
20.10	18.2	11.33	7.2	**20100**
20.20	18.2	11.33	7.2	**20200**
20.30	18.2	11.33	7.2	**20300**
20.40	18.2	11.33	7.2	**20400**
20.50	18.5	11.43	7.2	**20500**
20.60	18.5	11.43	7.2	**20600**
20.70	18.5	11.43	7.2	**20700**
20.80	18.5	11.43	7.2	**20800**
20.90	18.5	11.43	7.2	**20900**
21.00	18.8	11.54	7.2	**21000**
21.10	18.8	11.54	7.2	**21100**
21.20	18.8	11.54	7.2	**21200**
21.30	18.8	11.54	7.2	**21300**
21.40	18.8	11.54	7.2	**21400**
21.50	19.1	11.65	7.2	**21500**
21.60	19.1	11.65	7.2	**21600**
21.70	19.1	11.65	7.2	**21700**
21.80	19.1	11.65	7.2	**21800**
21.90	19.1	11.65	7.2	**21900**
22.00	20.2	12.56	7.9	**22000**
22.10	20.2	12.56	7.9	**22100**
22.20	20.2	12.56	7.9	**22200**
22.30	20.2	12.56	7.9	**22300**
22.40	20.2	12.56	7.9	**22400**
22.50	20.5	12.67	7.9	**22500**
22.60	20.5	12.67	7.9	**22600**
22.70	20.5	12.67	7.9	**22700**
22.80	20.5	12.67	7.9	**22800**
22.90	20.5	12.67	7.9	**22900**
23.00	20.8	12.78	7.9	**23000**
23.10	20.8	12.78	7.9	**23100**
23.20	20.8	12.78	7.9	**23200**
23.30	20.8	12.78	7.9	**23300**
23.40	20.8	12.78	7.9	**23400**
23.50	21.1	12.88	7.9	**23500**
23.60	21.1	12.88	7.9	**23600**
23.70	21.1	12.88	7.9	**23700**
23.80	21.1	12.88	7.9	**23800**
23.90	21.1	12.88	7.9	**23900**
24.00	22.1	13.69	8.6	**24000**
24.10	22.1	13.69	8.6	**24100**
24.20	22.1	13.69	8.6	**24200**
24.30	22.1	13.69	8.6	**24300**
24.40	22.1	13.69	8.6	**24400**
24.50	22.4	13.80	8.6	**24500**
24.60	22.4	13.80	8.6	**24600**
24.70	22.4	13.80	8.6	**24700**
24.80	22.4	13.80	8.6	**24800**
24.90	22.4	13.80	8.6	**24900**
25.00	22.7	13.91	8.6	**25000**
25.10	22.7	13.91	8.6	**25100**
25.20	22.7	13.91	8.6	**25200**
25.30	22.7	13.91	8.6	**25300**
25.40	22.7	13.91	8.6	**25400**
25.50	23.0	14.02	8.6	**25500**
25.60	23.0	14.02	8.6	**25600**
25.70	23.0	14.02	8.6	**25700**
25.80	23.0	14.02	8.6	**25800**
25.90	23.0	14.02	8.6	**25900**
26.00	24.1	14.92	9.4	**26000**
26.50	24.4	15.03	9.4	**26500**
27.00	24.7	15.14	9.4	**27000**
27.50	25.0	15.25	9.4	**27500**
28.00	25.3	15.36	9.4	**28000**
28.50	25.6	15.47	9.4	**28500**
29.00	25.9	15.57	9.4	**29000**
29.50	26.2	15.68	9.4	**29500**
30.00	26.2	15.49	9.4	**30000**

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→ Application recommendation on page 35

When changing inserts, please observe the specified tightening torque.

WPC – Holder for indexable insert drill

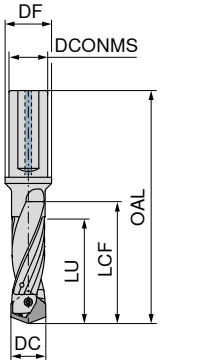
▲ Easy handling
▲ Insert can be changed in the machine
▲ Precise and stable insert seat, clamping via TORX PLUS® screw

Scope of supply:
Holder incl. clamping screw

≤ 3xD

NEW

Change



11 903 ...

DC mm	DCONMS mm	OAL mm	LCF mm	LU mm	DF mm	Tightening torque Nm	
14.00 - 14.49	16	108.9	50.8	43.5	20	0.9	**14000**
14.50 - 14.99	16	111.0	52.5	45.0	20	0.9	**14500**
15.00 - 15.49	20	115.1	54.3	46.5	25	0.9	**15000**
15.50 - 15.99	20	117.2	56.0	48.0	25	0.9	**15500**
16.00 - 16.49	20	119.3	57.8	49.5	25	1.2	**16000**
16.50 - 16.99	20	121.4	59.5	51.0	25	1.2	**16500**
17.00 - 17.49	20	123.5	61.3	52.5	25	1.2	**17000**
17.50 - 17.99	20	125.6	63.0	54.0	25	1.2	**17500**
18.00 - 18.49	20	127.7	64.8	55.5	25	2.2	**18000**
18.50 - 18.99	20	129.8	66.5	57.0	25	2.2	**18500**
19.00 - 19.49	25	137.9	68.3	58.5	30	2.2	**19000**
19.50 - 19.99	25	140.0	70.0	60.0	30	2.2	**19500**
20.00 - 20.49	25	142.1	71.8	61.5	30	2.2	**20000**
20.50 - 20.99	25	144.2	73.5	63.0	30	2.2	**20500**
21.00 - 21.49	25	146.3	75.3	64.5	30	2.2	**21000**
21.50 - 21.99	25	148.4	77.0	66.0	30	2.2	**21500**
22.00 - 22.49	25	150.5	78.8	67.5	30	3.2	**22000**
22.50 - 22.99	25	152.6	80.5	69.0	30	3.2	**22500**
23.00 - 23.49	25	154.7	82.3	70.5	30	3.2	**23000**
23.50 - 23.99	25	156.8	84.0	72.0	30	3.2	**23500**
24.00 - 24.49	32	162.9	85.8	73.5	39	5	**24000**
24.50 - 24.99	32	165.0	87.5	75.0	39	5	**24500**
25.00 - 25.49	32	167.1	89.3	76.5	39	5	**25000**
25.50 - 25.99	32	169.2	91.0	78.0	39	5	**25500**
26.00 - 26.49	32	171.3	92.8	79.5	39	6	**26000**
26.50 - 26.99	32	173.4	94.5	81.0	39	6	**26500**
27.00 - 27.49	32	175.5	96.3	82.5	39	6	**27000**
27.50 - 27.99	32	177.6	98.0	84.0	39	6	**27500**
28.00 - 28.49	32	179.7	99.8	85.5	39	6	**28000**
28.50 - 28.99	32	181.8	101.5	87.0	39	6	**28500**
29.00 - 29.49	32	183.9	103.3	88.5	39	6	**29000**
29.50 - 30.00	32	186.0	105.0	90.0	39	6	**29500**

WPC – Holder for indexable insert drill

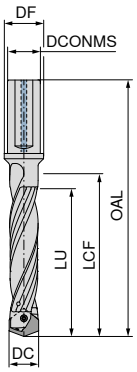
▲ Easy handling
▲ Insert can be changed in the machine
▲ Precise and stable insert seat, clamping via TORX PLUS® screw

Scope of supply:
Holder incl. clamping screw

≤ 5xD

NEW

Change



11 905 ...

DC mm	DCONMS mm	OAL mm	LCF mm	LU mm	DF mm	Tightening torque Nm	
14.00 - 14.49	16	137.9	79.8	72.5	20	0.9	**14000**
14.50 - 14.99	16	141.0	82.5	75.0	20	0.9	**14500**
15.00 - 15.49	20	146.1	85.3	77.5	25	0.9	**15000**
15.50 - 15.99	20	149.2	88.0	80.0	25	0.9	**15500**
16.00 - 16.49	20	152.3	90.8	82.5	25	1.2	**16000**
16.50 - 16.99	20	155.4	93.5	85.0	25	1.2	**16500**
17.00 - 17.49	20	158.5	96.3	87.5	25	1.2	**17000**
17.50 - 17.99	20	161.6	99.0	90.0	25	1.2	**17500**
18.00 - 18.49	20	164.7	101.8	92.5	25	2.2	**18000**
18.50 - 18.99	20	167.8	104.5	95.0	25	2.2	**18500**
19.00 - 19.49	25	176.9	107.3	97.5	30	2.2	**19000**
19.50 - 19.99	25	180.0	110.0	100.0	30	2.2	**19500**
20.00 - 20.49	25	183.1	112.8	102.5	30	2.2	**20000**
20.50 - 20.99	25	186.2	115.5	105.0	30	2.2	**20500**
21.00 - 21.49	25	189.3	118.3	107.5	30	2.2	**21000**
21.50 - 21.99	25	192.4	121.0	110.0	30	2.2	**21500**
22.00 - 22.49	25	195.5	123.8	112.5	30	3.2	**22000**
22.50 - 22.99	25	198.6	126.5	115.0	30	3.2	**22500**
23.00 - 23.49	25	201.7	129.3	117.5	30	3.2	**23000**
23.50 - 23.99	25	204.8	132.0	120.0	30	3.2	**23500**
24.00 - 24.49	32	211.9	134.8	122.5	39	5	**24000**
24.50 - 24.99	32	215.0	137.5	125.0	39	5	**24500**
25.00 - 25.49	32	218.1	140.3	127.5	39	5	**25000**
25.50 - 25.99	32	221.2	143.0	130.0	39	5	**25500**
26.00 - 26.49	32	224.3	145.8	132.5	39	6	**26000**
26.50 - 26.99	32	227.4	148.5	135.0	39	6	**26500**
27.00 - 27.49	32	230.5	151.3	137.5	39	6	**27000**
27.50 - 27.99	32	233.6	154.0	140.0	39	6	**27500**
28.00 - 28.49	32	236.7	156.8	142.5	39	6	**28000**
28.50 - 28.99	32	239.8	159.5	145.0	39	6	**28500**
29.00 - 29.49	32	242.9	162.3	147.5	39	6	**29000**
29.50 - 30.00	32	246.0	165.0	150.0	39	6	**29500**

Screwdriver

80 950 ...

Replaceable Blade for TORX PLUS®

80 950 ...

Torque screwdrivers

80 950 ...

Clamping screw

11 950 ...

Spare parts DC									
14.00 - 15.99	T08 - IP	**060**	T08 - IP	**043**	0.5 - 2.0 Nm	**191**	M2.2x13 - 08IP	**00100**
16.00 - 17.99	T08 - IP	**060**	T08 - IP	**043**	0.5 - 2.0 Nm	**191**	M2.5x15 - 08IP	**00200**
18.00 - 21.99	T10 - IP	**062**	T10 - IP	**053**	2.0 - 7.0 Nm	**193**	M3.0x17 - 10IP	**00300**
22.00 - 23.99	T10 - IP	**062**	T10 - IP	**053**	2.0 - 7.0 Nm	**193**	M3.5x21 - 10IP	**00400**
24.00 - 25.99	T15 - IP	**063**	T15 - IP	**054**	2.0 - 7.0 Nm	**193**	M4.0x23 - 15IP	**00500**
26.00 - 30.00	T20 - IP	**064**	T20 - IP	**055**	2.0 - 7.0 Nm	**193**	M4.5x25 - 20IP	**00600**

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength lbf/in²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0.15 % C	Annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C	Annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3		Tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C	Annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5		Tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1		Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2		Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3		Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4		Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2		Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3		Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic	Tempered	117500 lbf/in² / 250 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	88500 lbf/in² / 200 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic	Tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)		113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic		88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)		127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic		78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic		122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic		63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic		113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable		49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable		43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable		63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn		43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper		49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2			137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis	Annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2			171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3		Cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium		5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys		152300 lbf/in²	3.7165	TiAl6V4		
		S.3.3	Beta alloys		203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1		Hardened and tempered	46-55 HRC				
		H.1.2		Hardened and tempered	56-60 HRC				
		H.1.3		Hardened and tempered	61-65 HRC				
		H.1.4		Hardened and tempered	66-70 HRC				
	Chilled iron	H.2.1		Cast	400 HB				
	Hardened cast iron	H.3.1		Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic		≤ 21800 lbf/in²				
		O.1.2	Plastics, thermoplastic		≤ 14500 lbf/in²				
		O.2.1	Aramid fibre-reinforced		≤ 145000 lbf/in²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 145000 lbf/in²				
		O.3.1	Graphite						

*** Tensile Strength at Rupture (Rm)**

Cutting data standard values – WPC – UNI – 3xD and 5xD

Index	11 706 .... 11 707 .... 11 709 .... 11 710 ...																
	3xD / 5xD																
	without IK	≤ Ø 1	Ø 1–1.25	Ø 1.25–1.5	Ø 1.5–2	Ø 2–2.5	Ø 2.5–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)															
P.1.1	90	0.03	0.04	0.05	0.06	0.08	0.09	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34	0.36	0.38
P.1.2	75	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.1.3	75	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.1.4	70	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.1.5	70	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.2.1	80	0.03	0.04	0.05	0.06	0.08	0.09	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34	0.36	0.38
P.2.2	70	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.2.3	70	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.2.4	55	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.1	70	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.2	55	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.3																	
P.4.1																	
P.4.2																	
M.1.1																	
M.2.1																	
M.3.1																	
K.1.1	90	0.04	0.05	0.06	0.08	0.10	0.13	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40	0.43	0.46
K.1.2	75	0.04	0.05	0.06	0.08	0.10	0.13	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40	0.43	0.46
K.2.1	75	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.2.2	70	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.3.1	75	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.3.2	70	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
N.1.1																	
N.1.2																	
N.2.1																	
N.2.2																	
N.2.3																	
N.3.1																	
N.3.2																	
N.3.3																	
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
S.2.3																	
S.3.1																	
S.3.2																	
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1																	
O.1.2																	
O.2.1																	
O.2.2																	
O.3.1																	

The cutting data depends extremely on the external conditions. the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WPC – UNI – 3xD and 5xD

Index	11 700 .... 11 701 .... 11 702 .... 11 703 ...																
	3xD / 5xD																
	With through coolant	≤ Ø 1	Ø 1–1.25	Ø 1.25–1.5	Ø 1.5–2	Ø 2–2.5	Ø 2.5–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)															
P.1.1	115	0.03	0.04	0.05	0.06	0.08	0.09	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34	0.36	0.38
P.1.2	95	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.1.3	95	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.1.4	85	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.1.5	85	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.2.1	95	0.03	0.04	0.05	0.06	0.08	0.09	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34	0.36	0.38
P.2.2	85	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.2.3	85	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.2.4	70	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.1	85	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.2	70	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.3	40	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.4.1	50	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.4.2	30	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.1.1	35	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.2.1	35	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.3.1	35	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
K.1.1	115	0.04	0.05	0.06	0.08	0.10	0.13	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40	0.43	0.46
K.1.2	95	0.04	0.05	0.06	0.08	0.10	0.13	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40	0.43	0.46
K.2.1	95	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.2.2	90	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.3.1	95	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.3.2	90	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
N.1.1	200	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
N.1.2	200	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
N.2.1	160	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23	0.26	0.29	0.33
N.2.2	160	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23	0.26	0.29	0.33
N.2.3	140	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
N.3.1	120	0.02	0.02	0.03	0.03	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.18
N.3.2	120	0.02	0.02	0.03	0.03	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.18
N.3.3	100	0.02	0.02	0.03	0.03	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.18
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
S.2.3																	
S.3.1																	
S.3.2																	
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1																	
O.1.2																	
O.2.1																	
O.2.2																	
O.3.1																	

The cutting data depends extremely on the external conditions. the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WPC – VA – 3xD

Index	11 711 .... 11 712 ...																
	3xD																
	without IK	≤ Ø 1	Ø 1–1.25	Ø 1.25–1.5	Ø 1.5–2	Ø 2–2.5	Ø 2.5–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)															
P.1.1	75	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
P.1.2																	
P.1.3																	
P.1.4																	
P.1.5																	
P.2.1	65	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
P.2.2	60	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
P.2.3																	
P.2.4																	
P.3.1																	
P.3.2																	
P.3.3																	
P.4.1	**45**	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
P.4.2	**30**	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
M.1.1	**35**	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
M.2.1	**35**	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
M.3.1	**35**	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
K.1.1																	
K.1.2																	
K.2.1																	
K.2.2																	
K.3.1																	
K.3.2																	
N.1.1	160	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.20	0.24	0.27	0.31	0.32	0.34	0.36
N.1.2	160	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.20	0.24	0.27	0.31	0.32	0.34	0.36
N.2.1	130	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.20	0.24	0.27	0.31	0.32	0.34	0.36
N.2.2	130	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.20	0.24	0.27	0.31	0.32	0.34	0.36
N.2.3	110	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
N.3.1	160	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.20	0.24	0.27	0.31	0.32	0.34	0.36
N.3.2	160	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.20	0.24	0.27	0.31	0.32	0.34	0.36
N.3.3	225	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
S.2.3																	
S.3.1	30	0.002	0.004	0.006	0.009	0.013	0.017	0.025	0.032	0.04	0.06	0.07	0.09	0.10	0.11	0.12	0.12
S.3.2	20	0.002	0.004	0.006	0.009	0.013	0.017	0.025	0.032	0.04	0.06	0.07	0.09	0.10	0.11	0.12	0.12
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1	100	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.2	0.21
O.1.2	80	0.002	0.004	0.007	0.012	0.016	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13	0.13	0.14	0.15
O.2.1																	
O.2.2																	
O.3.1																	

The cutting data is strongly influenced by external conditions. such as the stability of the tool and workpiece clamping. material and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WPC – VA – 3xD and 5xD

Index	11 713 .... 11 714 .... 11 715 .... 11 716 ...																
	3xD / 5xD																
	With through coolant	≤ Ø 1	Ø 1–1.25	Ø 1.25–1.5	Ø 1.5–2	Ø 2–2.5	Ø 2.5–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)															
P.1.1	85	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
P.1.2																	
P.1.3																	
P.1.4																	
P.1.5																	
P.2.1	75	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
P.2.2	65	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
P.2.3																	
P.2.4																	
P.3.1																	
P.3.2																	
P.3.3																	
P.4.1	55	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
P.4.2	40	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
M.1.1	45	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
M.2.1	45	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
M.3.1	45	0.01	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
K.1.1																	
K.1.2																	
K.2.1																	
K.2.2																	
K.3.1																	
K.3.2																	
N.1.1	200	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.2	0.24	0.27	0.31	0.32	0.34	0.36
N.1.2	200	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.2	0.24	0.27	0.31	0.32	0.34	0.36
N.2.1	160	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.2	0.24	0.27	0.31	0.32	0.34	0.36
N.2.2	160	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.2	0.24	0.27	0.31	0.32	0.34	0.36
N.2.3	140	0.027	0.034	0.04	0.05	0.07	0.08	0.1	0.11	0.12	0.15	0.18	0.2	0.23	0.24	0.26	0.27
N.3.1	200	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.2	0.24	0.27	0.31	0.32	0.34	0.36
N.3.2	200	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.16	0.2	0.24	0.27	0.31	0.32	0.34	0.36
N.3.3	280	0.027	0.034	0.04	0.05	0.07	0.08	0.10	0.11	0.12	0.15	0.18	0.20	0.23	0.24	0.26	0.27
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1	15	0.002	0.004	0.006	0.009	0.013	0.017	0.025	0.032	0.04	0.06	0.07	0.09	0.10	0.11	0.12	0.12
S.2.2	15	0.002	0.004	0.006	0.009	0.013	0.017	0.025	0.032	0.04	0.06	0.07	0.09	0.10	0.11	0.12	0.12
S.2.3	15	0.002	0.004	0.006	0.009	0.013	0.017	0.025	0.032	0.04	0.06	0.07	0.09	0.10	0.11	0.12	0.12
S.3.1	35	0.002	0.004	0.006	0.009	0.013	0.017	0.025	0.032	0.04	0.06	0.07	0.09	0.10	0.11	0.12	0.12
S.3.2	25	0.002	0.004	0.006	0.009	0.013	0.017	0.025	0.032	0.04	0.06	0.07	0.09	0.10	0.11	0.12	0.12
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1	120	0.009	0.015	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.20	0.21
O.1.2	100	0.002	0.004	0.007	0.012	0.016	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13	0.13	0.14	0.15
O.2.1																	
O.2.2																	
O.3.1																	

The cutting data is strongly influenced by external conditions. such as the stability of the tool and workpiece clamping. material and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WPC – UNI – 8xD

Index	11 704 ...										
	8xD										
	With through coolant	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)									
P.1.1	100	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34	0.36	0.38
P.1.2	80	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.1.3	80	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.1.4	75	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.1.5	75	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.2.1	80	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34	0.36	0.38
P.2.2	75	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.2.3	75	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.2.4	60	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.1	75	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.2	60	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.3	35	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.4.1	40	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.4.2	25	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.1.1	30	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.2.1	30	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.3.1	30	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
K.1.1	100	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40	0.43	0.46
K.1.2	80	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40	0.43	0.46
K.2.1	80	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.2.2	75	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.3.1	80	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.3.2	75	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

The cutting data depends extremely on the external conditions. the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WPC – UNI – 12xD

Index	11 705 ...										
	12xD										
	With through coolant	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)									
P.1.1	90	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34	0.36	0.38
P.1.2	75	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.1.3	75	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.1.4	70	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.1.5	70	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.2.1	80	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34	0.36	0.38
P.2.2	70	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37
P.2.3	70	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.2.4	55	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.1	70	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.2	55	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.3.3	35	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.4.1	40	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
P.4.2	25	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.1.1	30	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.2.1	30	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
M.3.1	30	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20	0.23	0.25
K.1.1	90	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40	0.43	0.46
K.1.2	75	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40	0.43	0.46
K.2.1	75	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.2.2	70	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.3.1	75	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
K.3.2	70	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.34	0.38
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

The cutting data depends extremely on the external conditions. the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

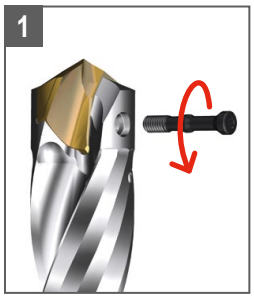
Cutting data standard values – WPC – Change

Index	11 910 ...				
	UNI				
	With through coolant	Ø 14–16	> Ø 16–20	> Ø 20–25	> Ø 25–30
	v_c (m/min)	f (mm/rev)			
P.1.1	100	0.22	0.25	0.28	0.32
P.1.2	100	0.27	0.31	0.35	0.39
P.1.3	100	0.27	0.31	0.35	0.39
P.1.4	90	0.25	0.28	0.32	0.35
P.1.5	90	0.25	0.28	0.32	0.35
P.2.1	100	0.25	0.28	0.32	0.35
P.2.2	100	0.25	0.28	0.32	0.35
P.2.3	100	0.25	0.28	0.32	0.35
P.2.4	80	0.21	0.24	0.27	0.30
P.3.1	70	0.20	0.22	0.25	0.28
P.3.2	70	0.18	0.21	0.24	0.26
P.3.3	60	0.17	0.19	0.22	0.24
P.4.1	55	0.17	0.19	0.22	0.24
P.4.2	55	0.17	0.19	0.22	0.24
M.1.1					
M.2.1					
M.3.1					
K.1.1	110	0.37	0.42	0.47	0.53
K.1.2	100	0.31	0.35	0.39	0.44
K.2.1	100	0.37	0.42	0.47	0.53
K.2.2	90	0.31	0.35	0.39	0.44
K.3.1	100	0.37	0.42	0.47	0.53
K.3.2	90	0.31	0.35	0.39	0.44
N.1.1					
N.1.2					
N.2.1					
N.2.2					
N.2.3					
N.3.1					
N.3.2					
N.3.3					
N.4.1					
S.1.1					
S.1.2					
S.2.1					
S.2.2					
S.2.3					
S.3.1					
S.3.2					
S.3.3					
H.1.1					
H.1.2					
H.1.3					
H.1.4					
H.2.1					
H.3.1					
O.1.1					
O.1.2					
O.2.1					
O.2.2					
O.3.1					

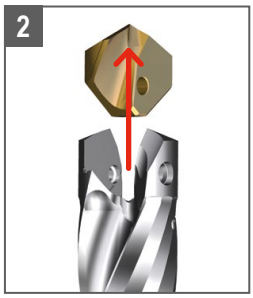
The cutting data is highly dependent on external conditions. such as stability of the tool and workpiece clamping. material and machine type! The values indicated represent possible cutting data which may need to be corrected depending on operating conditions !

Application notes for WPC – Change indexable insert drill

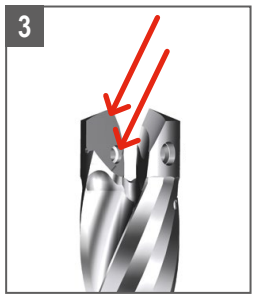
Assembly of the indexable insert



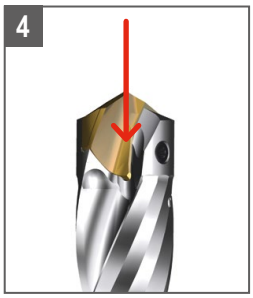
Loosen the clamping screw anti-clockwise using a TORX PLUS® screwdriver (screwdriver not included in the scope of supply).



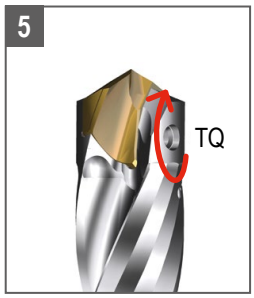
Remove the indexable insert from the insert seat.



Clean the insert seat and screw thread with compressed air.



Insert the new indexable insert in the insert seat.



Insert clamping screw from correct side and tighten clockwise with the specified torque.
Observe the change interval of the clamping screw!

Notes

- ▲ Only insert indexable inserts in the diameter range designated for the respective holder.
- ▲ The clamping screw must also be replaced upon every fifth replacement of the indexable insert.
- ▲ The tightening torque and item number of the clamping screw are labelled on the holder.
- ▲ Use only original spare parts.

Clamping screws and tightening torques

Diameter range	Article no. Clamping screw	Drive	Torque moment TQ
14.00–15.99 mm	**11 950 00100**	08IP	0.9 Nm
16.00–17.99 mm	**11 950 00200**	08IP	1.2 Nm
18.00–21.99 mm	**11 950 00300**	10IP	2.2 Nm
22.00–23.99 mm	**11 950 00400**	10IP	3.2 Nm
24.00–25.99 mm	**11 950 00500**	15IP	5.0 Nm
26.00–30.00 mm	**11 950 00600**	20IP	6.0 Nm

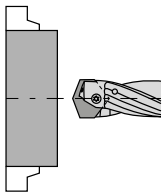
Notes on boring technology

Solid drilling

Stack plate drilling: stable clamping of closely spaced stack plates required.

When drilling into angled surfaces < 3°, reduce the feed by approx. 50 %.
For an angled drill entrance > 3°, prior spot facing is required.

When exiting at an angle < 3°, reduce the feed by approx. 50 %.
Machining angled drill exits > 3° is not recommended.



When machining with a stationary tool (turning machines), a precise centre position of the tool in relation to the rotational axis of the workpiece must be ensured. Maximum permissible offset ± 0.02 mm.

To achieve the optimal results, it is recommended to use the tool with thro' coolant only.
The recommended minimum coolant pressure should be 12 bar.

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