

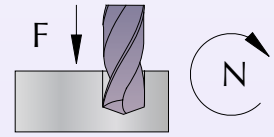
# SOLID CARBIDE DRILLS

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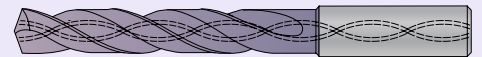
SOLID CARBIDE DRILLS

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SOLIDE CARBIDE DRILLS WITH  
INTERNAL COOLANT

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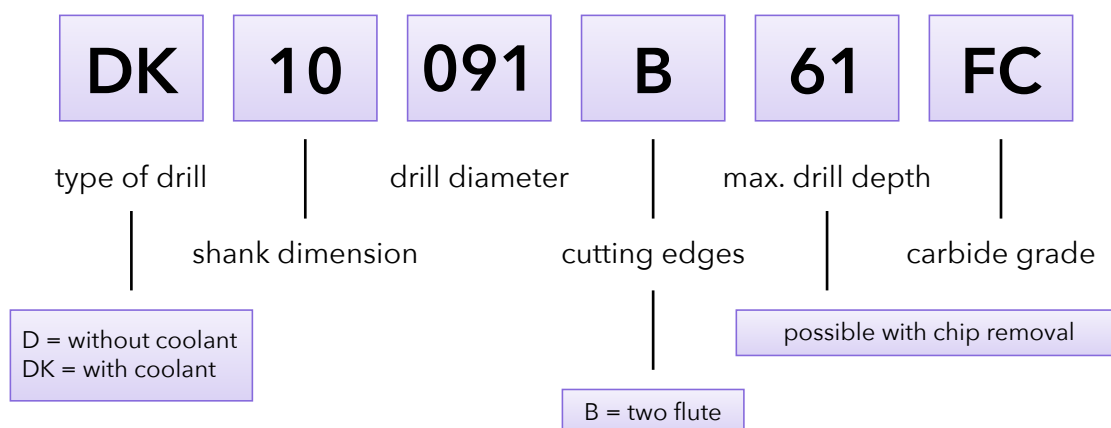


## Cutting Speed ( $V_c$ ) and Material Factor ( $F_m$ )

MATERIAL		Hardness HB	Tensile Strength N/mm <sup>2</sup>		Material Factor ( $F_m$ )
Steel	Low carbon, C < 0,25%	< 120	< 400	80 - 120	1,2
	Medium carbon, C < 0,55%	< 200	< 700	70 - 110	1,1
	High carbon, C < 0,85%	< 250	< 850	60 - 100	1,0
	Low alloy	< 250	< 850	60 - 100	1,0
	High alloy	< 350	< 1200	40 - 60	0,9
	Hardened, HRC < 45			30 - 50	0,8
	Hardened, HRC < 55			20 - 30	0,7
	Hardened, HRC < 65			15 - 25	0,6
Cast iron	Lamellar graphite	< 150	< 500	70 - 110	1,2
	Lamellar graphite	< 300	< 1000	60 - 100	1,1
	Nodular graphite, malleable	< 200	< 700	50 - 80	1,0
	Nodular graphite, malleable	< 300	< 1000	40 - 70	0,9
Stainless steel	Free machining	< 250	< 850	40 - 55	1,0
	Austenitic	< 250	< 850	30 - 45	0,9
	Ferritic and austenitic	< 300	< 1000	25 - 40	0,8
Titanium	Unalloyed	< 200	< 700	35 - 50	0,8
	Alloyed	< 270	< 900	25 - 40	0,7
	Alloyed	< 350	< 1250	20 - 35	0,6
Nickel	Unalloyed	< 150	< 500	40 - 55	0,8
	Alloyed	< 270	< 900	25 - 35	0,7
	Alloyed	< 350	< 1250	20 - 30	0,6
Copper	Unalloyed	< 100	< 350	80 - 160	1,0
	Brass, bronze	< 200	< 700	70 - 150	1,0
	High strength bronze	< 470	< 1500	50 - 70	0,8
Aluminium	Unalloyed	< 100	< 350	200 - 300	1,4
	Alloyed, Si < 0.5%	< 150	< 500	150 - 250	1,3
	Alloyed, Si < 10%	< 120	< 400	100 - 200	1,2
	Alloyed, Si > 10%	< 120	< 400	80 - 160	1,1
Inconel	718	< 370		20 - 30	0,6
Graphite				100 - 200	1,0

20% higher cutting speed is recommended for drill with internal coolant.

### Code Key



## Diameter Factor ( $F_d$ )

D	Diameter Factor ( $F_d$ )		
	3xD	5xD	8xD
3,0	0,12	0,10	0,08
4,0	0,14	0,11	0,10
5,0	0,17	0,14	0,12
6,0	0,20	0,16	0,14
8,0	0,26	0,21	0,18
10,0	0,34	0,27	0,24
12,0	0,38	0,30	0,27
14,0	0,41	0,33	0,29
16,0	0,44	0,35	0,31
18,0	0,46	0,37	0,32
20,0	0,50	0,40	0,35

## Example

Drilling with D10100B47 FC (3xD)

Carbon Steel, up to 700 N/mm<sup>2</sup>

D = 10,0 mm

$F_n = 1,1 \times 0,34 = 0,37$  mm/r

$n = (90 \times 1000) / (\pi \times 10) = 2865$  rpm

$V_f = 0,37 \times 2865 = 1060$  mm/min

$$F_n = F_m \times F_d$$

$$n = \frac{V_c \times 1000}{\pi \times D}$$

D = drill diameter (mm)

$F_n$  = feed / rev. (mm/r)

n = spindle speed (rpm)

$V_c$  = cutting speed (m/min)

$V_f$  = table feed (mm/min)

$$V_f = F_n \times n$$

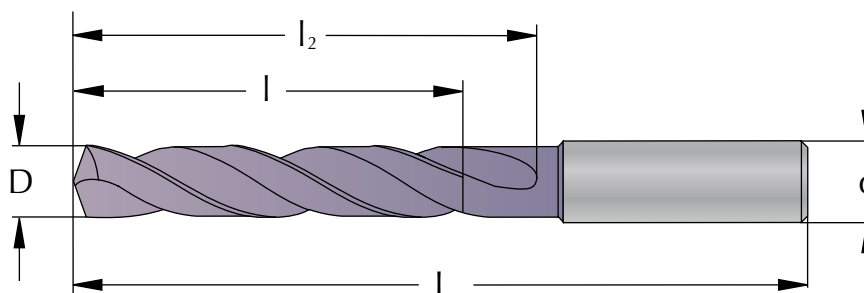
## Carbide Grades

**FC**

Super Micrograin Carbide with TiAlN coating.  
Allround Grade with high heat resistance.  
Use cutting data according to the tables.

## 3xD, 5xD

DIN 6537  
**FC**  
 TiAlN coated  
 Super Micrograin Carbide  
**Tolerance**  
 D m7  
**Shank**  
 Cylindrical h6, DIN 6535 HA  
**Flute**  
 30° right hand spiral  
 140° point angle  
**Field of application**  
 All types of steel



D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
3,0	6	D06030B20_FC	3xD	14	20	62
3,0	6	D06030B28_FC	5xD	23	28	66
3,1	6	D06031B20_FC	3xD	14	20	62
3,1	6	D06031B28_FC	5xD	23	28	66
3,2	6	D06032B20_FC	3xD	14	20	62
3,2	6	D06032B28_FC	5xD	23	28	66
3,3	6	D06033B20_FC	3xD	14	20	62
3,3	6	D06033B28_FC	5xD	23	28	66
3,4	6	D06034B20_FC	3xD	14	20	62
3,4	6	D06034B28_FC	5xD	23	28	66
3,5	6	D06035B20_FC	3xD	14	20	62
3,5	6	D06035B28_FC	5xD	23	28	66
3,6	6	D06036B20_FC	3xD	14	20	62
3,6	6	D06036B28_FC	5xD	23	28	66
3,7	6	D06037B20_FC	3xD	14	20	62
3,7	6	D06037B28_FC	5xD	23	28	66
3,8	6	D06038B24_FC	3xD	17	24	66
3,8	6	D06038B36_FC	5xD	29	36	74
3,9	6	D06039B24_FC	3xD	17	24	66
3,9	6	D06039B36_FC	5xD	29	36	74
4,0	6	D06040B24_FC	3xD	17	24	66
4,0	6	D06040B36_FC	5xD	29	36	74
4,1	6	D06041B24_FC	3xD	17	24	66
4,1	6	D06041B36_FC	5xD	29	36	74
4,2	6	D06042B24_FC	3xD	17	24	66
4,2	6	D06042B36_FC	5xD	29	36	74
4,3	6	D06043B24_FC	3xD	17	24	66
4,3	6	D06043B36_FC	5xD	29	36	74
4,4	6	D06044B24_FC	3xD	17	24	66
4,4	6	D06044B36_FC	5xD	29	36	74
4,5	6	D06045B24_FC	3xD	17	24	66
4,5	6	D06045B36_FC	5xD	29	36	74
4,6	6	D06046B24_FC	3xD	17	24	66
4,6	6	D06046B36_FC	5xD	29	36	74
4,7	6	D06047B24_FC	3xD	17	24	66
4,7	6	D06047B36_FC	5xD	29	36	74
4,8	6	D06048B28_FC	3xD	20	28	66
4,8	6	D06048B44_FC	5xD	35	44	82
4,9	6	D06049B28_FC	3xD	20	28	66
4,9	6	D06049B44_FC	5xD	35	44	82
5,0	6	D06050B28_FC	3xD	20	28	66
5,0	6	D06050B44_FC	5xD	35	44	82
5,1	6	D06051B28_FC	3xD	20	28	66
5,1	6	D06051B44_FC	5xD	35	44	82
5,2	6	D06052B28_FC	3xD	20	28	66
5,2	6	D06052B44_FC	5xD	35	44	82
5,3	6	D06053B28_FC	3xD	20	28	66

D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
5,3	6	D06053B44_FC	5xD	35	44	82
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5,5	6	D06055B28_FC	3xD	20	28	66
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5,6	6	D06056B28_FC	3xD	20	28	66
5,6	6	D06056B44_FC	5xD	35	44	82
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5,7	6	D06057B44_FC	5xD	35	44	82
5,8	6	D06058B28_FC	3xD	20	28	66
5,8	6	D06058B44_FC	5xD	35	44	82
5,9	6	D06059B28_FC	3xD	20	28	66
5,9	6	D06059B44_FC	5xD	35	44	82
6,0	6	D06060B28_FC	3xD	20	28	66
6,0	6	D06060B44_FC	5xD	35	44	82
6,1	8	D08061B34_FC	3xD	24	34	79
6,1	8	D08061B53_FC	5xD	43	53	91
6,2	8	D08062B34_FC	3xD	24	34	79
6,2	8	D08062B53_FC	5xD	43	53	91
6,3	8	D08063B34_FC	3xD	24	34	79
6,3	8	D08063B53_FC	5xD	43	53	91
6,4	8	D08064B34_FC	3xD	24	34	79
6,4	8	D08064B53_FC	5xD	43	53	91
6,5	8	D08065B34_FC	3xD	24	34	79
6,5	8	D08065B53_FC	5xD	43	53	91
6,6	8	D08066B34_FC	3xD	24	34	79
6,6	8	D08066B53_FC	5xD	43	53	91
6,7	8	D08067B34_FC	3xD	24	34	79
6,7	8	D08067B53_FC	5xD	43	53	91
6,8	8	D08068B34_FC	3xD	24	34	79
6,8	8	D08068B53_FC	5xD	43	53	91
6,9	8	D08069B34_FC	3xD	24	34	79
6,9	8	D08069B53_FC	5xD	43	53	91
7,0	8	D08070B34_FC	3xD	24	34	79
7,0	8	D08070B53_FC	5xD	43	53	91
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7,2	8	D08072B41_FC	3xD	29	41	79
7,2	8	D08072B53_FC	5xD	43	53	91
7,3	8	D08073B41_FC	3xD	29	41	79
7,3	8	D08073B53_FC	5xD	43	53	91
7,4	8	D08074B41_FC	3xD	29	41	79
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7,5	8	D08075B41_FC	3xD	29	41	79
7,5	8	D08075B53_FC	5xD	43	53	91
7,6	8	D08076B41_FC	3xD	29	41	79
7,6	8	D08076B53_FC	5xD	43	53	91
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7,8	8	D08078B41_FC	3xD	29	41	79
7,8	8	D08078B53_FC	5xD	43	53	91
7,9	8	D08079B41_FC	3xD	29	41	79
7,9	8	D08079B53_FC	5xD	43	53	91
8,0	8	D08080B41_FC	3xD	29	41	79
8,0	8	D08080B53_FC	5xD	43	53	91
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8,1	10	D10081B61_FC	5xD	49	61	103
8,2	10	D10082B47_FC	3xD	35	47	89
8,2	10	D10082B61_FC	5xD	49	61	103
8,3	10	D10083B47_FC	3xD	35	47	89
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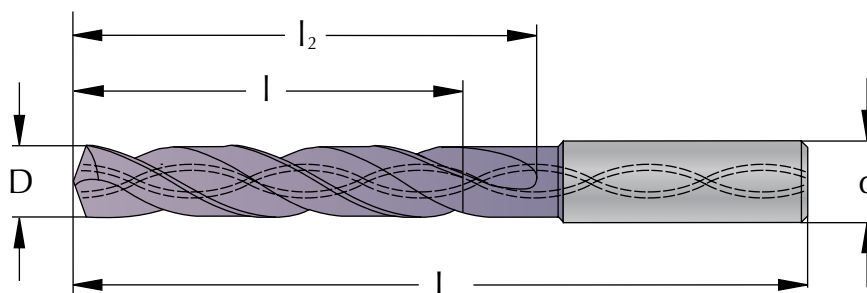
## 3xD, 5xD

D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
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8,6	10	D10086B47_FC	3xD	35	47	89
8,6	10	D10086B61_FC	5xD	49	61	103
8,7	10	D10087B47_FC	3xD	35	47	89
8,7	10	D10087B61_FC	5xD	49	61	103
8,8	10	D10088B47_FC	3xD	35	47	89
8,8	10	D10088B61_FC	5xD	49	61	103
8,9	10	D10089B47_FC	3xD	35	47	89
8,9	10	D10089B61_FC	5xD	49	61	103
9,0	10	D10090B47_FC	3xD	35	47	89
9,0	10	D10090B61_FC	5xD	49	61	103
9,1	10	D10091B47_FC	3xD	35	47	89
9,1	10	D10091B61_FC	5xD	49	61	103
9,2	10	D10092B47_FC	3xD	35	47	89
9,2	10	D10092B61_FC	5xD	49	61	103
9,3	10	D10093B47_FC	3xD	35	47	89
9,3	10	D10093B61_FC	5xD	49	61	103
9,4	10	D10094B47_FC	3xD	35	47	89
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9,5	10	D10095B47_FC	3xD	35	47	89
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9,6	10	D10096B47_FC	3xD	35	47	89
9,6	10	D10096B61_FC	5xD	49	61	103
9,7	10	D10097B47_FC	3xD	35	47	89
9,7	10	D10097B61_FC	5xD	49	61	103
9,8	10	D10098B47_FC	3xD	35	47	89
9,8	10	D10098B61_FC	5xD	49	61	103
9,9	10	D10099B47_FC	3xD	35	47	89
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10,2	12	D12102B55_FC	3xD	40	55	102
10,2	12	D12102B71_FC	5xD	56	71	118
10,3	12	D12103B55_FC	3xD	40	55	102
10,3	12	D12103B71_FC	5xD	56	71	118
10,4	12	D12104B55_FC	3xD	40	55	102
10,4	12	D12104B71_FC	5xD	56	71	118
10,5	12	D12105B55_FC	3xD	40	55	102
10,5	12	D12105B71_FC	5xD	56	71	118
10,6	12	D12106B55_FC	3xD	40	55	102
10,6	12	D12106B71_FC	5xD	56	71	118
10,7	12	D12107B55_FC	3xD	40	55	102
10,7	12	D12107B71_FC	5xD	56	71	118
10,8	12	D12108B55_FC	3xD	40	55	102
10,8	12	D12108B71_FC	5xD	56	71	118
10,9	12	D12109B55_FC	3xD	40	55	102
10,9	12	D12109B71_FC	5xD	56	71	118
11,0	12	D12110B55_FC	3xD	40	55	102
11,0	12	D12110B71_FC	5xD	56	71	118
11,1	12	D12111B55_FC	3xD	40	55	102
11,1	12	D12111B71_FC	5xD	56	71	118
11,2	12	D12112B55_FC	3xD	40	55	102
11,2	12	D12112B71_FC	5xD	56	71	118
11,3	12	D12113B55_FC	3xD	40	55	102
11,3	12	D12113B71_FC	5xD	56	71	118
11,4	12	D12114B55_FC	3xD	40	55	102

D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
11,4	12	D12114B71_FC	5xD	56	71	118
11,5	12	D12115B55_FC	3xD	40	55	102
11,5	12	D12115B71_FC	5xD	56	71	118
11,6	12	D12116B55_FC	3xD	40	55	102
11,6	12	D12116B71_FC	5xD	56	71	118
11,7	12	D12117B55_FC	3xD	40	55	102
11,7	12	D12117B71_FC	5xD	56	71	118
11,8	12	D12118B55_FC	3xD	40	55	102
11,8	12	D12118B71_FC	5xD	56	71	118
11,9	12	D12119B55_FC	3xD	40	55	102
11,9	12	D12119B71_FC	5xD	56	71	118
12,0	12	D12120B55_FC	3xD	40	55	102
12,0	12	D12120B71_FC	5xD	56	71	118
12,5	14	D14125B60_FC	3xD	43	60	107
12,5	14	D14125B77_FC	5xD	60	77	124
13,0	14	D14130B60_FC	3xD	43	60	107
13,0	14	D14130B77_FC	5xD	60	77	124
13,5	14	D14135B60_FC	3xD	43	60	107
13,5	14	D14135B77_FC	5xD	60	77	124
14,0	14	D14140B60_FC	3xD	43	60	107
14,0	14	D14140B77_FC	5xD	60	77	124
14,5	16	D16145B65_FC	3xD	45	65	115
14,5	16	D16145B83_FC	5xD	63	83	133
15,0	16	D16150B65_FC	3xD	45	65	115
15,0	16	D16150B83_FC	5xD	63	83	133
15,5	16	D16155B65_FC	3xD	45	65	115
15,5	16	D16155B83_FC	5xD	63	83	133
16,0	16	D16160B65_FC	3xD	45	65	115
16,0	16	D16160B83_FC	5xD	63	83	133
16,5	18	D18165B73_FC	3xD	51	73	123
16,5	18	D18165B93_FC	5xD	71	93	143
17,0	18	D18170B73_FC	3xD	51	73	123
17,0	18	D18170B93_FC	5xD	71	93	143
17,5	18	D18175B73_FC	3xD	51	73	123
17,5	18	D18175B93_FC	5xD	71	93	143
18,0	18	D18180B73_FC	3xD	51	73	123
18,0	18	D18180B93_FC	5xD	71	93	143
18,5	20	D20185B79_FC	3xD	55	79	131
18,5	20	D20185B101_FC	5xD	77	101	153
19,0	20	D20190B79_FC	3xD	55	79	131
19,0	20	D20190B101_FC	5xD	77	101	153
19,5	20	D20195B79_FC	3xD	55	79	131
19,5	20	D20195B101_FC	5xD	77	101	153
20,0	20	D20200B79_FC	3xD	55	79	131
20,0	20	D20200B101_FC	5xD	77	101	153

## with Internal Coolant, 3xD, 5xD, 8xD

DIN 6537  
**FC**  
 TiAlN coated  
 Super Micrograin Carbide  
**Tolerance**  
 D m7  
**Shank**  
 Cylindrical h6, DIN 6535 HA  
**Flute**  
 30° right hand spiral  
 140° point angle  
**Field of application**  
 All types of steel



D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
3,0	6	DK06030B20_FC	3xD	14	20	62
3,0	6	DK06030B28_FC	5xD	23	28	66
3,0	6	DK06030B50_FC	8xD	38	50	95
3,1	6	DK06031B20_FC	3xD	14	20	62
3,1	6	DK06031B28_FC	5xD	23	28	66
3,2	6	DK06032B20_FC	3xD	14	20	62
3,2	6	DK06032B28_FC	5xD	23	28	66
3,3	6	DK06033B20_FC	3xD	14	20	62
3,3	6	DK06033B28_FC	5xD	23	28	66
3,4	6	DK06034B20_FC	3xD	14	20	62
3,4	6	DK06034B28_FC	5xD	23	28	66
3,5	6	DK06035B20_FC	3xD	14	20	62
3,5	6	DK06035B28_FC	5xD	23	28	66
3,5	6	DK06035B50_FC	8xD	38	50	95
3,6	6	DK06036B20_FC	3xD	14	20	62
3,6	6	DK06036B28_FC	5xD	23	28	66
3,7	6	DK06037B20_FC	3xD	14	20	62
3,7	6	DK06037B28_FC	5xD	23	28	66
3,8	6	DK06038B24_FC	3xD	17	24	66
3,8	6	DK06038B36_FC	5xD	29	36	74
3,9	6	DK06039B24_FC	3xD	17	24	66
3,9	6	DK06039B36_FC	5xD	29	36	74
4,0	6	DK06040B24_FC	3xD	17	24	66
4,0	6	DK06040B36_FC	5xD	29	36	74
4,0	6	DK06040B50_FC	8xD	38	50	95
4,1	6	DK06041B24_FC	3xD	17	24	66
4,1	6	DK06041B36_FC	5xD	29	36	74
4,2	6	DK06042B24_FC	3xD	17	24	66
4,2	6	DK06042B36_FC	5xD	29	36	74
4,3	6	DK06043B24_FC	3xD	17	24	66
4,3	6	DK06043B36_FC	5xD	29	36	74
4,4	6	DK06044B24_FC	3xD	17	24	66
4,4	6	DK06044B36_FC	5xD	29	36	74
4,5	6	DK06045B24_FC	3xD	17	24	66
4,5	6	DK06045B36_FC	5xD	29	36	74
4,5	6	DK06045B50_FC	8xD	38	50	95
4,6	6	DK06046B24_FC	3xD	17	24	66
4,6	6	DK06046B36_FC	5xD	29	36	74
4,7	6	DK06047B24_FC	3xD	17	24	66
4,7	6	DK06047B36_FC	5xD	29	36	74
4,8	6	DK06048B28_FC	3xD	20	28	66
4,8	6	DK06048B44_FC	5xD	35	44	82
4,9	6	DK06049B28_FC	3xD	20	28	66
4,9	6	DK06049B44_FC	5xD	35	44	82
5,0	6	DK06050B28_FC	3xD	20	28	66
5,0	6	DK06050B44_FC	5xD	35	44	82
5,0	6	DK06050B50_FC	8xD	38	50	95



D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
5,1	6	DK06051B28_FC	3xD	20	28	66
5,1	6	DK06051B44_FC	5xD	35	44	82
5,2	6	DK06052B28_FC	3xD	20	28	66
5,2	6	DK06052B44_FC	5xD	35	44	82
5,3	6	DK06053B28_FC	3xD	20	28	66
5,3	6	DK06053B44_FC	5xD	35	44	82
5,4	6	DK06054B28_FC	3xD	20	28	66
5,4	6	DK06054B44_FC	5xD	35	44	82
5,5	6	DK06055B28_FC	3xD	20	28	66
5,5	6	DK06055B44_FC	5xD	35	44	82
5,5	6	DK06055B50_FC	8xD	38	50	95
5,6	6	DK06056B28_FC	3xD	20	28	66
5,6	6	DK06056B44_FC	5xD	35	44	82
5,7	6	DK06057B28_FC	3xD	20	28	66
5,7	6	DK06057B44_FC	5xD	35	44	82
5,8	6	DK06058B28_FC	3xD	20	28	66
5,8	6	DK06058B44_FC	5xD	35	44	82
5,9	6	DK06059B28_FC	3xD	20	28	66
5,9	6	DK06059B44_FC	5xD	35	44	82
6,0	6	DK06060B28_FC	3xD	20	28	66
6,0	6	DK06060B44_FC	5xD	35	44	82
6,0	6	DK06060B50_FC	8xD	38	50	95
6,1	8	DK08061B34_FC	3xD	24	34	79
6,1	8	DK08061B53_FC	5xD	43	53	91
6,2	8	DK08062B34_FC	3xD	24	34	79
6,2	8	DK08062B53_FC	5xD	43	53	91
6,3	8	DK08063B34_FC	3xD	24	34	79
6,3	8	DK08063B53_FC	5xD	43	53	91
6,4	8	DK08064B34_FC	3xD	24	34	79
6,4	8	DK08064B53_FC	5xD	43	53	91
6,5	8	DK08065B34_FC	3xD	24	34	79
6,5	8	DK08065B53_FC	5xD	43	53	91
6,5	8	DK08065B66_FC	8xD	50	66	114
6,6	8	DK08066B34_FC	3xD	24	34	79
6,6	8	DK08066B53_FC	5xD	43	53	91
6,7	8	DK08067B34_FC	3xD	24	34	79
6,7	8	DK08067B53_FC	5xD	43	53	91
6,8	8	DK08068B34_FC	3xD	24	34	79
6,8	8	DK08068B53_FC	5xD	43	53	91
6,9	8	DK08069B34_FC	3xD	24	34	79
6,9	8	DK08069B53_FC	5xD	43	53	91
7,0	8	DK08070B34_FC	3xD	24	34	79
7,0	8	DK08070B53_FC	5xD	43	53	91
7,0	8	DK08070B76_FC	8xD	60	76	114
7,1	8	DK08071B41_FC	3xD	29	41	79
7,1	8	DK08071B53_FC	5xD	43	53	91
7,2	8	DK08072B41_FC	3xD	29	41	79
7,2	8	DK08072B53_FC	5xD	43	53	91
7,3	8	DK08073B41_FC	3xD	29	41	79
7,3	8	DK08073B53_FC	5xD	43	53	91
7,4	8	DK08074B41_FC	3xD	29	41	79
7,4	8	DK08074B53_FC	5xD	43	53	91
7,5	8	DK08075B41_FC	3xD	29	41	79
7,5	8	DK08075B53_FC	5xD	43	53	91
7,5	8	DK08075B76_FC	8xD	60	76	114
7,6	8	DK08076B41_FC	3xD	29	41	79
7,6	8	DK08076B53_FC	5xD	43	53	91
7,7	8	DK08077B41_FC	3xD	29	41	79
7,7	8	DK08077B53_FC	5xD	43	53	91
7,8	8	DK08078B41_FC	3xD	29	41	79
7,8	8	DK08078B53_FC	5xD	43	53	91

## with Internal Coolant, 3xD, 5xD, 8xD

D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
7,9	8	DK08079B41_FC	3xD	29	41	79
7,9	8	DK08079B53_FC	5xD	43	53	91
8,0	8	DK08080B41_FC	3xD	29	41	79
8,0	8	DK08080B53_FC	5xD	43	53	91
8,0	8	DK08080B76_FC	8xD	60	76	114
8,1	10	DK10081B47_FC	3xD	35	47	89
8,1	10	DK10081B61_FC	5xD	49	61	103
8,2	10	DK10082B47_FC	3xD	35	47	89
8,2	10	DK10082B61_FC	5xD	49	61	103
8,3	10	DK10083B47_FC	3xD	35	47	89
8,3	10	DK10083B61_FC	5xD	49	61	103
8,4	10	DK10084B47_FC	3xD	35	47	89
8,4	10	DK10084B61_FC	5xD	49	61	103
8,5	10	DK10085B47_FC	3xD	35	47	89
8,5	10	DK10085B61_FC	5xD	49	61	103
8,5	10	DK10085B87_FC	8xD	68	87	142
8,6	10	DK10086B47_FC	3xD	35	47	89
8,6	10	DK10086B61_FC	5xD	49	61	103
8,7	10	DK10087B47_FC	3xD	35	47	89
8,7	10	DK10087B61_FC	5xD	49	61	103
8,8	10	DK10088B47_FC	3xD	35	47	89
8,8	10	DK10088B61_FC	5xD	49	61	103
8,9	10	DK10089B47_FC	3xD	35	47	89
8,9	10	DK10089B61_FC	5xD	49	61	103
9,0	10	DK10090B47_FC	3xD	35	47	89
9,0	10	DK10090B61_FC	5xD	49	61	103
9,0	10	DK10090B87_FC	8xD	68	87	142
9,1	10	DK10091B47_FC	3xD	35	47	89
9,1	10	DK10091B61_FC	5xD	49	61	103
9,2	10	DK10092B47_FC	3xD	35	47	89
9,2	10	DK10092B61_FC	5xD	49	61	103
9,3	10	DK10093B47_FC	3xD	35	47	89
9,3	10	DK10093B61_FC	5xD	49	61	103
9,4	10	DK10094B47_FC	3xD	35	47	89
9,4	10	DK10094B61_FC	5xD	49	61	103
9,5	10	DK10095B47_FC	3xD	35	47	89
9,5	10	DK10095B61_FC	5xD	49	61	103
9,5	10	DK10095B95_FC	8xD	76	95	142
9,6	10	DK10096B47_FC	3xD	35	47	89
9,6	10	DK10096B61_FC	5xD	49	61	103
9,7	10	DK10097B47_FC	3xD	35	47	89
9,7	10	DK10097B61_FC	5xD	49	61	103
9,8	10	DK10098B47_FC	3xD	35	47	89
9,8	10	DK10098B61_FC	5xD	49	61	103
9,9	10	DK10099B47_FC	3xD	35	47	89
9,9	10	DK10099B61_FC	5xD	49	61	103
10,0	10	DK10100B47_FC	3xD	35	47	89
10,0	10	DK10100B61_FC	5xD	49	61	103
10,0	10	DK10100B95_FC	8xD	76	95	142
10,1	12	DK12101B55_FC	3xD	40	55	102
10,1	12	DK12101B71_FC	5xD	56	71	118
10,2	12	DK12102B55_FC	3xD	40	55	102
10,2	12	DK12102B71_FC	5xD	56	71	118
10,3	12	DK12103B55_FC	3xD	40	55	102
10,3	12	DK12103B71_FC	5xD	56	71	118
10,4	12	DK12104B55_FC	3xD	40	55	102
10,4	12	DK12104B71_FC	5xD	56	71	118
10,5	12	DK12105B55_FC	3xD	40	55	102
10,5	12	DK12105B71_FC	5xD	56	71	118
10,5	12	DK12105B106_FC	8xD	82	106	162
10,6	12	DK12106B55_FC	3xD	40	55	102

D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
10,6	12	DK12106B71_FC	5xD	56	71	118
10,7	12	DK12107B55_FC	3xD	40	55	102
10,7	12	DK12107B71_FC	5xD	56	71	118
10,8	12	DK12108B55_FC	3xD	40	55	102
10,8	12	DK12108B71_FC	5xD	56	71	118
10,9	12	DK12109B55_FC	3xD	40	55	102
10,9	12	DK12109B71_FC	5xD	56	71	118
11,0	12	DK12110B55_FC	3xD	40	55	102
11,0	12	DK12110B71_FC	5xD	56	71	118
11,0	12	DK12110B106_FC	8xD	82	106	162
11,1	12	DK12111B55_FC	3xD	40	55	102
11,1	12	DK12111B71_FC	5xD	56	71	118
11,2	12	DK12112B55_FC	3xD	40	55	102
11,2	12	DK12112B71_FC	5xD	56	71	118
11,3	12	DK12113B55_FC	3xD	40	55	102
11,3	12	DK12113B71_FC	5xD	56	71	118
11,4	12	DK12114B55_FC	3xD	40	55	102
11,4	12	DK12114B71_FC	5xD	56	71	118
11,5	12	DK12115B55_FC	3xD	40	55	102
11,5	12	DK12115B71_FC	5xD	56	71	118
11,5	12	DK12115B114_FC	8xD	90	114	162
11,6	12	DK12116B55_FC	3xD	40	55	102
11,6	12	DK12116B71_FC	5xD	56	71	118
11,7	12	DK12117B55_FC	3xD	40	55	102
11,7	12	DK12117B71_FC	5xD	56	71	118
11,8	12	DK12118B55_FC	3xD	40	55	102
11,8	12	DK12118B71_FC	5xD	56	71	118
11,9	12	DK12119B55_FC	3xD	40	55	102
11,9	12	DK12119B71_FC	5xD	56	71	118
12,0	12	DK12120B55_FC	3xD	40	55	102
12,0	12	DK12120B71_FC	5xD	56	71	118
12,0	12	DK12120B114_FC	8xD	90	114	162
12,5	14	DK14125B60_FC	3xD	43	60	107
12,5	14	DK14125B77_FC	5xD	60	77	124
12,5	14	DK14125B133_FC	8xD	125	133	182
13,0	14	DK14130B60_FC	3xD	43	60	107
13,0	14	DK14130B77_FC	5xD	60	77	124
13,0	14	DK14130B133_FC	8xD	125	133	182
13,5	14	DK14135B60_FC	3xD	43	60	107
13,5	14	DK14135B77_FC	5xD	60	77	124
13,5	14	DK14135B133_FC	8xD	125	133	182
14,0	14	DK14140B60_FC	3xD	43	60	107
14,0	14	DK14140B77_FC	5xD	60	77	124
14,0	14	DK14140B133_FC	8xD	125	133	182
14,5	16	DK16145B65_FC	3xD	45	65	115
14,5	16	DK16145B83_FC	5xD	63	83	133
14,5	16	DK16145B152_FC	8xD	138	152	204
15,0	16	DK16150B65_FC	3xD	45	65	115
15,0	16	DK16150B83_FC	5xD	63	83	133
15,0	16	DK16150B152_FC	8xD	138	152	204
15,5	16	DK16155B65_FC	3xD	45	65	115
15,5	16	DK16155B83_FC	5xD	63	83	133
15,5	16	DK16155B152_FC	8xD	138	152	204
16,0	16	DK16160B65_FC	3xD	45	65	115
16,0	16	DK16160B83_FC	5xD	63	83	133
16,0	16	DK16160B152_FC	8xD	138	152	204
16,5	18	DK18165B73_FC	3xD	51	73	123
16,5	18	DK18165B93_FC	5xD	71	93	143
17,0	18	DK18170B73_FC	3xD	51	73	123
17,0	18	DK18170B93_FC	5xD	71	93	143
17,5	18	DK18175B73_FC	3xD	51	73	123

## with Internal Coolant, 3xD, 5xD, 8xD

D mm	d mm	Part Number	Type	l mm	l <sub>2</sub> mm	L mm
17,5	18	DK18175B93_FC	5xD	71	93	143
18,0	18	DK18180B73_FC	3xD	51	73	123
18,0	18	DK18180B93_FC	5xD	71	93	143
18,5	20	DK20185B79_FC	3xD	55	79	131
18,5	20	DK20185B101_FC	5xD	77	101	153
19,0	20	DK20190B79_FC	3xD	55	79	131
19,0	20	DK20190B101_FC	5xD	77	101	153
19,5	20	DK20195B79_FC	3xD	55	79	131
19,5	20	DK20195B101_FC	5xD	77	101	153
20,0	20	DK20200B79_FC	3xD	55	79	131
20,0	20	DK20200B101_FC	5xD	77	101	153

