_	_	Вид _	_	_	Область применения					
Артикул	Длина	охлаждения	Диаметры	ры Допуск		M	K	N	S	н
D201	3xD	Наружный	D 3-20	m7	•	•	•	0	•	
ID201	3xD	Внутренний	D 3-20	m7	•	•	•	0	•	
D202	5xD	Наружный	D 3-20	m7	•	•	•	0	•	
ID202	5xD	Внутренний	D 3-20	m7	•	•	•	0	•	
D203	3xD	Наружный	D 1-16	m7	•	0	0	0		
ID204	8xD	Внутренний	D 3-16	m7	•	•	•	0	0	
ID205	3xD	Внутренний	D 3-20	m7	0	•			0	
ID206	5xD	Внутренний	D 3-20	m7	0	•			0	
ID207	3xD	Внутренний	D 3-20	m7				•		
ID208	5xD	Внутренний	D 3-20	m7				•		
ID209	5xD	Внутренний	D 1-3	h7	•	•	•	0	0	
ID210	8xD	Внутренний	D 1-3	h7	•	•	•	0	0	
ID211	12xD	Внутренний	D 1-3	h7	•	•	•	0	0	
ID212	20xD	Внутренний	D 1-3	h7	•	•	•	0	0	
ID213	25xD	Внутренний	D 1-3	h7	•	•	•	0	0	
ID214	30xD	Внутренний	D 1-3	h7	•	•	•	0	0	
ID215	12xD	Внутренний	D 3,1-10	h7	•	•	•	0	0	
ID216	15xD	Внутренний	D 3,1-10	h7	•	•	•	0	0	
ID217	20xD	Внутренний	D 3,1-10	h7	•	•	•	0	0	
ID218	25xD	Внутренний	D 3,1-9,5	h7	•	•	•	0	0	
ID219	30xD	Внутренний	D 3,1-8	h7	•	•	•	0	0	
D220	3xD	Наружный	D 6-16	h6	•	•	•	•	•	•
D221	3xD	Наружный	D 6-16	h6	•	•	•	•	•	•

<sup>• -</sup> рекомендованное применение

<sup>∘ -</sup> возможное применение

### Артикул СОЖ D201 Наружный D = 3-20





Сверла





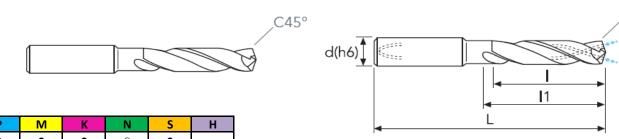


Спокрытием

C45°

**‡**D





d(h6)

d(h6)	L	l1	ı
	62,0	20,0	14,0
1		20,0	14,0
			14,0
			14,0
			14,0
			14,0
6,0			14,0
6,0	62,0	20,0	14,0
6,0	66,0	24,0	17,0
6,0		24,0	17,0
6,0	66,0	24,0	17,0
6,0	66,0	24,0	17,0
6,0	66,0	24,0	17,0
6,0	66,0		17,0
6,0	66,0	24,0	17,0
	66,0		17,0
6,0	66,0		17,0
	66,0		17,0
	66,0		20,0
			20,0
			20,0
			20,0
			20,0
			20,0
			20,0
			20,0
			20,0
			20,0
	-		20,0
			20,0
			20,0 24,0
			24,0
			24,0
			24,0
			24,0
			24,0
			24,0
			24,0
			24,0
			24,0
			29,0
			29,0
			29,0
			29,0
	6,0 6,0 6,0 6,0 6,0 6,0 6,0 6,0	6,0 62,0 6,0 62,0 6,0 62,0 6,0 62,0 6,0 62,0 6,0 62,0 6,0 62,0 6,0 62,0 6,0 66,0 8,0 79,0	6,0         62,0         20,0           6,0         62,0         20,0           6,0         62,0         20,0           6,0         62,0         20,0           6,0         62,0         20,0           6,0         62,0         20,0           6,0         62,0         20,0           6,0         62,0         20,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         24,0           6,0         66,0         28,0           6,0         66,0         28,0           6,0         66,0         28,0           6,0

	ω(σ)	_		
7,5	8,0	79,0	41,0	29,0
7,6	8,0	79,0	41,0	29,0
7,7	8,0	79,0	41,0	29,0
7,8	8,0	79,0	41,0	29,0
7,9	8,0	79,0	41,0	29,0
8,0	8,0	79,0	41,0	29,0
8,1	10,0	89,0	47,0	35,0
8,2	10,0	89,0	47,0	35,0
8,3	10,0	89,0	47,0	35,0
8,4	10,0	89,0	47,0	35,0
8,5	10,0	89,0	47,0	35,0
8,6	10,0	89,0	47,0	35,0
8,7	10,0	89,0	47,0	35,0
8,8	10,0	89,0	47,0	35,0
8,9	10,0	89,0	47,0	35,0
9,0	10,0	89,0	47,0	35,0
9,1	10,0	89,0	47,0	35,0
9,2	10,0	89,0	47,0	35,0
9,3	10,0	89,0	47,0	35,0
9,4	10,0	89,0	47,0	35,0
9,5	10,0	89,0	47,0	35,0
9,6	10,0	89,0	47,0	35,0
9,7	10,0	89,0	47,0	35,0
9,8	10,0	89,0	47,0	35,0
9,9	10,0	89,0	47,0	35,0
10,0	10,0	89,0	47,0	35,0
10,1	12,0	102,0	55,0	40,0
10,2	12,0	102,0	55,0	40,0
10,3	12,0	102,0	55,0	40,0
10,4	12,0	102,0	55,0	40,0
10,5	12,0	102,0	55,0	40,0
10,6	12,0	102,0	55,0	40,0
10,7	12,0	102,0	55,0	40,0
10,8	12,0	102,0	55,0	40,0
10,9	12,0	102,0	55,0	40,0
11,0	12,0	102,0	55,0	40,0
11,1	12,0	102,0	55,0	40,0
11,2	12,0	102,0	55,0	40,0
11,3	12,0	102,0	55,0	40,0
11,4	12,0	102,0	55,0	40,0
11,5	12,0	102,0	55,0	40,0
11,6	12,0	102,0	55,0	40,0
11,7	12,0	102,0	55,0	40,0
11,8	12,0	102,0	55,0	40,0
11,9	12,0	102,0	55,0	40,0

D	d(h6)	L	l1	1
12,0	<b>d(h6)</b>	102,0	55,0	40,0
12,1	12,0 14,0	107,0	60,0	43,0
12,2	14,0	107,0	60,0	43,0
12,3	14,0	107,0	60,0	43,0
12,4	14,0	107,0	60,0	43,0
12,5	14,0	107,0	60,0	43,0
12,6	14,0	107,0	60,0	43,0
12,7	14,0	107,0	60,0	43,0
12,8	14,0	107,0	60,0	43,0
12,9	14,0	107,0	60,0	43,0
13,0	14,0	107,0	60,0	43,0
13,1	14,0	107,0	60,0	43,0
13,2	14,0	107,0	60,0	43,0
13,3	14,0	107,0	60,0	43,0
13,4	14,0	107,0	60,0	43,0
13,5	14,0	107,0	60,0	43,0
13,6	14,0	107,0	60,0	43,0
13,7	14,0	107,0	60,0	43,0
13,8	14,0	107,0	60,0	43,0
13,9	14,0	107,0	60,0	43,0
14,0	14,0	107,0	60,0	43,0
14,1	16,0	115,0	65,0	45,0
14,2	16,0	115,0	65,0	45,0
14,3 14.5	16,0	115,0 115,0	65,0 65,0	45,0 45,0
14,5 14,6	16,0 16,0	115,0	65,0	45,0
14,7	16,0	115,0	65,0	45,0
14,8	16,0	115,0	65,0	45,0
15,0	16,0	115,0	65,0	45,0
15,1	16,0	115,0	65,0	45,0
15,2	16,0	115,0	65,0	45,0
15,3	16,0	115,0	65,0	45,0
15,5	16,0	115,0	65,0	45,0
15,6	16,0	115,0	65,0	45,0
15,7	16,0	115,0	65,0	45,0
15,8	16,0	115,0	65,0	45,0
16,0	16,0	115,0	65,0	45,0
16,5	18,0	123,0	73,0	73,0
17,0	18,0	123,0	73,0	73,0
17,5	18,0	123,0	73,0	73,0
18,0	18,0	123,0	73,0	73,0
18,5	20,0	131,0	79,0	79,0
19,0	20,0	131,0	79,0	79,0
19,5	20,0	131,0	79,0	79,0
20,0	20,0	131,0	79,0	79,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

**Пример: D201-10,0-НА -** сверло диаметром 10,0 без внутренних каналов охлаждения, форма хвостовика НА по DIN 6535

#### Сверла Артикул СОЖ ID201 Внутренний D = 3-20

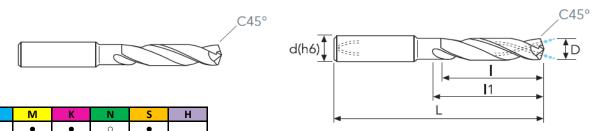






Спокрытием





D	d(h6)	L	l1	
3,0	6,0	62,0	20,0	14,0
3,1	6,0	62,0	20,0	14,0
3,2	6,0	62,0	20,0	14,0
3,3				14,0
	6,0	62,0	20,0	
3,4	6,0	62,0	20,0	14,0
3,5	6,0	62,0	20,0	14,0
3,6	6,0	62,0	20,0	14,0
3,7	6,0	62,0	20,0	14,0
3,8	6,0	66,0	24,0	17,0
3,9	6,0	66,0	24,0	17,0
4,0	6,0	66,0	24,0	17,0
4,1	6,0	66,0	24,0	17,0
4,2 4,3	6,0	66,0	24,0	17,0
	6,0	66,0	24,0	17,0
4,4	6,0	66,0	24,0	17,0
4,5	6,0	66,0	24,0	17,0
4,6	6,0	66,0	24,0	17,0
4,7	6,0	66,0	24,0	17,0
4,8	6,0	66,0	28,0	20,0
4,9	6,0	66,0	28,0	20,0
5,0	6,0	66,0	28,0	20,0
5,1	6,0	66,0	28,0	20,0
5,2	6,0	66,0	28,0	20,0
5,3	6,0	66,0	28,0	20,0
5,4	6,0	66,0	28,0	20,0
5,5	6,0	66,0	28,0	20,0
5,6	6,0	66,0	28,0	20,0
5,7	6,0	66,0	28,0	20,0
5,8 5,9	6,0	66,0	28,0 28,0	20,0
6,0	6,0	66,0 66,0	28,0	20,0
	6,0 8.0		34,0	
6,1 6,2	8,0 8,0	79,0 79,0		24,0 24,0
6,3	8,0	79,0	34,0 34,0	24,0
6,4	8,0	79,0	34,0	24,0
6,5	8,0	79,0	34,0	24,0
6,6	8,0	79,0	34,0	24,0
6,7	8,0	79,0	34,0	24,0
6,8	8,0	79,0	34,0	24,0
6,9	8,0	79,0	34,0	24,0
7,0	8,0	79,0	34,0	24,0
7,1	8,0	79,0	41,0	29,0
7,2	8,0	79,0	41,0	29,0
7,2	8,0	79,0	41,0	29,0
7,3	8,0	79,0	41,0	29,0
7,4	8,0	79,0	41,0	29,0
7,6	8,0	79,0	41,0	29,0
7,0	8,0	79,0	41,0	29,0
7,7	8,0	79,0	41,0	29,0
7,8	8,0	79,0	41,0	29,0
			41,0	29,0
8,0	8,0	79,0		
8,1	10,0	89,0	47,0	35,0

D	d(h6)	L	l1	
8,2	10,0	89,0	47,0	35,0
8,3	10,0	89,0	47,0	35,0
8,4	10,0	89,0	47,0	35,0
8,5	10,0	89,0	47,0	35,0
8,6	10,0	89,0	47,0	35,0
8,7	10,0	89,0	47,0	35,0
8,8	10,0	89,0	47,0	35,0
8,9	10,0	89,0	47,0	35,0
9,0	10,0	89,0	47,0	35,0
9,1	10,0	89,0	47,0	35,0
9,2	10,0	89,0	47,0	35,0
9,3	10,0	89,0	47,0	35,0
9,4	10,0	89,0	47,0	35,0
9,5	10,0	89,0	47,0	35,0
9,6	10,0	89,0	47,0	35,0
9,7	10,0	89,0	47,0	35,0
9,8	10,0	89,0	47,0	35,0
9,9	10,0	89,0	47,0	35,0
10,0	10,0	89,0	47,0	35,0
10,1	12,0	102,0	55,0	40,0
10,2	12,0	102,0	55,0	40,0
10,3	12,0	102,0	55,0	40,0
10,4	12,0	102,0	55,0	40,0
10,5	12,0	102,0	55,0	40,0
10,6	12,0	102,0	55,0	40,0
10,7	12,0	102,0	55,0	40,0
10,8	12,0	102,0	55,0	40,0
10,9	12,0	102,0	55,0	40,0
11,0	12,0	102,0	55,0	40,0
11,1	12,0	102,0	55,0	40,0
11,2	12,0	102,0	55,0	40,0
11,3	12,0	102,0	55,0	40,0
11,4	12,0	102,0	55,0	40,0
11,5	12,0	102,0	55,0	40,0
11,6	12,0	102,0	55,0	40,0
11,7	12,0	102,0	55,0	40,0
11,8	12,0	102,0	55,0	40,0
11,9	12,0	102,0	55,0	40,0
12,0	12,0	102,0	55,0	40,0
12,1	14,0	107,0	60,0	43,0
12,2	14,0 14,0	107,0	60,0	43,0
12,3 12,4	14,0	107,0 107,0	60,0 60,0	43,0 43,0
12,4	14,0	107,0	60,0	43,0
12,5	14,0	107,0	60,0	43,0
12,7	14,0	107,0	60,0	43,0
12,8	14,0	107,0	60,0	43,0
12,9	14,0	107,0	60,0	43,0
13,0	14,0	107,0	60,0	43,0
13,1	14,0	107,0	60,0	43,0
13,2	14,0	107,0	60,0	43,0
13,2	14,0	107,0	00,0	43,0

13,4         14,0         107,0         60,0         43,0           13,5         14,0         107,0         60,0         43,0           13,6         14,0         107,0         60,0         43,0           13,7         14,0         107,0         60,0         43,0           13,8         14,0         107,0         60,0         43,0           14,0         14,0         107,0         60,0         43,0           14,1         16,0         115,0         65,0         45,0           14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0 </th <th>D</th> <th>d(h6)</th> <th>L</th> <th>l1</th> <th>ı</th>	D	d(h6)	L	l1	ı
13,5         14,0         107,0         60,0         43,0           13,6         14,0         107,0         60,0         43,0           13,7         14,0         107,0         60,0         43,0           13,8         14,0         107,0         60,0         43,0           13,9         14,0         107,0         60,0         43,0           14,1         16,0         115,0         65,0         45,0           14,1         16,0         115,0         65,0         45,0           14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0 </td <td>13,4</td> <td>14,0</td> <td>107,0</td> <td>60,0</td> <td>43,0</td>	13,4	14,0	107,0	60,0	43,0
13,6         14,0         107,0         60,0         43,0           13,7         14,0         107,0         60,0         43,0           13,8         14,0         107,0         60,0         43,0           13,9         14,0         107,0         60,0         43,0           14,0         14,0         107,0         60,0         43,0           14,1         16,0         115,0         65,0         45,0           14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0 </td <td>13,5</td> <td>14,0</td> <td>107,0</td> <td>60,0</td> <td></td>	13,5	14,0	107,0	60,0	
13,7         14,0         107,0         60,0         43,0           13,8         14,0         107,0         60,0         43,0           13,9         14,0         107,0         60,0         43,0           14,0         14,0         107,0         60,0         43,0           14,1         16,0         115,0         65,0         45,0           14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0 </td <td></td> <td></td> <td></td> <td>60,0</td> <td></td>				60,0	
13,8         14,0         107,0         60,0         43,0           13,9         14,0         107,0         60,0         43,0           14,0         14,0         107,0         60,0         43,0           14,1         16,0         115,0         65,0         45,0           14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
13,9         14,0         107,0         60,0         43,0           14,0         14,0         107,0         60,0         43,0           14,1         16,0         115,0         65,0         45,0           14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
14,0         14,0         107,0         60,0         43,0           14,1         16,0         115,0         65,0         45,0           14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,0         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
14,1         16,0         115,0         65,0         45,0           14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           15,1         18,0         123,0         73,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
14,2         16,0         115,0         65,0         45,0           14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0 </td <td></td> <td></td> <td>115,0</td> <td>65,0</td> <td></td>			115,0	65,0	
14,3         16,0         115,0         65,0         45,0           14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,0         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0 </td <td>14,2</td> <td></td> <td></td> <td>65,0</td> <td>45,0</td>	14,2			65,0	45,0
14,5         16,0         115,0         65,0         45,0           14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,0         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0 </td <td>14,3</td> <td></td> <td></td> <td>65,0</td> <td>45,0</td>	14,3			65,0	45,0
14,6         16,0         115,0         65,0         45,0           14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,0         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0 </td <td>14,5</td> <td>16,0</td> <td></td> <td>65,0</td> <td></td>	14,5	16,0		65,0	
14,7         16,0         115,0         65,0         45,0           14,8         16,0         115,0         65,0         45,0           15,0         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0 </td <td>14,6</td> <td>16,0</td> <td>115,0</td> <td>65,0</td> <td>45,0</td>	14,6	16,0	115,0	65,0	45,0
14,8         16,0         115,0         65,0         45,0           15,0         16,0         115,0         65,0         45,0           15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0 </td <td>14,7</td> <td>16,0</td> <td>115,0</td> <td>65,0</td> <td>45,0</td>	14,7	16,0	115,0	65,0	45,0
15,1         16,0         115,0         65,0         45,0           15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0 </td <td>14,8</td> <td></td> <td>115,0</td> <td>65,0</td> <td></td>	14,8		115,0	65,0	
15,2         16,0         115,0         65,0         45,0           15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0 </td <td></td> <td>16,0</td> <td>115,0</td> <td>65,0</td> <td>45,0</td>		16,0	115,0	65,0	45,0
15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0 </td <td>15,1</td> <td>16,0</td> <td>115,0</td> <td></td> <td></td>	15,1	16,0	115,0		
15,3         16,0         115,0         65,0         45,0           15,5         16,0         115,0         65,0         45,0           15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0 </td <td>15,2</td> <td>16,0</td> <td></td> <td>65,0</td> <td>45,0</td>	15,2	16,0		65,0	45,0
15,6         16,0         115,0         65,0         45,0           15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0 </td <td>15,3</td> <td></td> <td></td> <td></td> <td></td>	15,3				
15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0 </td <td>15,5</td> <td>16,0</td> <td>115,0</td> <td>65,0</td> <td></td>	15,5	16,0	115,0	65,0	
15,7         16,0         115,0         65,0         45,0           15,8         16,0         115,0         65,0         45,0           16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0 </td <td>15,6</td> <td>16,0</td> <td>115,0</td> <td>65,0</td> <td>45,0</td>	15,6	16,0	115,0	65,0	45,0
16,0         16,0         115,0         65,0         45,0           16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0 </td <td>15,7</td> <td>16,0</td> <td>115,0</td> <td>65,0</td> <td></td>	15,7	16,0	115,0	65,0	
16,1         18,0         123,0         73,0         73,0           16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0 </td <td>15,8</td> <td>16,0</td> <td>115,0</td> <td>65,0</td> <td></td>	15,8	16,0	115,0	65,0	
16,2         18,0         123,0         73,0         73,0           16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0 </td <td></td> <td>16,0</td> <td>115,0</td> <td>65,0</td> <td>45,0</td>		16,0	115,0	65,0	45,0
16,3         18,0         123,0         73,0         73,0           16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0 </td <td></td> <td>18,0</td> <td></td> <td></td> <td></td>		18,0			
16,5         18,0         123,0         73,0         73,0           16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0 </td <td>16,2</td> <td></td> <td>123,0</td> <td>73,0</td> <td>73,0</td>	16,2		123,0	73,0	73,0
16,7         18,0         123,0         73,0         73,0           16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0 </td <td>16,3</td> <td></td> <td>123,0</td> <td>73,0</td> <td></td>	16,3		123,0	73,0	
16,8         18,0         123,0         73,0         73,0           17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
17,0         18,0         123,0         73,0         73,0           17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
17,1         18,0         123,0         73,0         73,0           17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
17,2         18,0         123,0         73,0         73,0           17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
17,5         18,0         123,0         73,0         73,0           17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
17,6         18,0         123,0         73,0         73,0           17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
17,7         18,0         123,0         73,0         73,0           17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0 </td <td></td> <td></td> <td></td> <td>73,0</td> <td>73,0</td>				73,0	73,0
17,8         18,0         123,0         73,0         73,0           18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
18,0         18,0         123,0         73,0         73,0           18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0				73,0	
18,1         20,0         131,0         79,0         79,0           18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0					
18,2         20,0         131,0         79,0         79,0           18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0					
18,3         20,0         131,0         79,0         79,0           18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0					
18,5         20,0         131,0         79,0         79,0           18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0				79.0	79.0
18,6         20,0         131,0         79,0         79,0           18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0		20.0		79.0	79.0
18,7         20,0         131,0         79,0         79,0           18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0				79.0	79.0
18,8         20,0         131,0         79,0         79,0           19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0	18.7				
19,0         20,0         131,0         79,0         79,0           19,2         20,0         131,0         79,0         79,0           19,3         20,0         131,0         79,0         79,0           19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0					
19,2     20,0     131,0     79,0     79,0       19,3     20,0     131,0     79,0     79,0       19,5     20,0     131,0     79,0     79,0       19,6     20,0     131,0     79,0     79,0       19,8     20,0     131,0     79,0     79,0       79,0     79,0     79,0					
19,3     20,0     131,0     79,0     79,0       19,5     20,0     131,0     79,0     79,0       19,6     20,0     131,0     79,0     79,0       19,8     20,0     131,0     79,0     79,0       79,0     79,0     79,0	19,2			79,0	79,0
19,5         20,0         131,0         79,0         79,0           19,6         20,0         131,0         79,0         79,0           19,8         20,0         131,0         79,0         79,0           79,0         79,0         79,0         79,0         79,0	19,3				79,0
19,6     20,0     131,0     79,0     79,0       19,8     20,0     131,0     79,0     79,0	19,5				
19,8 20,0 131,0 79,0 79,0					
		20,0			

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID201-10,0-НА - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535

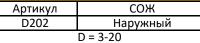
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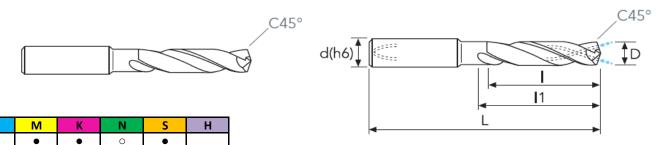






Спокрытием





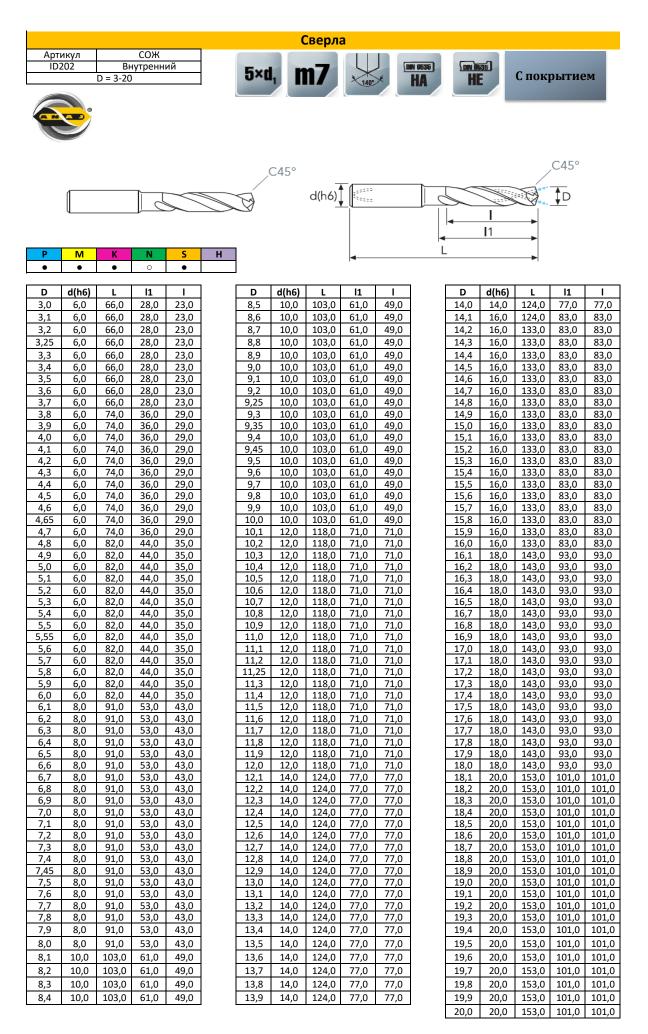
D	d(h6)	L	l1	ı
3,0	6,0	66,0	28,0	23,0
3,1	6,0	66,0	28,0	23,0
3,2	6,0	66,0	28,0	23,0
3,3	6,0	66,0	28,0	23,0
3,4	6,0	66,0	28,0	23,0
3,5	6,0	66,0	28,0	23,0
3,6	6,0	66,0	28,0	23,0
3,7	6,0	66,0	28,0	23,0
3,8	6,0	74,0	36,0	29,0
3,9	6,0	74,0	36,0	29,0
4,0	6,0	74,0	36,0	29,0
4,1	6,0	74,0	36,0	29,0
4,2	6,0	74,0	36,0	29,0
4,3	6,0	74,0	36,0	29,0
4,4	6,0	74,0	36,0	29,0
4,5	6,0	74,0	36,0	29,0
4,6	6,0	74,0	36,0	29,0
4,7	6,0	74,0	36,0	29,0
4,8	6,0	82,0	44,0	35,0
4,9	6,0	82,0	44,0	35,0
5,0	6,0	82,0	44,0	35,0
5,1	6,0	82,0	44,0	35,0
5,2	6,0	82,0	44,0	35,0
5,3	6,0	82,0	44,0	35,0
5,4	6,0	82,0	44,0	35,0
5,5	6,0	82,0	44,0	35,0
5,6	6,0	82,0	44,0	35,0
5,7	6,0	82,0	44,0	35,0
5,8	6,0	82,0	44,0	35,0
5,9	6,0	82,0	44,0	35,0
6,0	6,0	82,0	44,0	35,0
6,1	8,0	91,0	53,0	43,0
6,2	8,0	91,0	53,0	43,0
6,3	8,0	91,0	53,0	43,0
6,4	8,0	91,0	53,0	43,0
6,5	8,0	91,0	53,0	43,0
6,6	8,0	91,0	53,0	43,0
6,7	8,0	91,0	53,0	43,0
6,8	8,0	91,0	53,0	43,0

D	d(h6)	L	l1	ı
6,9	8,0	91,0	53,0	43,0
7,0	8,0	91,0	53,0	43,0
7,1	8,0	91,0	53,0	43,0
7,2	8,0	91,0	53,0	43,0
7,3	8,0	91,0	53,0	43,0
7,4	8,0	91,0	53,0	43,0
7,5	8,0	91,0	53,0	43,0
7,6	8,0	91,0	53,0	43,0
7,7	8,0	91,0	53,0	43,0
7,8	8,0	91,0	53,0	43,0
7,9	8,0	91,0	53,0	43,0
8,0	8,0	91,0	53,0	43,0
8,1	10,0	103,0	61,0	49,0
8,2	10,0	103,0	61,0	49,0
8,3	10,0	103,0	61,0	49,0
8,4	10,0	103,0	61,0	49,0
8,5	10,0	103,0	61,0	49,0
8,6	10,0	103,0	61,0	49,0
8,7	10,0	103,0	61,0	49,0
8,8	10,0	103,0	61,0	49,0
8,9	10,0	103,0	61,0	49,0
9,0	10,0	103,0	61,0	49,0
9,1	10,0	103,0	61,0	49,0
9,2	10,0	103,0	61,0	49,0
9,3	10,0	103,0	61,0	49,0
9,4	10,0	103,0	61,0	49,0
9,5	10,0	103,0	61,0	49,0
9,6	10,0	103,0	61,0	49,0
9,7	10,0	103,0	61,0	49,0
9,8	10,0	103,0	61,0	49,0
9,9	10,0	103,0	61,0	49,0
10,0	10,0	103,0	61,0	49,0
10,1	12,0	118,0	71,0	71,0
10,2	12,0	118,0	71,0	71,0
10,3	12,0	118,0	71,0	71,0
10,4	12,0	118,0	71,0	71,0
10,5	12,0	118,0	71,0	71,0
10,6	12,0	118,0	71,0	71,0
10,7	12,0	118,0	71,0	71,0

D	d(h6)	L	l1	ı
10,8	12,0	118,0	71,0	71,0
10,9	12,0	118,0	71,0	71,0
11,0	12,0	118,0	71,0	71,0
11,1	12,0	118,0	71,0	71,0
11,2	12,0	118,0	71,0	71,0
11,3	12,0	118,0	71,0	71,0
11,4	12,0	118,0	71,0	71,0
11,5	12,0	118,0	71,0	71,0
11,6	12,0	118,0	71,0	71,0
11,7	12,0	118,0	71,0	71,0
11,8	12,0	118,0	71,0	71,0
11,9	12,0	118,0	71,0	71,0
12,0	12,0	118,0	71,0	71,0
12,1	14,0	124,0	77,0	77,0
12,2	14,0	124,0	77,0	77,0
12,5	14,0	124,0	77,0	77,0
12,7	14,0	124,0	77,0	77,0
12,8	14,0	124,0	77,0	77,0
13,0	14,0	124,0	77,0	77,0
13,1	14,0	124,0	77,0	77,0
13,2	14,0	124,0	77,0	77,0
13,3	14,0	124,0	77,0	77,0
13,5	14,0	124,0	77,0	77,0
13,7	14,0	124,0	77,0	77,0
13,8	14,0	124,0	77,0	77,0
14,0	14,0	124,0	77,0	77,0
14,5	16,0	133,0	83,0	83,0
15,0	16,0	133,0	83,0	83,0
15,3	16,0	133,0	83,0	83,0
15,5	16,0	133,0	83,0	83,0
15,8	16,0	133,0 133,0	83,0	83,0 83,0
16,0 16,5	16,0 18,0	143,0	83,0 93,0	93,0
17,0	18,0	143,0	93,0	93,0
17,5	18,0	143,0	93,0	93,0
18,0	18,0	143,0	93,0	93,0
18,5	20,0	153,0	101,0	101,0
19,0	20,0	153,0	101,0	101,0
19,5	20,0	153,0	101,0	101,0
20,0	20,0	153,0	101,0	101,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

**Пример: D202-10,0-HA** - сверло диаметром 10,0 без внутренних каналов охлаждения, форма хвостовика НА по DIN 6535



Артикул	СОЖ			
D203	Наружный			
D = 1-16				

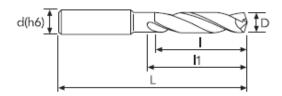






Спокрытием





Р	M	K	N	S	Н
•	0	0	0		

D	d(h6)	L	ı	l1
1,0	3,0	45,0	5,0	7,0
1,1	3,0	45,0	5,0	7,0
1,2	3,0	45,0	5,0	7,0
1,3	3,0	45,0	5,0	7,0
1,4	3,0	45,0	5,0	7,0
1,5	3,0	50,0	10,0	13,0
1,6	3,0	50,0	10,0	13,0
1,7	3,0	50,0	10,0	13,0
1,8	3,0	50,0	10,0	13,0
1,9	3,0	50,0	10,0	13,0
2,0	4,0	55,0	12,0	17,0
2,1	4,0	55,0	12,0	17,0
2,2	4,0	55,0	12,0	17,0
2,3	4,0	55,0	12,0	17,0
2,4	4,0	55,0	12,0	17,0
2,5	4,0	55,0	12,0	17,0
2,6	4,0	55,0	12,0	17,0
2,7	4,0	55,0	12,0	17,0
2,8	4,0	55,0	12,0	17,0
2,9	4,0	55,0	12,0	17,0
3,0	6,0	62,0	14,0	20,0
3,1	6,0	62,0	14,0	20,0
3,2	6,0	62,0	14,0	20,0
3,3	6,0	62,0	14,0	20,0
3,4	6,0	62,0	14,0	20,0
3,5	6,0	62,0	14,0	20,0
3,6	6,0	62,0	14,0	20,0
3,7	6,0	62,0	14,0	20,0
3,8	6,0	66,0	17,0	24,0
3,9	6,0	66,0	17,0	24,0
4,0	6,0	66,0	17,0	24,0
4,1	6,0	66,0	17,0	24,0
4,2	6,0	66,0	17,0	24,0
4,3	6,0	66,0	17,0	24,0
4,4	6,0	66,0	17,0	24,0

D	d(h6)	L	1	l1
4,5	6,0	66,0	17,0	24,0
4,6	6,0	66,0	17,0	24,0
4,7	6,0	66,0	17,0	24,0
4,8	6,0	66,0	20,0	28,0
4,9	6,0	66,0	20,0	28,0
5,0	6,0	66,0	20,0	28,0
5,1	6,0	66,0	20,0	28,0
5,2	6,0	66,0	20,0	28,0
5,3	6,0	66,0	20,0	28,0
5,4	6,0	66,0	20,0	28,0
5,5	6,0	66,0	20,0	28,0
5,6 5,7	6,0	66,0	20,0	28,0
5,7	6,0	66,0	20,0	28,0
5,8	6,0	66,0	20,0	28,0
5,9	6,0	66,0	20,0	28,0
6,0	6,0	66,0	20,0	28,0
6,1	8,0	79,0	24,0	34,0
6,2	8,0	79,0	24,0	34,0
6,3	8,0	79,0	24,0	34,0
6,4	8,0	79,0	24,0	34,0
6,5	8,0	79,0	24,0	34,0
6,6	8,0	79,0	24,0	34,0
6,7	8,0	79,0	24,0	34,0
6,8	8,0	79,0	24,0	34,0
6,9	8,0	79,0	24,0	34,0
7,0	8,0	79,0	24,0	34,0
7,1	8,0	79,0	29,0	41,0
7,2	8,0	79,0	29,0	41,0
7,3	8,0	79,0	29,0	41,0
7,4	8,0	79,0	29,0	41,0
7,5	8,0	79,0	29,0	41,0
7,6	8,0	79,0	29,0	41,0
7,7	8,0	79,0	29,0	41,0
7,8	8,0	79,0	29,0	41,0
7,9	8,0	79,0	29,0	41,0

D	d(h6)	L		l1
8,0	8,0	79,0	29,0	41,0
8,1	10,0	89,0	35,0	47,0
8,2	10,0	89,0	35,0	47,0
8,3	10,0	89,0	35,0	47,0
8,4	10,0	89,0	35,0	47,0
8,5	10,0	89,0	35,0	47,0
8,6	10,0	89,0	35,0	47,0
8,7	10,0	89,0	35,0	47,0
8,8	10,0	89,0	35,0	47,0
8,9	10,0	89,0	35,0	47,0
9,0	10,0	89,0	35,0	47,0
9,1	10,0	89,0	35,0	47,0
9,2	10,0	89,0	35,0	47,0
9,3	10,0	89,0	35,0	47,0
9,4	10,0	89,0	35,0	47,0
9,5	10,0	89,0	35,0	47,0
9,6	10,0	89,0	35,0	47,0
9,7	10,0	89,0	35,0	47,0
9,8	10,0	89,0	35,0	47,0
9,9	10,0	89,0	35,0	47,0
10,0	10,0	89,0	35,0	47,0
10,2	12,0	102,0	40,0	55,0
10,5	12,0	102,0	40,0	55,0
11,0	12,0	102,0	40,0	55,0
11,5	12,0	102,0	40,0	55,0
12,0	12,0	102,0	40,0	55,0
12,5	14,0	107,0	43,0	60,0
13,0	14,0	107,0	43,0	60,0
13,5	14,0	107,0	43,0	60,0
14,0	14,0	107,0	43,0	60,0
14,5	16,0	115,0	49,0	65,0
15,0	16,0	115,0	49,0	65,0
15,5	16,0	115,0	49,0	65,0
16,0	16,0	115,0	49,0	65,0

При заказе указывать: артикул, диаметр D. Пример: D203\_1-10,0 - сверло диаметром 10,0 без внутренних каналов охлаждения

Артикул	сож		
ID204	Внутренний		
D = 3-16			





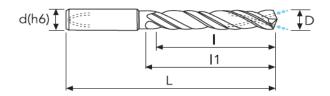






Спокрытием





Р	M	K	N	S	Н
•	•	•	0	0	

D	d(h6)	Ь	l1	
3,0	6,0	85,0	40,0	32,0
3,1	6,0	85,0	40,0	32,0
3,2	6,0	85,0	40,0	32,0
3,3	6,0	85,0	40,0	32,0
3,4	6,0	85,0	40,0	32,0
3,5	6,0	85,0	40,0	32,0
3,6	6,0	85,0	40,0	36,0
3,7	6,0	85,0	40,0	36,0
3,8	6,0	85,0	40,0	36,0
3,9	6,0	85,0	40,0	36,0
4,0	6,0	85,0	46,0	38,0
4,1	6,0	85,0	46,0	38,0
4,2	6,0	85,0	46,0	38,0
4,3	6,0	97,0	46,0	40,0
4,4	6,0	97,0	46,0	40,0
4,5	6,0	97,0	46,0	44,0
4,6	6,0	97,0	46,0	44,0
4,7	6,0	97,0	46,0	44,0
4,8	6,0	97,0	46,0	44,0
4,9	6,0	97,0	46,0	44,0
5,0	6,0	97,0	57,0	48,0
5,1	6,0	97,0	57,0	48,0
5,2	6,0	97,0	57,0	48,0
5,3	6,0	97,0	57,0	48,0
5,4	6,0	97,0	57,0	48,0
5,5	6,0	97,0	57,0	48,0
5,6	6,0	97,0	57,0	48,0
5,7	6,0	97,0	57,0	48,0
5,8	6,0	97,0	57,0	48,0
5,9	6,0	97,0	57,0	48,0

D	d(h6)	L	l1	
6,0	6,0	97,0	57,0	48,0
6,1	8,0	97,0	76,0	64,0
6,2	8,0	116,0	76,0	64,0
6,3	8,0	116,0	76,0	64,0
6,4	8,0	116,0	76,0	64,0
6,5	8,0	116,0	76,0	64,0
6,6	8,0	116,0	76,0	64,0
6,7	8,0	116,0	76,0	64,0
6,8	8,0	116,0	76,0	64,0
6,9	8,0	116,0	76,0	64,0
7,0	8,0	116,0	76,0	64,0
7,1	8,0	116,0	76,0	64,0
7,2	8,0	116,0	76,0	64,0
7,3	8,0	116,0	76,0	64,0
7,4	8,0	116,0	76,0	64,0
7,5	8,0	116,0	76,0	64,0
7,6	8,0	116,0	76,0	64,0
7,7	8,0	116,0	76,0	64,0
7,8	8,0	116,0	76,0	64,0
7,9	8,0	116,0	76,0	64,0
8,0	8,0	116,0	76,0	64,0
8,1	10,0	142,0	95,0	80,0
8,2	10,0	142,0	95,0	80,0
8,3	10,0	142,0	95,0	80,0
8,4	10,0	142,0	95,0	80,0
8,5	10,0	142,0	95,0	80,0
8,6	10,0	142,0	95,0	80,0
8,7	10,0	142,0	95,0	80,0
8,8	10,0	142,0	95,0	80,0
8,9	10,0	142,0	95,0	80,0

D	d(h6)	L	l1	ı
9,0	10,0	142,0	95,0	80,0
9,1	10,0	142,0	95,0	80,0
9,2	10,0	142,0	95,0	80,0
9,3	10,0	142,0	95,0	80,0
9,4	10,0	142,0	95,0	80,0
9,5	10,0	142,0	95,0	80,0
9,6	10,0	142,0	95,0	80,0
9,7	10,0	142,0	95,0	80,0
9,8	10,0	142,0	95,0	80,0
9,9	10,0	142,0	95,0	80,0
10,0	10,0	142,0	95,0	80,0
10,2	12,0	163,0	114,0	96,0
10,5	12,0	163,0	114,0	96,0
10,8	12,0	163,0	114,0	96,0
11,0	12,0	163,0	114,0	96,0
11,2	12,0	163,0	114,0	96,0
11,3	12,0	163,0	114,0	96,0
11,5	12,0	163,0	114,0	96,0
11,8	12,0	163,0	114,0	96,0
12,0	12,0	163,0	114,0	96,0
12,2	14,0	182,0	133,0	112,0
12,5	14,0	182,0	133,0	112,0
12,8	14,0	182,0	133,0	112,0
13,0	14,0	182,0	133,0	112,0
13,5	14,0	182,0	133,0	112,0
14,0	14,0	182,0	133,0	112,0
14,5	16,0	204,0	152,0	128,0
15,0	16,0	204,0	152,0	128,0
15,5	16,0	204,0	152,0	128,0
16,0	16,0	204,0	152,0	128,0

При заказе указывать: артикул, диаметр D. Пример: ID204-10,0 - сверло диаметром 10,0 с внутренними каналами охлаждения

### Аптикул СОЖ

Артикул СОЖ ID205 Внутренний D = 3-20





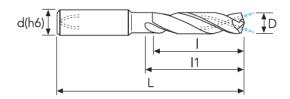






Спокрытием





Р	M	K	N	S	Н
0	•			0	

D	d(h6)	L	l1	ı
3,0	6,0	62,0	20,0	14,0
3,1	6,0	62,0	20,0	14,0
3,2	6,0	62,0	20,0	14,0
3,3	6,0	62,0	20,0	14,0
3,4	6,0	62,0	20,0	14,0
3,5	6,0	62,0	20,0	14,0
3,6	6,0	62,0	20,0	14,0
3,7	6,0	62,0	20,0	14,0
3,8	6,0	66,0	24,0	17,0
3,9	6,0	66,0	24,0	17,0
4,0	6,0	66,0	24,0	17,0
4,1	6,0	66,0	24,0	17,0
4,2	6,0	66,0	24,0	17,0
4,3	6,0	66,0	24,0	17,0
4,4	6,0	66,0	24,0	17,0
4,5	6,0	66,0	24,0	17,0
4,6	6,0	66,0	24,0	17,0
4,7	6,0	66,0	24,0	17,0
4,8	6,0	66,0	28,0	20,0
4,9	6,0	66,0	28,0	20,0
5,0	6,0	66,0	28,0	20,0
5,1	6,0	66,0	28,0	20,0
5,2	6,0	66,0	28,0	20,0
5,3	6,0	66,0	28,0	20,0
5,4	6,0	66,0	28,0	20,0
5,4 5,5	6,0	66,0	28,0	20,0
5,6	6,0	66,0	28,0	20,0
5,7	6,0	66,0	28,0	20,0
5,8	6,0	66,0	28,0	20,0
5,9	6,0	66,0	28,0	20,0
6,0	6,0	66,0	28,0	20,0
6,0 6,1 6,2	8,0	79,0	34,0	24,0
6,2	8,0	79,0	34,0	24,0
6,3	8,0	79,0	34,0	24,0
6,4	8,0	79,0	34,0	24,0
6,5	8,0	79,0	34,0	24,0
6,6	8,0	79,0	34,0	24,0
6,7	8,0	79,0	34,0	24,0
6,8	8,0	79,0	34,0	24,0

D	d(h6)	L	l1	
6,9	8,0	79,0	34,0	24,0
7,0	8,0	79,0	34,0	24,0
7,1	8,0	79,0	41,0	29,0
7,2	8,0	79,0	41,0	29,0
7,3	8,0	79,0	41,0	29,0
7,4	8,0	79,0	41,0	29,0
7,5	8,0	79,0	41,0	29,0
7,6	8,0	79,0	41,0	29,0
7,7	8,0	79,0	41,0	29,0
7,8	8,0	79,0	41,0	29,0
7,9	8,0	79,0	41,0	29,0
8,0	8,0	79,0	41,0	29,0
8,1	10,0	89,0	47,0	35,0
8,2	10,0	89,0	47,0	35,0
8,3	10,0	89,0	47,0	35,0
8,4	10,0	89,0	47,0	35,0
8,5	10,0	89,0	47,0	35,0
8,6	10,0	89,0	47,0	35,0
8,7	10,0	89,0	47,0	35,0
8,8	10,0	89,0	47,0	35,0
8,9	10,0	89,0	47,0	35,0
9,0	10,0	89,0	47,0	35,0
9,1	10,0	89,0	47,0	35,0
9,2	10,0	89,0	47,0	35,0
9,3	10,0	89,0	47,0	35,0
9,4	10,0	89,0	47,0	35,0
9,5	10,0	89,0	47,0	35,0
9,6	10,0	89,0	47,0	35,0
9,7	10,0	89,0	47,0	35,0
9,8	10,0	89,0	47,0	35,0
9,9	10,0	89,0	47,0	35,0
10,0	10,0	89,0	47,0	35,0
10,1	12,0	102,0	55,0	40,0
10,2	12,0	102,0	55,0	40,0
10,3	12,0	102,0	55,0	40,0
10,4	12,0	102,0	55,0	40,0
10,5 10,6	12,0 12,0	102,0 102,0	55,0 55,0	40,0 40,0
10,6	12,0	102,0	55,0	40,0
10,7	12,0	102,0	33,0	70,0

D	d(h6)	L	l1	ı
10,8	12,0	102,0	55,0	40,0
10,9	12,0	102,0	55,0	40,0
11,0	12,0	102,0	55,0	40,0
11,1	12,0	102,0	55,0	40,0
11,2	12,0	102,0	55,0	40,0
11,3	12,0	102,0	55,0	40,0
11,4	12,0	102,0	55,0	40,0
11,5	12,0	102,0	55,0	40,0
11,6	12,0	102,0	55,0	40,0
11,7	12,0	102,0	55,0	40,0
11,8	12,0	102,0	55,0	40,0
11,9	12,0	102,0	55,0	40,0
12,0	12,0	102,0	55,0	40,0
12,1	14,0	107,0	60,0	43,0
12,2	14,0	107,0	60,0	43,0
12,5	14,0	107,0	60,0	43,0
12,8	14,0	107,0	60,0	43,0
13,0	14,0	107,0	60,0	43,0
13,3	14,0	107,0	60,0	43,0
13,5	14,0	107,0	60,0	43,0
13,8	14,0	107,0	60,0	43,0
14,0	14,0	107,0	60,0	43,0
14,1	16,0	115,0	65,0	45,0
14,2	16,0	115,0	65,0	45,0
14,5	16,0	115,0	65,0	45,0
15,0	16,0	115,0	65,0	49,0
15,3	16,0	115,0	65,0	49,0
15,5	16,0	115,0	65,0	49,0
15,8	16,0	115,0	65,0	49,0
16,0	16,0	115,0	65,0	49,0
16,5	18,0	123,0	73,0	52,0
17,0	18,0	123,0	73,0	52,0
17,5	18,0	123,0	73,0	52,0
18,0 18,5	18,0	123,0 131,0	73,0 79,0	52,0
19,0	20,0 20,0	131,0	79,0	55,0 55,0
19,5	20,0	131,0	79,0	55,0
20,0	20,0	131,0	79,0	55,0
20,0	20,0	131,0	19,0	22,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID205\_1-10,0-НА - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535 ID205\_1-10,0-НЕ - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НЕ по DIN 6535

Артикул	СОЖ		
ID206	Внутренний		
D - 3-20			





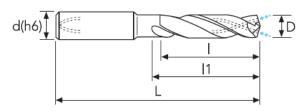






Спокрытием





Р	M	K	N	S	Н
0	•			0	

3,0         6,0         66,0         28,0         23,0           3,1         6,0         66,0         28,0         23,0           3,2         6,0         66,0         28,0         23,0           3,3         6,0         66,0         28,0         23,0           3,4         6,0         66,0         28,0         23,0           3,5         6,0         66,0         28,0         23,0           3,6         6,0         66,0         28,0         23,0           3,7         6,0         66,0         28,0         23,0           3,8         6,0         74,0         36,0         29,0           3,9         6,0         74,0         36,0         29,0           4,0         6,0         74,0         36,0         29,0           4,1         6,0         74,0         36,0         29,0           4,2         6,0         74,0         36,0         29,0           4,3         6,0         74,0         36,0         29,0           4,4         6,0         74,0         36,0         29,0           4,5         6,0         74,0         36,0         29,0
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5,9         6,0         82,0         44,0         35,0           6,0         6,0         82,0         44,0         35,0
6,0 6,0 82,0 44,0 35,0
6,1 8,0 91,0 53,0 43,0
6,2 8,0 91,0 53,0 43,0
6,3 8,0 91,0 53,0 43,0
6,4 8,0 91,0 53,0 43,0
6,5 8,0 91,0 53,0 43,0
6,6 8,0 91,0 53,0 43,0
6,7         8,0         91,0         53,0         43,0           6,8         8,0         91,0         53,0         43,0

D	d(h6)	L	l1	ı
6,9	8,0	91,0	53,0	43,0
7,0	8,0	91,0	53,0	43,0
7,1	8,0	91,0	53,0	43,0
7,2	8,0	91,0	53,0	43,0
7,3	8,0	91,0	53,0	43,0
7,4	8,0	91,0	53,0	43,0
7,5	8,0	91,0	53,0	43,0
7,6	8,0	91,0	53,0	43,0
7,7	8,0	91,0	53,0	43,0
7,8	8,0	91,0	53,0	43,0
7,9	8,0	91,0	53,0	43,0
8,0	8,0	91,0	53,0	43,0
8,1	10,0	103,0	61,0	49,0
8,2	10,0	103,0	61,0	49,0
8,3	10,0	103,0	61,0	49,0
8,4	10,0	103,0	61,0	49,0
8,5	10,0	103,0	61,0	49,0
8,6	10,0	103,0	61,0	49,0
8,7	10,0	103,0	61,0	49,0
8,8	10,0	103,0	61,0	49,0
8,9	10,0	103,0	61,0	49,0
9,0	10,0	103,0	61,0	49,0
9,1	10,0	103,0	61,0	49,0
9,2	10,0	103,0	61,0	49,0
9,3	10,0	103,0	61,0	49,0
9,4	10,0	103,0	61,0	49,0
9,5	10,0	103,0	61,0	49,0
9,6	10,0	103,0	61,0	49,0
9,7	10,0	103,0	61,0	49,0
9,8	10,0	103,0	61,0	49,0
9,9	10,0	103,0	61,0	49,0
10,0	10,0	103,0	61,0	49,0
10,1	12,0	118,0	71,0	52,0
10,2	12,0	118,0	71,0	52,0
10,3	12,0	118,0	71,0	52,0
10,4	12,0	118,0	71,0	52,0
10,5	12,0	118,0	71,0	52,0
10,6 10,7	12,0	118,0	71,0	52,0
10,7	12,0	118,0	71,0	52,0

D	d(h6)	L	l1	ı
10,8	12,0	118,0	71,0	52,0
10,9	12,0	118,0	71,0	52,0
11,0	12,0	118,0	71,0	52,0
11,1	12,0	118,0	71,0	52,0
11,2	12,0	118,0	71,0	52,0
11,3	12,0	118,0	71,0	52,0
11,4	12,0	118,0	71,0	52,0
11,5	12,0	118,0	71,0	52,0
11,6	12,0	118,0	71,0	52,0
11,7	12,0	118,0	71,0	52,0
11,8	12,0	118,0	71,0	52,0
11,9	12,0	118,0	71,0	52,0
12,0	12,0	118,0	71,0	52,0
12,1	14,0	124,0	77,0	63,0
12,2	14,0	124,0	77,0	63,0
12,5	14,0	124,0	77,0	63,0
12,8	14,0	124,0	77,0	63,0
13,0	14,0	124,0	77,0	63,0
13,3	14,0	124,0	77,0	63,0
13,5	14,0	124,0	77,0	63,0
13,8	14,0	124,0	77,0	63,0
14,0	14,0	124,0	77,0	63,0
14,1	16,0	133,0	83,0	67,0
14,2	16,0	133,0	83,0	67,0
14,5	16,0	133,0	83,0	67,0
15,0	16,0	133,0	83,0	67,0
15,3	16,0	133,0	83,0	67,0
15,5	16,0	133,0	83,0	67,0
15,8	16,0	133,0	83,0	67,0
16,0	16,0	133,0	83,0	67,0
16,5	18,0	143,0	93,0	75,0 75,0
17,0 17,5	18,0	143,0 143,0	93,0 93,0	
	18,0 18.0		93,0	75,0 75,0
18,0 18,5	18,0 20,0	143,0 153,0	101,0	81,0
19,0	20,0	153,0	101,0	81,0
19,5	20,0	153,0	101,0	81,0
20,0	20,0	153,0	101,0	81,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID206\_1-10,0-НА - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535 ID206\_1-10,0-НЕ - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НЕ по DIN 6535

Артикул	сож		
ID207	Внутренний		
D - 3-30			





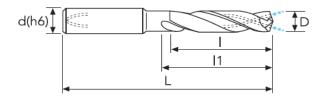






Полированные канавки





Р	M	K	N	S	Н
			•		

D	d(h6)	L	l1	ı
3,0	6,0	62,0	20,0	14,0
3,1	6,0	62,0	20,0	14,0
3,2	6,0	62,0	20,0	14,0
3,3	6,0	62,0	20,0	14,0
3,4	6,0	62,0	20,0	14,0
3,5	6,0	62,0	20,0	14,0
3,6	6,0	62,0	20,0	14,0
3,7	6,0	62,0	20,0	14,0
3,8	6,0	66,0	24,0	17,0
3,9	6,0	66,0	24,0	17,0
4,0	6,0	66,0	24,0	17,0
4,1	6,0	66,0	24,0	17,0
4,2	6,0	66,0	24,0	17,0
4,1 4,2 4,3	6,0	66,0	24,0	17,0
4,4	6,0	66,0	24,0	17,0
4,5	6,0	66,0	24,0	17,0
4,6	6,0	66,0	24,0	17,0
4,7	6,0	66,0	24,0	17,0
4,8	6,0	66,0	28,0	20,0
4,8 4,9	6,0	66,0	28,0	20,0
5,0	6,0	66,0	28,0	20,0
5,0 5,1	6,0	66,0	28,0	20,0
5,2 5,3	6,0	66,0	28,0	20,0
5,3	6,0	66,0	28,0	20,0
5,4	6,0	66,0	28,0	20,0
5,5	6,0	66,0	28,0	20,0
5,6	6,0	66,0	28,0	20,0
5,6 5,7	6,0	66,0	28,0	20,0
5,8	6,0	66,0	28,0	20,0
5,9	6,0	66,0	28,0	20,0
6,0	6,0	66,0	28,0	20,0
6,1	8,0	79,0	34,0	24,0
6,2	8,0	79,0	34,0	24,0

D	d(h6)	L	l1	ı
6,3	8,0	79,0	34,0	24,0
6,4	8,0	79,0	34,0	24,0
6,5	8,0	79,0	34,0	24,0
6,6	8,0	79,0	34,0	24,0
6,7	8,0	79,0	34,0	24,0
6,8	8,0	79,0	34,0	24,0
6,9	8,0	79,0	34,0	24,0
7,0	8,0	79,0	34,0	24,0
7,1	8,0	79,0	41,0	29,0
7,2	8,0	79,0	41,0	29,0
7,3	8,0	79,0	41,0	29,0
7,4	8,0	79,0	41,0	29,0
7,5	8,0	79,0	41,0	29,0
7,6	8,0	79,0	41,0	29,0
7,7	8,0	79,0	41,0	29,0
7,4 7,5 7,6 7,7 7,8	8,0	79,0	41,0	29,0
7,9	8,0	79,0	41,0	29,0
8,0	8,0	79,0	41,0	29,0
8,1	10,0	89,0	47,0	35,0
8,2	10,0	89,0	47,0	35,0
8,3	10,0	89,0	47,0	35,0
8,4	10,0	89,0	47,0	35,0
8,4 8,5 8,6	10,0	89,0	47,0	35,0
8,6	10,0	89,0	47,0	35,0
8,7	10,0	89,0	47,0	35,0
8,8	10,0	89,0	47,0	35,0
8,9	10,0	89,0	47,0	35,0
9,0	10,0	89,0	47,0	35,0
9,1	10,0	89,0	47,0	35,0
9,2	10,0	89,0	47,0	35,0
9,3	10,0	89,0	47,0	35,0
9,3 9,4	10,0	89,0	47,0	35,0
9,5	10,0	89,0	47,0	35,0

D	d(h6)	L	l1	ı
9,6	10,0	89,0	47,0	35,0
9,7	10,0	89,0	47,0	35,0
9,8	10,0	89,0	47,0	35,0
9,9	10,0	89,0	47,0	35,0
10,0	10,0	89,0	47,0	35,0
10,2	12,0	102,0	55,0	40,0
10,3	12,0	102,0	55,0	40,0
10,5	12,0	102,0	55,0	40,0
10,8	12,0	102,0	55,0	40,0
11,0	12,0	102,0	55,0	40,0
11,2	12,0	102,0	55,0	40,0
11,3	12,0	102,0	55,0	40,0
11,5	12,0	102,0	55,0	40,0
11,8	12,0	102,0	55,0	40,0
12,0	12,0	102,0	55,0	40,0
12,2	14,0	107,0	60,0	43,0
12,5	14,0	107,0	60,0	43,0
12,8	14,0	107,0	60,0	43,0
13,0	14,0	107,0	60,0	43,0
13,5	14,0	107,0	60,0	43,0
14,0	14,0	107,0	60,0	43,0
14,5	16,0	115,0	65,0	45,0
15,0	16,0	115,0	65,0	65,0
15,5	16,0	115,0	65,0	65,0
16,0	16,0	115,0	65,0	65,0
16,5	18,0	123,0	73,0	73,0
17,0	18,0	123,0	73,0	73,0
17,5	18,0	123,0	73,0	73,0
18,0	18,0	123,0	73,0	73,0
18,5	20,0	131,0	79,0	79,0
19,0	20,0	131,0	79,0	79,0
19,5	20,0	131,0	79,0	79,0
20,0	20,0	131,0	79,0	79,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID207-10,0-НА - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535 ID207-10,0-НЕ - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НЕ по DIN 6535

Артикул	СОЖ			
ID208	Внутренний			
D = 3-20				





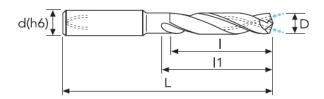






Полированные канавки





Р	M	K	N	S	Н
			•		

D	d(h6)	L	ı	l1
3,0	6,0	66,0	28,0	23,0
3,1	6,0	66,0	28,0	23,0
3,2	6,0	66,0	28,0	23,0
3,3	6,0	66,0	28,0	23,0
3,4	6,0	66,0	28,0	23,0
3,5	6,0	66,0	28,0	23,0
3,6	6,0	66,0	28,0	23,0
3,7	6,0	66,0	28,0	23,0
3,8	6,0	74,0	36,0	29,0
3,9	6,0	74,0	36,0	29,0
4,0	6,0	74,0	36,0	29,0
4,1	6,0	74,0	36,0	29,0
4,2	6,0	74,0	36,0	29,0
4,3	6,0	74,0	36,0	29,0
4,4	6,0	74,0	36,0	29,0
4,5	6,0	74,0	36,0	29,0
4,6	6,0	74,0	36,0	29,0
4,7	6,0	74,0	36,0	29,0
4,8	6,0	82,0	44,0	35,0
4,9	6,0	82,0	44,0	35,0
5,0	6,0	82,0	44,0	35,0
5,1 5,2	6,0	82,0	44,0	35,0
5,2	6,0	82,0	44,0	35,0
5,3	6,0	82,0	44,0	35,0
5,4	6,0	82,0	44,0	35,0
5,5	6,0	82,0	44,0	35,0
5,6 5,7	6,0	82,0	44,0	35,0
5,7	6,0	82,0	44,0	35,0
5,8	6,0	82,0	44,0	35,0
5,9	6,0	82,0	44,0	35,0
6,0	6,0	82,0	44,0	35,0
6,1	8,0	91,0	53,0	43,0

D	d(h6)	L	ı	l1
6,2	8,0	91,0	53,0	43,0
6,3	8,0	91,0	53,0	43,0
6,4	8,0	91,0	53,0	43,0
6,5	8,0	91,0	53,0	43,0
6,6	8,0	91,0	53,0	43,0
6,7	8,0	91,0	53,0	43,0
6,8	8,0	91,0	53,0	43,0
6,9	8,0	91,0	53,0	43,0
7,0	8,0	91,0	53,0	43,0
7,1	8,0	91,0	53,0	43,0
7,2	8,0	91,0	53,0	43,0
7,3	8,0	91,0	53,0	43,0
7,4	8,0	91,0	53,0	43,0
7,5	8,0	91,0	53,0	43,0
7,6	8,0	91,0	53,0	43,0
7,7	8,0	91,0	53,0	43,0
7,8	8,0	91,0	53,0	43,0
7,9	8,0	91,0	53,0	43,0
8,0	8,0	91,0	53,0	43,0
8,1	10,0	103,0	61,0	49,0
8,2	10,0	103,0	61,0	49,0
8,3	10,0	103,0	61,0	49,0
8,4	10,0	103,0	61,0	49,0
8,5	10,0	103,0	61,0	49,0
8,6	10,0	103,0	61,0	49,0
8,7	10,0	103,0	61,0	49,0
8,8	10,0	103,0	61,0	49,0
8,9	10,0	103,0	61,0	49,0
9,0	10,0	103,0	61,0	49,0
9,1	10,0	103,0	61,0	49,0
9,2	10,0	103,0	61,0	49,0
9,3	10,0	103,0	61,0	49,0

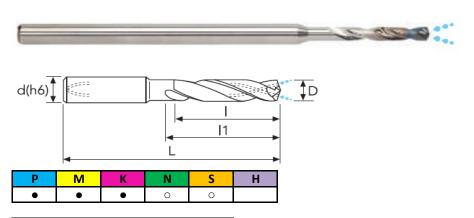
D	d(h6)	L	ı	l1
9,4	10,0	103,0	61,0	49,0
9,5	10,0	103,0	61,0	61,0
9,6	10,0	103,0	61,0	61,0
9,7	10,0	103,0	61,0	61,0
9,8	10,0	103,0	61,0	61,0
9,9	10,0	103,0	61,0	61,0
10,0	10,0	103,0	61,0	61,0
10,2	12,0	118,0	71,0	71,0
10,5	12,0	118,0	71,0	71,0
10,8	12,0	118,0	71,0	71,0
11,0	12,0	118,0	71,0	71,0
11,2	12,0	118,0	71,0	71,0
11,3	12,0	118,0	71,0	71,0
11,5	12,0	118,0	71,0	71,0
11,8	12,0	118,0	71,0	71,0
12,0	12,0	118,0	71,0	71,0
12,5	14,0	124,0	77,0	77,0
13,0	14,0	124,0	77,0	77,0
13,5	14,0	124,0	77,0	77,0
14,0	14,0	124,0	77,0	77,0
14,5	16,0	133,0	83,0	83,0
15,0	16,0	133,0	83,0	83,0
15,5	16,0	133,0	83,0	83,0
16,0	16,0	133,0	83,0	83,0
16,5	18,0	143,0	93,0	93,0
17,0	18,0	143,0	93,0	93,0
17,5	18,0	143,0	93,0	93,0
18,0	18,0	143,0	93,0	93,0
18,5	20,0	153,0	101,0	101,0
19,0	20,0	153,0	101,0	101,0
19,5	20,0	153,0	101,0	101,0
20,0	20,0	153,0	101,0	101,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID208-10,0-НА - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535 ID208-10,0-НЕ - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НЕ по DIN 6535

# Сверла Артикул СОЖ ID209 Внутренний D = 1-3 5×d₁ TO НА ID209 Канавки, с покрытием





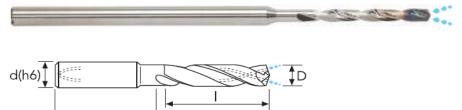
D	d(h6)	L	l1	ı
1,0	3,0	50,0	8,0	6,5
1,1	3,0	50,0	8,7	7,2
1,2	3,0	50,0	9,3	7,8
1,3	3,0	50,0	10,0	8,5
1,4	3,0	50,0	10,6	9,1
1,5	3,0	50,0	11,3	9,8
1,6	3,0	50,0	11,9	10,4
1,7	3,0	55,0	12,6	11,1
1,8	3,0	55,0	13,2	11,7
1,9	3,0	55,0	13,9	12,4
2,0	3,0	55,0	16,0	13,0
2,1	3,0	55,0	16,9	13,7
2,2	3,0	55,0	17,6	14,3
2,3	3,0	55,0	18,5	15,0
2,4	3,0	55,0	19,2	15,6
2,5	3,0	55,0	20,1	16,3
2,6	3,0	55,0	20,8	16,9
2,7	3,0	55,0	21,7	17,6
2,8	3,0	55,0	22,4	18,2
2,9	3,0	55,0	23,3	18,9
3,0	3,0	55,0	24,0	19,5

При заказе указывать: артикул, диаметр D, тип хвостовика.

**Пример: ID209-2,0-НА** - сверло диаметром 2,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535

# Сверла Артикул СОЖ ID210 Внутренний D = 1-3 8×d, 135° НА Полированные канавки, с покрытием





	•		L	- 11	
Р	M	K	N	S	Н
•	•	•	0	0	

D	d(h6)	L	I	l1
1,0	3,0	50,0	9,5	11,0
1,1	3,0	50,0	10,5	12,0
1,2	3,0	50,0	11,4	12,9
1,3	3,0	50,0	12,4	13,9
1,4	3,0	50,0	13,3	14,8
1,5	3,0	50,0	14,3	15,8
1,6	3,0	50,0	15,2	16,7
1,7	3,0	60,0	16,2	17,7
1,8	3,0	60,0	17,1	18,6
1,9	3,0	60,0	18,1	19,6
2,0	3,0	60,0	19,0	22,0
2,1	3,0	60,0	20,0	23,2
2,2	3,0	60,0	20,9	24,2
2,3	3,0	60,0	21,9	25,4
2,4	3,0	60,0	22,8	26,4
2,5	3,0	60,0	23,8	27,6
2,6	3,0	60,0	24,7	28,6
2,7	3,0	60,0	25,7	29,8
2,8	3,0	60,0	26,6	30,8
2,9	3,0	60,0	27,6	32,0
3,0	3,0	60,0	28,5	33,0

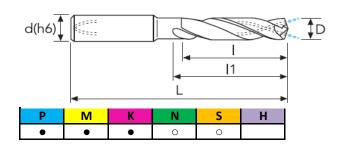
При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID210-2,0-HA - сверло диаметром 2,0 с внутренними каналами охлаждения, форма хвостовика HA по DIN 6535

# Сверла Артикул СОЖ ID211 Внутренний D = 1-3 12xD 12xD Полированные канавки, с покрытием







D	d(h6)	L	I	l1
1,0	3,0	55,0	13,5	15,0
1,1	3,0	55,0	14,9	16,4
1,2	3,0	55,0	16,2	17,7
1,3	3,0	55,0	17,6	19,1
1,4	3,0	55,0	18,9	20,4
1,5	3,0	55,0	20,3	21,8
1,6	3,0	65,0	21,6	23,1
1,7	3,0	65,0	23,0	24,5
1,8	3,0	65,0	24,3	25,8
1,9	3,0	65,0	25,7	27,2
2,0	3,0	65,0	27,0	30,0
2,1	3,0	65,0	28,4	31,6
2,2	3,0	65,0	29,7	33,0
2,3	3,0	65,0	31,1	34,6
2,4	3,0	75,0	32,4	36,0
2,5	3,0	75,0	33,8	37,6
2,6	3,0	75,0	35,1	39,0
2,7	3,0	75,0	36,5	40,6
2,8	3,0	75,0	37,8	42,0
2,9	3,0	75,0	39,2	43,6
3,0	3,0	75,0	40,5	45,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID211-2,0-НА - сверло диаметром 2,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535

#### Сверла СОЖ Артикул ID212 Внутренний D = 1-3





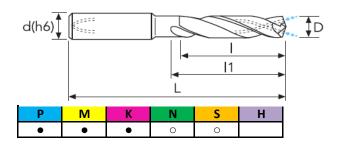




Полированные канавки, с покрытием







D	d(h6)	L		l1
1,0	3,0	65,0	21,5	23,0
1,1	3,0	65,0	23,7	25,2
1,2	3,0	65,0	25,8	27,3
1,3	3,0	65,0	28,0	29,5
1,4	3,0	65,0	30,1	31,6
1,5	3,0	75,0	32,3	33,8
1,6	3,0	75,0	34,4	35,9
1,7	3,0	75,0	36,6	38,1
1,8	3,0	75,0	38,7	40,2
1,9	3,0	75,0	40,9	42,4
2,0	3,0	82,0	43,0	46,0
2,1	3,0	82,0	45,2	48,4
2,2	3,0	82,0	47,3	50,6
2,3	3,0	100,0	49,5	53,0
2,4	3,0	100,0	51,6	55,2
2,5	3,0	100,0	53,8	57,6
2,6	3,0	100,0	55,9	59,8
2,7	3,0	100,0	58,1	62,2
2,8	3,0	100,0	60,2	64,4
2,9	3,0	100,0	61,4	65,8
3,0	3,0	100,0	64,5	69,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID212-2,0-НА - сверло диаметром 2,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535

## Артикул СОЖ ID213 Внутренний D = 1-3

25xD



Сверла

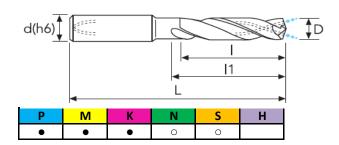




Полированные канавки, с покрытием







D	d(h6)	L	I	l1
1,0	3,0	70,0	26,5	28,0
1,1	3,0	70,0	29,2	30,7
1,2	3,0	75,0	31,8	33,3
1,3	3,0	75,0	34,5	36,0
1,4	3,0	75,0	37,1	38,6
1,5	3,0	80,0	39,8	41,3
1,6	3,0	80,0	42,4	43,9
1,7	3,0	80,0	45,1	46,6
1,8	3,0	90,0	47,7	49,2
1,9	3,0	90,0	50,4	51,9
2,0	3,0	90,0	53,0	56,0
2,1	3,0	100,0	55,7	58,8
2,2	3,0	100,0	58,3	61,6
2,3	3,0	100,0	61,0	64,4
2,4	3,0	100,0	63,6	67,2
2,5	3,0	110,0	66,3	70,0
2,6	3,0	110,0	68,9	72,8
2,7	3,0	110,0	71,6	75,6
2,8	3,0	110,0	74,2	78,4
2,9	3,0	120,0	76,9	81,2
3,0	3,0	120,0	79,5	84,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID213-2,0-НА - сверло диаметром 2,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535

### Артикул СОЖ ID214 Внутренний D = 1-3





Сверла

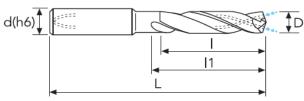




Полированные канавки, с покрытием







Р	M	K	N	S	Н
•	•	•	0	0	

D	d(h6)	L		l1
1,0	3,0	75,0	31,5	33,0
1,1	3,0	75,0	34,7	36,2
1,2	3,0	75,0	37,8	39,3
1,3	3,0	85,0	41,0	42,5
1,4	3,0	85,0	44,1	45,6
1,5	3,0	85,0	47,3	48,8
1,6	3,0	90,0	50,4	51,9
1,7	3,0	90,0	53,6	55,1
1,8	3,0	100,0	56,7	58,2
1,9	3,0	100,0	59,9	61,4
2,0	3,0	100,0	63,0	66,0
2,1	3,0	110,0	66,2	69,3
2,2	3,0	110,0	69,3	72,6
2,3	3,0	110,0	72,5	75,9
2,4	3,0	120,0	75,6	79,2
2,5	3,0	120,0	78,8	82,5
2,6	3,0	120,0	81,9	85,8
2,7	3,0	130,0	85,1	89,1
2,8	3,0	130,0	88,2	92,4
2,9	3,0	130,0	91,4	95,7
3,0	3,0	130,0	94,5	99,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID214-2,0-НА - сверло диаметром 2,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535

Артикул	сож	
ID215	Внутренний	
D = 3-10		



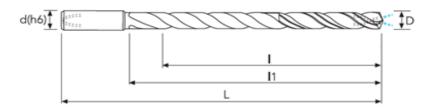






Спокрытием





Для пилотного отверстия (1xD÷1.5xD) используйте сверло ID201.

Р	M	K	N	S	Н
•	•	•	0	0	

D	d(h6)	L	l1	I
3,1	4,0	85,0	50,0	45,0
3,2	4,0	85,0	50,0	45,0
3,3	4,0	85,0	50,0	45,0
3,4	4,0	90,0	54,0	48,0
3,5	4,0	90,0	54,0	48,0
3,6	4,0	90,0	54,0	48,0
3,7	4,0	90,0	54,0	48,0
3,8	4,0	100,0	64,0	57,0
3,9	4,0	100,0	64,0	57,0
4,0	4,0	100,0	64,0	57,0
4,1	5,0	100,0	64,0	57,0
4,2	5,0	100,0	64,0	57,0
4,3	5,0	100,0	64,0	57,0
4,4	5,0	100,0	64,0	57,0
4,5	5,0	100,0	64,0	57,0
4,6	5,0	100,0	64,0	57,0
4,7	5,0	100,0	64,0	57,0
4,8	5,0	110,0	74,0	67,0
4,9	5,0	120,0	81,0	72,0
5,0	5,0	120,0	81,0	72,0
5,1	6,0	120,0	81,0	72,0
5,2	6,0	120,0	81,0	72,0
5,3	6,0	120,0	81,0	72,0
5,4	6,0	120,0	81,0	72,0
5,5	6,0	120,0	81,0	72,0
5,6	6,0	120,0	81,0	72,0
5,7	6,0	120,0	81,0	72,0
5,8	6,0	120,0	81,0	72,0
5,9	6,0	120,0	81,0	72,0
6,0	6,0	120,0	81,0	72,0
6,1	8,0	135,0	97,0	88,0
6,2	8,0	135,0	97,0	88,0
6,3	8,0	135,0	97,0	88,0
6,4	8,0	145,0	108,0	96,0
6,5	8,0	145,0	108,0	96,0

D	d(h6)	L	l1	ı
6,6	8,0	145,0	108,0	96,0
6,7	8,0	145,0	108,0	96,0
6,8	8,0	145,0	108,0	96,0
6,9	8,0	145,0	108,0	96,0
7,0	8,0	145,0	108,0	96,0
7,1	8,0	145,0	108,0	96,0
7,2	8,0	145,0	108,0	96,0
7,3	8,0	145,0	108,0	96,0
7,4	8,0	145,0	108,0	96,0
7,5	8,0	145,0	108,0	96,0
7,6	8,0	145,0	108,0	96,0
7,7	8,0	145,0	108,0	96,0
7,8	8,0	145,0	108,0	96,0
7,9	8,0	145,0	108,0	96,0
8,0	8,0	145,0	108,0	96,0
8,1	10,0	170,0	127,0	115,0
8,2	10,0	180,0	135,0	120,0
8,3	10,0	180,0	135,0	120,0
8,4	10,0	180,0	135,0	120,0
8,5	10,0	180,0	135,0	120,0
8,6	10,0	180,0	135,0	120,0
8,7	10,0	180,0	135,0	120,0
8,8	10,0	180,0	135,0	120,0
8,9	10,0	180,0	135,0	120,0
9,0	10,0	180,0	135,0	120,0
9,1	10,0	180,0	135,0	120,0
9,2	10,0	180,0	135,0	120,0
9,3	10,0	180,0	135,0	120,0
9,4	10,0	180,0	135,0	120,0
9,5	10,0	180,0	135,0	120,0
9,6	10,0	180,0	135,0	120,0
9,7	10,0	180,0	135,0	120,0
9,8	10,0	180,0	135,0	120,0
9,9	10,0	180,0	135,0	120,0
10,0	10,0	180,0	135,0	120,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID215-10,0-НА - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535

Артикул СОЖ ID216 Внутренний D = 3-10



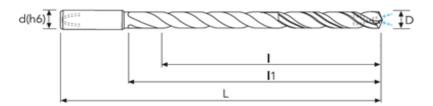






Спокрытием





Для пилотного отверстия (1xD÷1.5xD) используйте сверло ID201.

Р	M	K	N	S	Н
•	•	•	0	0	

D	d(h6)	L	l1	I
3,1	4,0	90,0	55,0	50,0
3,2	4,0	90,0	55,0	50,0
3,3	4,0	90,0	56,0	52,0
3,4	4,0	95,0	58,0	53,0
3,5	4,0	95,0	60,0	55,0
3,6	4,0	95,0	61,0	56,0
3,7	4,0	100,0	63,0	58,0
3,8	4,0	100,0	65,0	60,0
3,9	4,0	100,0	66,0	60,0
4,0	4,0	105,0	68,0	62,0
4,1	5,0	105,0	70,0	64,0
4,2	5,0	110,0	71,0	65,0
4,3	5,0	110,0	73,0	67,0
4,4	5,0	110,0	75,0	68,0
4,5	5,0	115,0	76,0	70,0
4,6	5,0	115,0	78,0	71,0
4,7	5,0	115,0	80,0	73,0
4,8	5,0	115,0	82,0	75,0
4,9	5,0	120,0	83,0	76,0
5,0	5,0	120,0	85,0	77,0
5,1	6,0	125,0	86,0	79,0
5,2	6,0	125,0	88,0	80,0
5,3	6,0	130,0	89,0	82,0
5,4	6,0	130,0	91,0	83,0
5,5	6,0	130,0	93,0	85,0
5,6	6,0	135,0	94,0	86,0
5,7	6,0	135,0	96,0	88,0
5,8	6,0	135,0	98,0	89,0
5,9	6,0	140,0	99,0	91,0
6,0	6,0	140,0	101,0	92,0
6,1	8,0	140,0	103,0	94,0
6,2	8,0	140,0	104,0	95,0
6,3	8,0	145,0	108,0	98,0
6,4	8,0	145,0	110,0	100,0
6,5	8,0	150,0	110,0	100,0

D	d(h6)	L	l1	- 1
6,6	8,0	150,0	111,0	101,0
6,7	8,0	150,0	113,0	103,0
6,8	8,0	155,0	114,0	104,0
6,9	8,0	155,0	116,0	106,0
7,0	8,0	160,0	118,0	107,0
7,1	8,0	160,0	119,0	109,0
7,2	8,0	160,0	121,0	110,0
7,3	8,0	165,0	122,0	112,0
7,4	8,0	165,0	124,0	113,0
7,5	8,0	165,0	126,0	115,0
7,6	8,0	170,0	127,0	116,0
7,7	8,0	170,0	129,0	118,0
7,8	8,0	170,0	131,0	119,0
7,9	8,0	175,0	132,0	121,0
8,0	8,0	175,0	134,0	122,0
8,1	10,0	180,0	137,0	125,0
8,2	10,0	180,0	137,0	125,0
8,3	10,0	180,0	139,0	127,0
8,4	10,0	185,0	141,0	128,0
8,5	10,0	185,0	142,0	130,0
8,6	10,0	185,0	144,0	131,0
8,7	10,0	190,0	146,0	133,0
8,8	10,0	190,0	147,0	134,0
8,9	10,0	190,0	149,0	136,0
9,0	10,0	195,0	151,0	137,0
9,1	10,0	195,0	152,0	139,0
9,2	10,0	195,0	154,0	140,0
9,3	10,0	200,0	155,0	142,0
9,4	10,0	200,0	157,0	143,0
9,5	10,0	200,0	159,0	145,0
9,6	10,0	205,0	160,0	146,0
9,7	10,0	205,0	162,0	148,0
9,8	10,0	205,0	164,0	149,0
9,9	10,0	210,0	165,0	151,0
10,0	10,0	210,0	167,0	152,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID216-10,0-НА - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535

Артикул СОЖ
ID217 Внутренний
D = 3-10

20xD

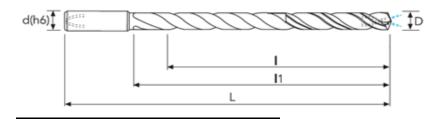






Спокрытием





Для пилотного отверстия (1xD÷1.5xD) используйте сверло ID201.

•	•	•	0	0
D	d(h6)	L	l1	ı
3,1	4,0	105,0	69,0	64,0
3,2	4,0	105,0	71,0	66,0
3,3	4,0	110,0	73,0	68,0
3,4	4,0	110,0	75,0	70,0
3,5	4,0	110,0	77,0	72,0
3,6	4,0	115,0	79,0	74,0
3,7	4,0	115,0	82,0	76,0
3,8	4,0	120,0	84,0	78,0
3,9	4,0	120,0	86,0	80,0
4,0	4,0	125,0	88,0	82,0
4,1	5,0	125,0	90,0	84,0
4,1 4,2	5,0	130,0	92,0	86,0
4,3	5,0	130,0	94,0	88,0
4,4	5,0	135,0	97,0	90,0
4,5	5,0	135,0	99,0	92,0
4,6	5,0	140,0	101,0	94,0
4,7	5,0	140,0	103,0	96,0
4,8	5,0	140,0	105,0	98,0
4,9	5,0	145,0	107,0	100,0
5,0	5,0	145,0	110,0	102,0
5,1	6,0	150,0	112,0	104,0
5,2	6,0	155,0	114,0	106,0
5,3	6,0	155,0	116,0	108,0
5,4 5,5	6,0	155,0	118,0	110,0
5,5	6,0	160,0	120,0	112,0
5,6	6,0	160,0	122,0	114,0
5,7	6,0	165,0	125,0	116,0
5,8	6,0	165,0	127,0	118,0
5,9	6,0	170,0	129,0	120,0
6,0	6,0	170,0	131,0	122,0
6,1	8,0	170,0	133,0	124,0
6,2	8,0	175,0	135,0	126,0
6,3	8,0	175,0	137,0	128,0
6,4	8,0	180,0	140,0	130,0
6,5	8,0	180,0	142,0	132,0

D	d(h6)	L	l1	I
6,6	8,0	185,0	144,0	134,0
6,7	8,0	185,0	146,0	136,0
6,8	8,0	185,0	148,0	138,0
6,9	8,0	190,0	150,0	140,0
7,0	8,0	195,0	153,0	142,0
7,1	8,0	195,0	155,0	144,0
7,2	8,0	200,0	157,0	146,0
7,3	8,0	200,0	159,0	148,0
7,4	8,0	200,0	161,0	150,0
7,5	8,0	205,0	163,0	152,0
7,6	8,0	205,0	165,0	154,0
7,7	8,0	210,0	168,0	156,0
7,8	8,0	210,0	170,0	158,0
7,9	8,0	215,0	172,0	160,0
8,0	8,0	215,0	174,0	162,0
8,1	10,0	220,0	176,0	164,0
8,1 8,2	10,0	220,0	178,0	166,0
8,3	10,0	225,0	180,0	168,0
8,4	10,0	225,0	183,0	170,0
8,5	10,0	230,0	185,0	172,0
8,6	10,0	230,0	187,0	174,0
8,7	10,0	230,0	189,0	176,0
8,8	10,0	235,0	191,0	178,0
8,9	10,0	235,0	193,0	180,0
9,0	10,0	240,0	196,0	182,0
9,1	10,0	240,0	198,0	184,0
9,2	10,0	245,0	200,0	186,0
9,3	10,0	245,0	202,0	188,0
9,4	10,0	245,0	204,0	190,0
9,5	10,0	250,0	206,0	192,0
9,6	10,0	250,0	208,0	194,0
9,7	10,0	255,0	211,0	196,0
9,8	10,0	255,0	213,0	198,0
9,9	10,0	260,0	215,0	200,0
10,0	10,0	260,0	217,0	202,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID217-10,0-HA - сверло диаметром 10,0 с внутренними каналами охлаждения, форма хвостовика HA по DIN 6535

Артикул	сож		
ID218	Внутренний		
d1 = 3-9 5			

25xD

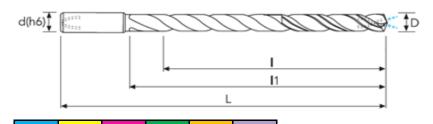






Спокрытием





Для пилотного отверстия (1xD÷1.5xD) используйте сверло ID201.

D	d(h6)	L	l1	ı
3,1	4,0	120,0	83,0	79,0
3,2	4,0	120,0	86,0	81,0
3,3	4,0	125,0	88,0	84,0
3,4	4,0	125,0	91,0	86,0
3,5	4,0	130,0	94,0	89,0
3,6	4,0	130,0	96,0	91,0
3,7	4,0	135,0	99,0	94,0
3,8	4,0	135,0	102,0	96,0
3,9	4,0	140,0	104,0	99,0
4,0	4,0	140,0	107,0	101,0
4,1	5,0	145,0	110,0	104,0
4,2	5,0	150,0	112,0	106,0
4,3	5,0	150,0	115,0	109,0
4,4	5,0	155,0	118,0	111,0
4,5	5,0	155,0	120,0	114,0
4,6	5,0	160,0	123,0	116,0
4,7	5,0	165,0	126,0	119,0
4,8	5,0	165,0	128,0	121,0
4,9	5,0	170,0	131,0	124,0
5,0	5,0	170,0	134,0	126,0
5,1	6,0	175,0	136,0	129,0
5,0 5,1 5,2	6,0	180,0	139,0	131,0
5,3	6,0	180,0	141,0	134,0
5,4	6,0	185,0	144,0	136,0
5,5	6,0	185,0	147,0	139,0
5,6	6,0	190,0	149,0	141,0
5,7	6,0	190,0	152,0	144,0
5,8	6,0	195,0	155,0	146,0
5,9	6,0	195,0	157,0	149,0
6,0	6,0	200,0	160,0	151,0
6,1	8,0	200,0	163,0	154,0
6,2	8,0	205,0	165,0	156,0

D	d(h6)	L	l1	I
6,3	8,0	205,0	168,0	159,0
6,4	8,0	210,0	171,0	161,0
6,5	8,0	210,0	173,0	164,0
6,6	8,0	215,0	176,0	166,0
6,7	8,0	220,0	179,0	169,0
6,8	8,0	220,0	181,0	171,0
6,9	8,0	225,0	184,0	174,0
7,0	8,0	230,0	187,0	179,0
7,1	8,0	230,0	189,0	179,0
7,2	8,0	235,0	192,0	181,0
7,3	8,0	235,0	194,0	184,0
7,4	8,0	240,0	197,0	186,0
7,5	8,0	240,0	200,0	189,0
7,6	8,0	245,0	202,0	191,0
7,7	8,0	245,0	205,0	194,0
7,8	8,0	250,0	208,0	196,0
7,9	8,0	250,0	210,0	199,0
8,0	8,0	255,0	213,0	201,0
8,1	10,0	260,0	216,0	204,0
8,2	10,0	260,0	218,0	206,0
8,3	10,0	265,0	221,0	209,0
8,4	10,0	265,0	224,0	211,0
8,5	10,0	270,0	226,0	214,0
8,6	10,0	270,0	229,0	216,0
8,7	10,0	275,0	232,0	219,0
8,8	10,0	275,0	234,0	221,0
8,9	10,0	280,0	237,0	224,0
9,0	10,0	285,0	240,0	226,0
9,1	10,0	285,0	242,0	229,0
9,2	10,0	290,0	245,0	231,0
9,3	10,0	290,0	247,0	234,0
9,4	10,0	295,0	250,0	236,0
9,5	10,0	295,0	253,0	239,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID218-8,0-HA - сверло диаметром 8,0 с внутренними каналами охлаждения, форма хвостовика HA по DIN 6535

Артикул	сож	
ID219	Внутренний	
41 – 3-8 D		



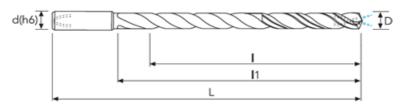






Спокрытием





Для пилотного отверстия (1xD÷1.5xD) используйте сверло ID201.

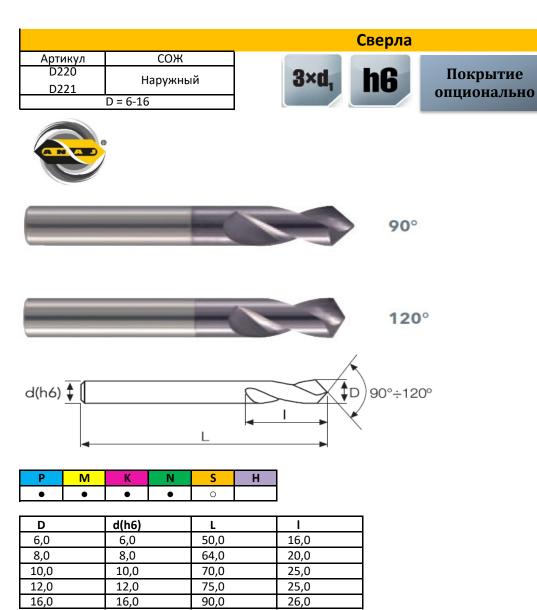
Р	M	K	N	S	Н
•	•	•	0	0	

D	d(h6)	L	l1	I
3,1	4,0	135,0	99,0	94,0
3,2	4,0	135,0	102,0	97,0
3,3	4,0	140,0	105,0	100,0
3,4	4,0	145,0	108,0	103,0
3,5	4,0	154,0	111,0	106,0
3,6	4,0	150,0	114,0	109,0
3,7	4,0	155,0	118,0	112,0
3,8	4,0	155,0	121,0	115,0
3,9	4,0	160,0	124,0	118,0
4,0	4,0	160,0	127,0	121,0
4,1	5,0	165,0	130,0	124,0
4,2	5,0	170,0	133,0	127,0
4,3	5,0	175,0	136,0	130,0
4,4	5,0	175,0	140,0	133,0
4,5	5,0	180,0	143,0	136,0
4,6	5,0	185,0	146,0	139,0
4,7	5,0	185,0	149,0	142,0
4,8	5,0	190,0	152,0	145,0
4,9	5,0	190,0	155,0	148,0
5,0	5,0	195,0	159,0	151,0
5,1	6,0	200,0	162,0	154,0
5,2	6,0	205,0	165,0	157,0
5,3	6,0	205,0	168,0	160,0
5,4	6,0	210,0	171,0	163,0
5,5	6,0	215,0	174,0	166,0

D	d(h6)	L	l1	- 1
5,6	6,0	215,0	177,0	169,0
5,7	6,0	220,0	181,0	172,0
5,8	6,0	225,0	184,0	175,0
5,9	6,0	225,0	187,0	178,0
6,0	6,0	230,0	190,0	181,0
6,1	8,0	230,0	193,0	184,0
6,2	8,0	235,0	196,0	187,0
6,3	8,0	240,0	199,0	190,0
6,4	8,0	240,0	203,0	193,0
6,5	8,0	245,0	206,0	196,0
6,6	8,0	250,0	209,0	199,0
6,7	8,0	250,0	212,0	202,0
6,8	8,0	255,0	215,0	205,0
6,9	8,0	255,0	218,0	208,0
7,0	8,0	265,0	222,0	211,0
7,1	8,0	265,0	225,0	214,0
7,2	8,0	270,0	228,0	217,0
7,3	8,0	270,0	231,0	220,0
7,4	8,0	275,0	234,0	223,0
7,5	8,0	280,0	237,0	226,0
7,6	8,0	280,0	240,0	229,0
7,7	8,0	285,0	244,0	232,0
7,8	8,0	290,0	247,0	235,0
7,9	8,0	290,0	250,0	238,0
8,0	8,0	295,0	253,0	241,0

При заказе указывать: артикул, диаметр D, тип хвостовика.

Пример: ID219-8,0-НА - сверло диаметром 8,0 с внутренними каналами охлаждения, форма хвостовика НА по DIN 6535



При заказе указывать: артикул, диаметр D.

**Пример: 1220-10,0** - сверло диаметром 10,0 без внутренних каналов охлаждения, форма хвостовика НА по DIN 6535