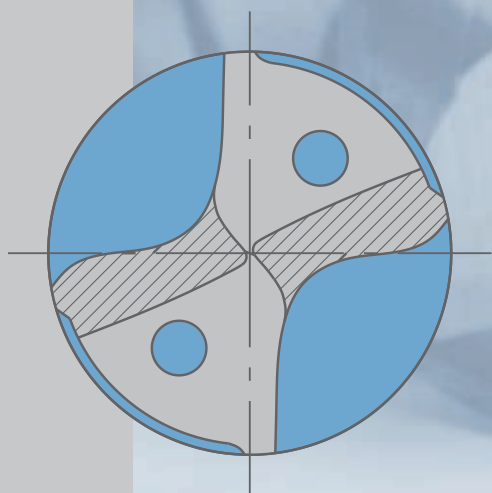
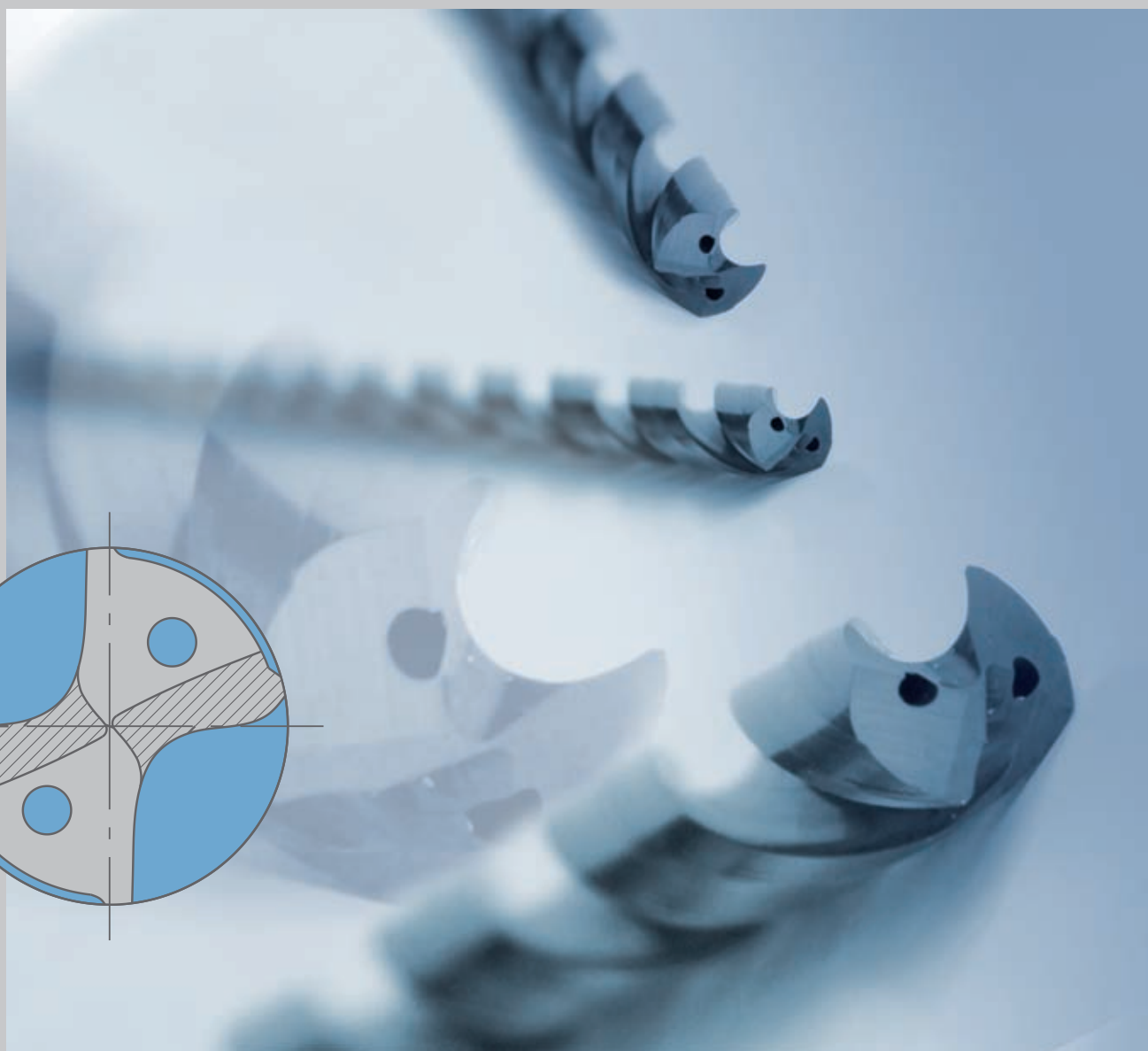


# MAPAL MEGA-Deep-Drill

Deep drill with 30° helix

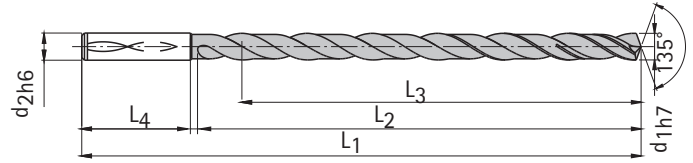


Perfect for you.

# MEGA-Deep-Drill

# 15xD

Solid carbide twist drill with internal coolant supply  
M2115



### Design:

Drill diameter:	3,00 – 16,00 mm
Shank form:	HA (DIN 6535, "A")
Coating:	MxF ("E")
No. of flutes:	2
Guiding margins:	4
Point geometry:	Special point geometry
Point angle:	135°
Helix:	30°

Drill diameter d <sub>1</sub> h7	Shank diameter d <sub>2</sub> h6	Dimensions					Order No.	Avail-ability
		Total length L <sub>1</sub>	Flute length L <sub>2</sub>	max. Drilling depth L <sub>3</sub>	L/d-ratio	Shank length L <sub>4</sub>		
3,00	4,00	90	56	52	17	32	M2115-0300AE	●
3,50	4,00	100	66	61	17	32	M2115-0350AE	●
4,00	4,00	100	66	60	15	32	M2115-0400AE	●
4,50	5,00	110	74	67	15	34	M2115-0450AE	●
5,00	5,00	120	84	77	15	34	M2115-0500AE	●
5,50	6,00	130	92	84	15	36	M2115-0550AE	●
6,00	6,00	140	102	93	16	36	M2115-0600AE	●
7,00	7,00	155	115	105	15	38	M2115-0700AE	●
8,00	8,00	175	133	121	15	40	M2115-0800AE	●
9,00	9,00	190	148	135	15	40	M2115-0900AE	●
10,00	10,00	210	168	153	15	40	M2115-1000AE	●
11,00	11,00	230	183	167	15	45	M2115-1100AE	●
12,00	12,00	250	203	185	15	45	M2115-1200AE	●
13,00	13,00	265	218	199	15	45	M2115-1300AE	●
14,00	14,00	285	233	212	15	50	M2115-1400AE	●
15,00	15,00	305	253	231	15	50	M2115-1500AE	●
16,00	16,00	320	268	244	15	50	M2115-1600AE	●

- Standard tool with limited stock availability (detailed delivery time on request).

Dimensions in mm.

For machining values see page 6/7.

### Intermediate sizes and other coatings:

Minimum order quantities for intermediate dimensions:

≤ ø 10 mm: 5 off

> ø 10 ≤ 20 mm: 3 off

> ø 20 mm: 2 off

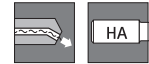
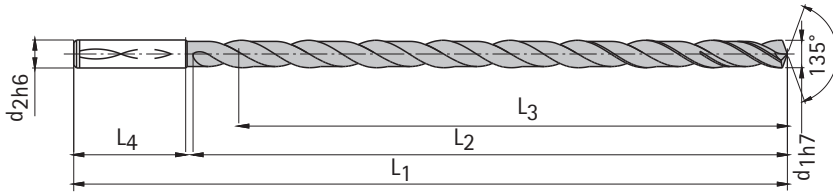
Prices and delivery times for intermediate sizes and other coatings available on request.

20xD

MEGA-Deep-Drill

Solid carbide twist drill with internal coolant supply

M2120



**Design:**

Drill diameter: 3,00 – 16,00 mm  
 Shank form: HA (DIN 6535, "A")  
 Coating: MxF ("E")  
 No. of flutes: 2  
 Guiding margins: 4  
 Point geometry: Special point geometry  
 Point angle: 135°  
 Helix: 30°

Drill diameter d <sub>1</sub> h7	Shank diameter d <sub>2</sub> h6	Dimensions					Order No.	Avail-ability
		Total length L <sub>1</sub>	Flute length L <sub>2</sub>	max. Drilling depth L <sub>3</sub>	L/d-ratio	Shank length L <sub>4</sub>		
3,00	4,00	110	74	70	23	32	M2120-0300AE	●
3,50	4,00	120	86	81	23	32	M2120-0350AE	●
4,00	4,00	120	86	80	20	32	M2120-0400AE	●
4,50	5,00	135	98	91	20	34	M2120-0450AE	●
5,00	5,00	145	109	102	20	34	M2120-0500AE	●
5,50	6,00	160	120	112	20	36	M2120-0550AE	●
6,00	6,00	170	130	121	20	36	M2120-0600AE	●
7,00	7,00	190	150	140	20	38	M2120-0700AE	●
8,00	8,00	215	173	161	20	40	M2120-0800AE	●
9,00	9,00	240	196	183	20	40	M2120-0900AE	●
10,00	10,00	260	218	203	20	40	M2120-1000AE	●
11,00	11,00	285	238	222	20	45	M2120-1100AE	●
12,00	12,00	305	258	240	20	45	M2120-1200AE	●
13,00	13,00	330	283	264	20	45	M2120-1300AE	●
14,00	14,00	355	303	282	20	50	M2120-1400AE	●
15,00	15,00	375	323	301	20	50	M2120-1500AE	●
16,00	16,00	400	348	324	20	50	M2120-1600AE	●

● available ex stock Germany

Dimensions in mm.  
 For machining values see page 6/7.

**Intermediate sizes and other coatings:**

Minimum order quantities for intermediate dimensions:

- ≤ ø 10 mm: 5 off
- > ø 10 ≤ 20 mm: 3 off
- > ø 20 mm: 2 off

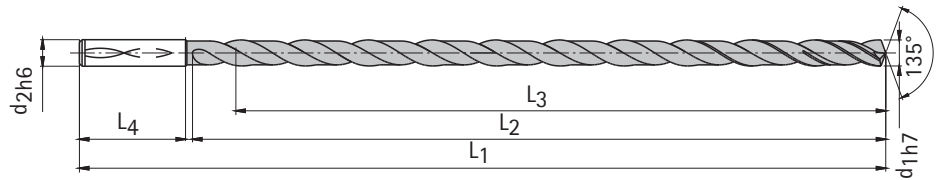
Prices and delivery times for intermediate sizes and other coatings available on request.

# MEGA-Deep-Drill

# 25xD

Solid carbide twist drill with internal coolant supply

M2125



### Design:

Drill diameter:	3,00 – 14,00 mm
Shank form:	HA (DIN 6535, "A")
Coating:	MxF ("E")
No. of flutes:	2
Guiding margins:	4
Point geometry:	Special point geometry
Point angle:	135°
Helix:	30°

Drill diameter d <sub>1</sub> h7	Shank diameter d <sub>2</sub> h6	Dimensions					Order No.	Avail-ability
		Total length L <sub>1</sub>	Flute length L <sub>2</sub>	max. Drilling depth L <sub>3</sub>	L/d-ratio	Shank length L <sub>4</sub>		
3,00	4,00	125	91	87	29	32	M2125-0300AE	●
3,50	4,00	140	106	101	29	32	M2125-0350AE	●
4,00	4,00	140	106	100	25	32	M2125-0400AE	●
4,50	5,00	155	119	112	25	34	M2125-0450AE	●
5,00	5,00	170	134	127	25	34	M2125-0500AE	●
5,50	6,00	185	147	139	25	36	M2125-0550AE	●
6,00	6,00	200	160	151	25	36	M2125-0600AE	●
7,00	7,00	225	185	175	25	38	M2125-0700AE	●
8,00	8,00	255	213	201	25	40	M2125-0800AE	●
9,00	9,00	280	238	225	25	40	M2125-0900AE	●
10,00	10,00	310	268	253	25	40	M2125-1000AE	●
11,00	11,00	340	293	277	25	45	M2125-1100AE	●
12,00	12,00	365	318	300	25	45	M2125-1200AE	●
13,00	13,00	390	343	324	25	45	M2125-1300AE	●
14,00	14,00	425	373	352	25	50	M2125-1400AE	●

- Standard tool with limited stock availability (detailed delivery time on request).

Dimensions in mm.

For machining values see page 6/7.

### Intermediate sizes and other coatings:

Minimum order quantities for intermediate dimensions:

≤ ø 10 mm: 5 off

> ø 10 ≤ 20 mm: 3 off

> ø 20 mm: 2 off

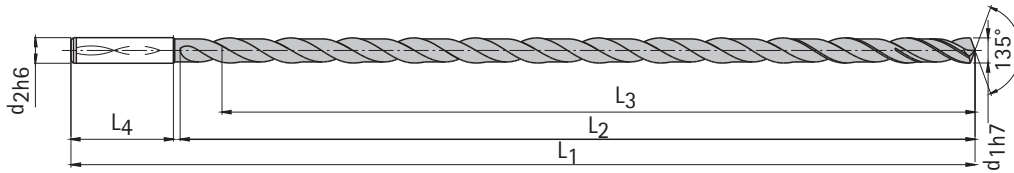
Prices and delivery times for intermediate sizes and other coatings available on request.

30xD

MEGA-Deep-Drill

Solid carbide twist drill with internal coolant supply

M2130

**Design:**

Drill diameter:	3,00 – 12,00 mm
Shank form:	HA (DIN 6535, "A")
Coating:	MxF ("E")
No. of flutes:	2
Guiding margins:	4
Point geometry:	Special point geometry
Point angle:	135°
Helix:	30°

Drill diameter d <sub>1</sub> h7	Shank diameter d <sub>2</sub> h6	Dimensions					Order No.	Avail-ability
		Total length L <sub>1</sub>	Flute length L <sub>2</sub>	max. Drilling depth L <sub>3</sub>	L/d-ratio	Shank length L <sub>4</sub>		
3,00	4,00	145	110	106	35	32	M2130-0300AE	●
3,50	4,00	160	126	121	35	32	M2130-0350AE	●
4,00	4,00	160	126	120	30	32	M2130-0400AE	●
4,50	5,00	180	144	137	31	34	M2130-0450AE	●
5,00	5,00	195	159	152	30	34	M2130-0500AE	●
5,50	6,00	210	172	164	30	36	M2130-0550AE	●
6,00	6,00	230	192	183	31	36	M2130-0600AE	●
7,00	7,00	260	220	210	30	38	M2130-0700AE	●
8,00	8,00	295	253	241	30	40	M2130-0800AE	●
9,00	9,00	325	283	270	30	40	M2130-0900AE	●
10,00	10,00	360	318	303	30	40	M2130-1000AE	●
11,00	11,00	400	353	337	31	45	M2130-1100AE	●
12,00	12,00	430	383	365	30	45	M2130-1200AE	●

● available ex stock Germany

Dimensions in mm.

For machining values see page 6/7.

**Intermediate sizes and other coatings:**

Minimum order quantities for intermediate dimensions:

≤ ø 10 mm: 5 off

&gt; ø 10 ≤ 20 mm: 3 off

&gt; ø 20 mm: 2 off

Prices and delivery times for intermediate sizes and other coatings available on request.

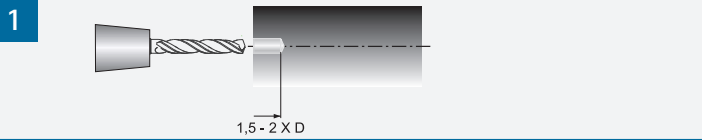
# Machining values MEGA-Deep-Drill

M2115 / M2120

M2125 / M2130

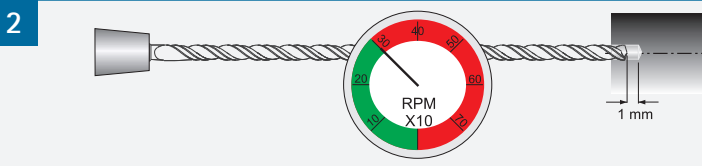
Material		Tensile strength N/mm <sup>2</sup> – HB	Workpiece material
P		< 600 N/mm <sup>2</sup>	St37,St42, C22, GS3
	Non alloyed steel, cast iron	< 700 N/mm <sup>2</sup>	St50, St60, C35, GS62
		< 700 N/mm <sup>2</sup>	St70, C45, GS62
	Alloyed steel	< 900 N/mm <sup>2</sup>	16MnCr5, 42CrMo4
		< 1000 N/mm <sup>2</sup>	90MnCrV8, 100Cr6
		< 1000 N/mm <sup>2</sup>	X210Cr13, 34CrAlNi7
K <sub>1</sub>		< 200 HB	GG20, GG25, GTS45
	Grey cast iron, cast iron alloy, malleable cast iron	< 250 HB	GG30, GTW40
		< 250 HB	GG40, GTS70
K <sub>2</sub>	Spheroidal graphite cast iron, CGI (vermicular cast iron)	< 600 N/mm <sup>2</sup>	GGG40, GGG50
		> 600 N/mm <sup>2</sup>	GGG60, GGG70, GGv
N	Aluminium (Si content 0,5 – 10 %)	< 400 N/mm <sup>2</sup>	GD-AISi9Cu3, AISi7Mg0,6
	Aluminium (Si content 10 – 15 %)	< 400 N/mm <sup>2</sup>	GB-AISi12(Cu),
	Copper alloys	< 300 HB	AISi17Cu4Mg/ ALUSIL

## Drilling with | MEGA-Deep-Drill 30°



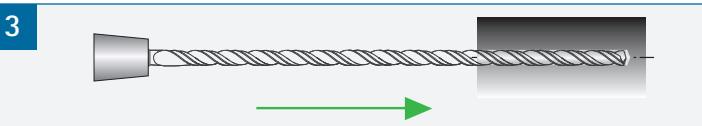
### Drilling of Pilot Hole

Point angle 140°  
1.5 to 2.0 times D



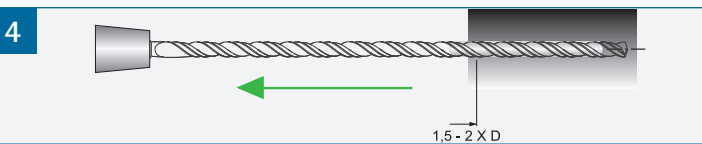
### Entering Pilot Hole

Spindle speed max. 300 RPM,  
surface speed 1,000 mm/min without cooling, till 1 mm before ground



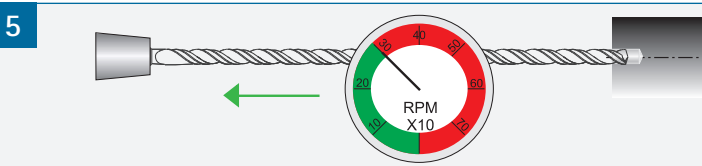
### Drilling

Speeds and feeds see cutting recommendation.  
No pecking!



### Retract

With low surface speed 1,000 mm/min,  
till 1.5 - 2.0xD before work piece surface.



### Pulling

With max. 300 RPM and surface speed 1,000 mm/min,  
without cooling.

M2115 / M2120						M2125 / M2130					
Coolant		Ø 3 - 5	Ø 5 - 8	Ø 8 - 12	Ø 12 - 16	Coolant		Ø 3 - 5	Ø 5 - 8	Ø 8 - 12	Ø 12 - 16
MMS	IK					MMS	IK				
$v_c$ m/min	$v_c$ m/min	f mm/rev	f mm/rev	f mm/rev	f mm/rev	$v_c$ m/min	$v_c$ m/min	f mm/rev	f mm/rev	f mm/rev	f mm/rev
80	90	0,10	0,14	0,18	0,22	70	80	0,10	0,14	0,18	0,22
70	80	0,12	0,15	0,20	0,24	65	75	0,12	0,15	0,20	0,24
65	72	0,13	0,17	0,22	0,27	58	65	0,13	0,17	0,22	0,27
65	70	0,13	0,17	0,22	0,27	60	65	0,13	0,17	0,22	0,27
50	55	0,10	0,14	0,18	0,22	45	50	0,10	0,14	0,18	0,22
40	45	0,10	0,14	0,18	0,22	40	40	0,10	0,14	0,18	0,22
80	90	0,17	0,22	0,28	0,34	75	80	0,17	0,22	0,28	0,34
65	75	0,16	0,21	0,26	0,32	60	70	0,16	0,21	0,26	0,32
55	65	0,15	0,20	0,25	0,30	50	60	0,15	0,20	0,25	0,30
70	80	0,19	0,25	0,32	0,38	65	70	0,19	0,25	0,32	0,38
50	55	0,15	0,20	0,25	0,30	45	50	0,15	0,20	0,25	0,30
185	185	0,15	0,20	0,25	0,30	170	170	0,15	0,20	0,25	0,30
150	150	0,12	0,15	0,20	0,24	135	135	0,12	0,15	0,20	0,24
175	175	0,10	0,14	0,18	0,22	160	160	0,10	0,14	0,18	0,22



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