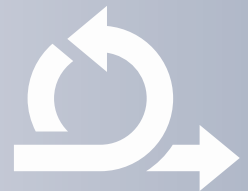


DRILLING & REAMING

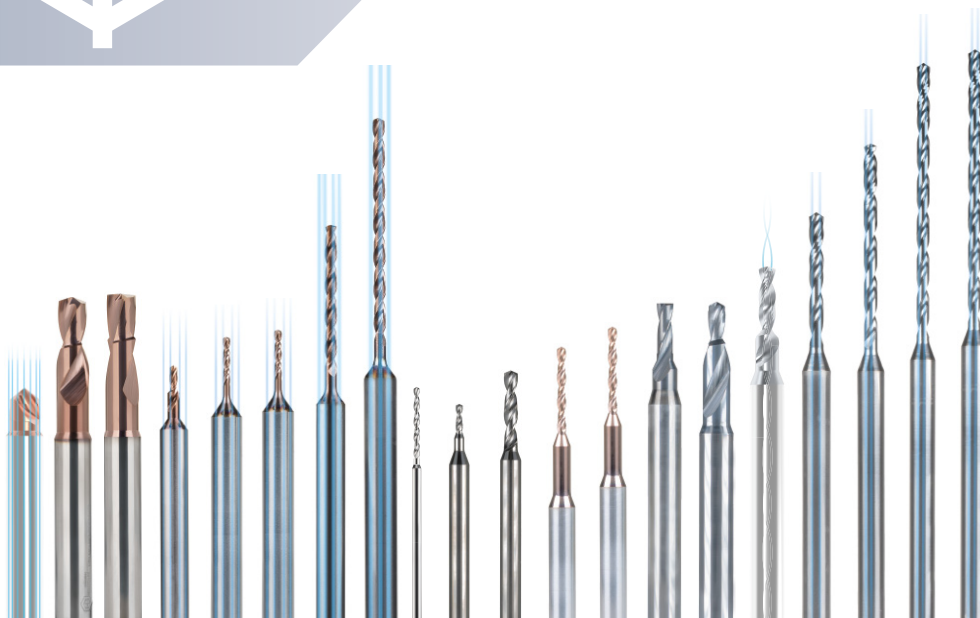
HBmicrotec[®]
ACTIONTOOLS & ENGINEERING



ACTIONDRILL[®]
by HB microtec

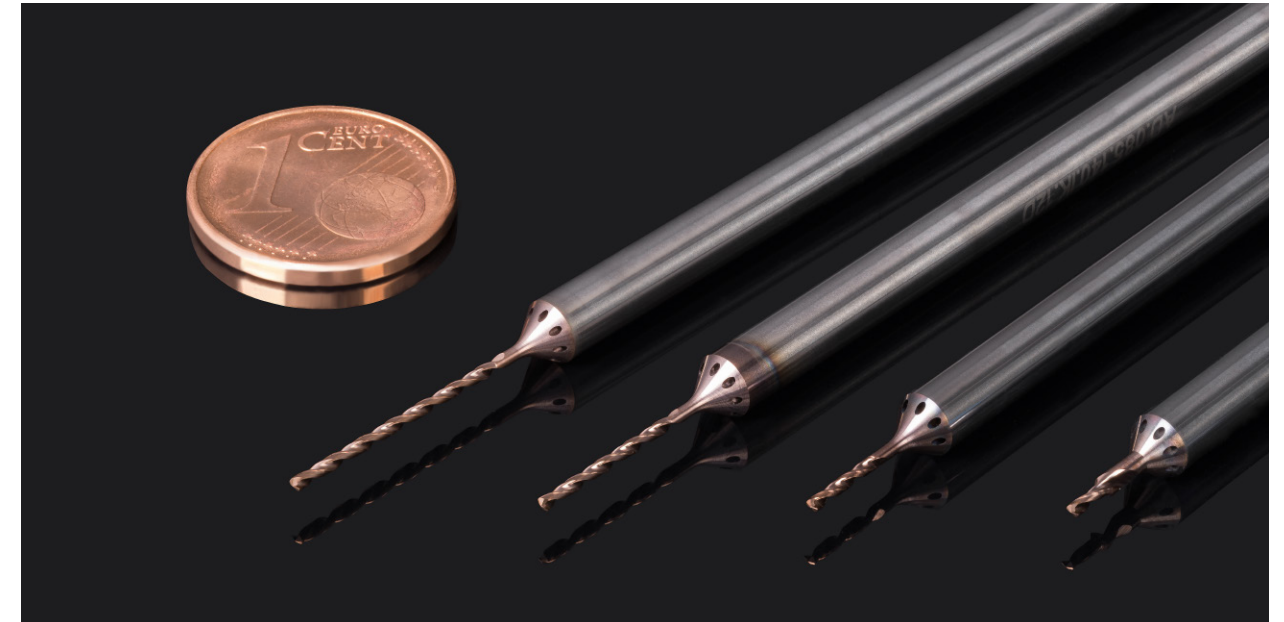
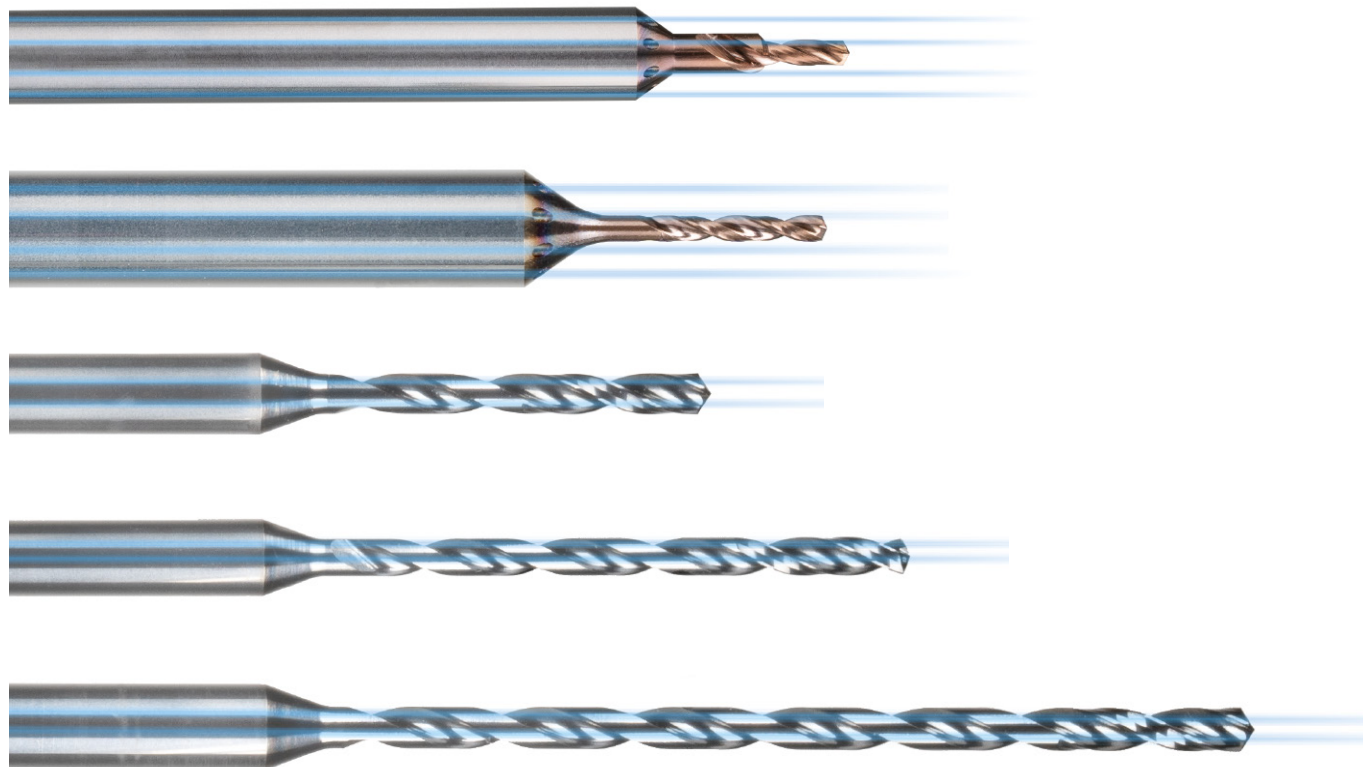


TARGETDRILL[®]
by HB microtec





ACTIONDRILL[®] **TARGETDRILL**[®]
by HB microtec by HB microtec



Standard Range

As specialists in machining, we consistently present pioneering manufacturing processes and tools for the automotive industry and medical technology. Customers can rely on our outstanding expertise.

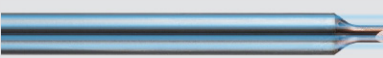
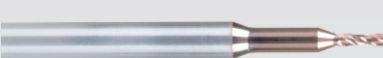
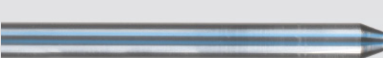
Our highly trained and highly motivated specialists focus their know-how and qualifications on developing innovative and forward-looking machining solutions and putting them into practice for the benefit of our customers. Together with our customers, we develop forward-looking tool technologies, carefully matching substrates, geometries and coatings to the respective requirements. We focus on rotationally symmetrical tools from 0.1 to 8 mm in diameter. Maximum machining accuracy and process reliability are our top priorities.

Our standard range includes tools for centering, chamfering, drilling, reaming and countersinking. Our aim is to create measurable added value for our customers with our tools. The ACTIONDRILL[®] and TARGETDRILL[®] tool series are successful examples of our innovative strength. We continuously develop these tools further and expand the product lines with additional variants and new products.

HB microtec - Who we are

HB microtec GmbH & Co. KG is a technologically leading manufacturer of tools for producing precision components from difficult-to-machine materials. Particularly in medical technology, aerospace, tool and mold making and hydraulics, components have to be made from hard, heat-resistant and abrasive materials such as cobalt-chrome, nickel and titanium alloys. With our new standard drilling tools ACTIONDRILL[®] and TARGETDRILL[®], this is achieved far more economically and reliably than before.

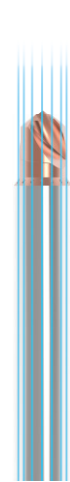


	Product	Rm [N/mm²]	Page
		up to 1570	16
		up to 1570	24
		up to 1570	30
		up to 1480	38
		up to 1480	40
		up to 1480	44
		up to 1480	48
		up to 1480	50
		up to 1260	54
		up to 1260	56
		up to 1260	64
		up to 1260	72
		up to 1570	74
		up to 1570	82
		up to 1570	86
		up to 1570	92
		up to 1570	96
		up to 1570	100

	Product	Rm [N/mm²]	Page
		up to 1570	106
		up to 1570	112
	ACTIONDRILL Special tools (Individualized)		114
	Setting gauges by HB microtec		121
	Regrinding service		122
	Services		124
	Problem solution drilling, reaming, and countersinking		126
	Formula index		128
	Icon legend		132

Standard drilling tools

ACTIONDRILL Double-Center cooled Ø 0.3 - Ø 7.2 integrated cooling



Overview:

- Combination tool Centering with 145° + chamfering (60° or 90°)
- Centering is tailored to the drill diameter
- The drill corners are protected
- Integrated cooling prevents chip build-up and leaves a clean centering for the following drill
- Short process times and high process reliability

Page 16

ACTIONDRILL INOX 170°-Pilot Ø 0.3 - Ø 7.2



Overview:

- 2xD 170° step drill
- 45° chamfer
- The 170° point geometry allows drilling on inclined, round or curved surfaces with maximum positioning accuracy
- "Spot facing" with an additional tool is no longer necessary with this drill
- Centering, drilling, countersinking with one tool

Page 24

ACTIONDRILL INOX-Pilot Ø 0.75 - Ø 7.2



Overview:

- 2xD 140° step drill
- 45° chamfer
- Can be used as short drill or pilot drill
- Centering, drilling, countersinking with one tool

Page 30

ACTIONDRILL INOX-3xD-Pilot cooled Ø 0.3 - Ø 2.9 integrated cooling



Overview:

- 3xD 140° step drill
- 45° chamfer
- Can be used as short drill or pilot drill
- Centering, drilling, countersinking with one tool
- Integrated cooling on a pitch circle through the shank
- Winding chips are efficiently flushed away

Page 38

Standard drilling tools

ACTIONDRILL INOX-6xD cooled Ø 0.3 - Ø 2.9 integrated cooling



Overview:

- 6xD "micro" drill
- 140° INOX point geometry
- Integrated cooling on a pitch circle through the shank
- Winding chips are efficiently flushed away

Page 40

ACTIONDRILL INOX-8xD cooled Ø 0.25 - Ø 2.381 integrated cooling



Overview:

- 8xD "micro" drill
- 140° INOX point geometry
- Integrated cooling on a pitch circle through the shank
- Winding chips are efficiently flushed away

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ACTIONDRILL INOX-12xD cooled Ø 0.3 - Ø 2.0 integrated cooling



Overview:

- 12xD "micro" drill
- 140° INOX point geometry
- Integrated cooling on a pitch circle through the shank
- Winding chips are efficiently flushed away

Page 48

ACTIONDRILL INOX-18xD cooled Ø 0.3 - Ø 2.0 integrated cooling



Overview:

- 18xD "micro" drill
- 140° INOX point geometry
- Integrated cooling on a pitch circle through the shank
- Winding chips are efficiently flushed away

Page 50

Standard drilling tools

TARGETDRILL micro-INOX 3xD | 5xD | 8xD | 12xD
Ø 0.1 - Ø 3.0



Overview:

- 3xD | 5xD | 8xD micro-INOX drills
- in 0.01 mm steps
- Reinforced shank
- Available coated or blank

Page 54

TARGETDRILL INOX-Pilot 130°
Ø 0.75 - Ø 7.2



Overview:

- 2xD 130° step drill
- 45° chamfer
- Can be used as short drill or pilot drill
- Centering, drilling, countersinking with one tool

Page 74

TARGETDRILL Thread-Core 3.5xD Pilot cooled
Ø 0.75 - Ø 7.2 internal cooling



Overview:

- 3.5xD core drill
- With internal cooling
- High-performance 4-margin drill
- α - INOXcronos high performance coating
- Pilot drill (tolerance Øm6) for deep-hole drilling

Page 80

TARGETDRILL INOX-6xD cooled
Ø 0.75 - Ø 7.2 internal cooling



Overview:

- 6xD - drill
- 130° - INOX point geometry
- With internal cooling
- Drill with 4 margin lands
- α - INOXcronos high performance coating

Page 86

Standard drilling tools

TARGETDRILL INOX-12xD | 18xD | 24xD cooled
Ø 1.0 - Ø 6.35 internal cooling



Overview:

- 12xD | 18xD | 24xD - drills
- 130° - INOX point geometry
- With internal cooling
- Drill with 4 margin lands
- α - INOXcronos high performance coating

Page 92

TARGETDRILL INOX-Flatdrill 180°
Ø 0.8 - Ø 6.0



Overview:

- 3.5xD flat drill
- 180° INOX point geometry (flat at the bottom)
- Pilot drill or short drill
- The 180° point geometry allows drilling on inclined, round or curved surfaces with maximum positioning accuracy
- "Spot facing" with an additional tool is no longer necessary with this drill

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Custom-ground special tools



■ Step reamer + flat face with outer chamfer



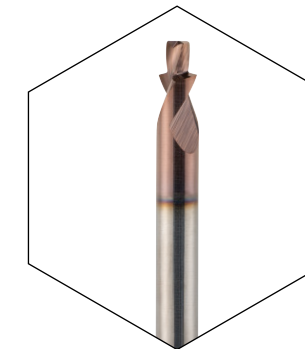
■ Short drill + chamfer + back countersink



■ Step drill reamer, centering, drilling, Reaming and countersinking



■ "micro" reamers



■ Form drills



■ Drill reamers

			Page 14-20	Page 22-29	Page 30-35	Page 38-39	Page 40-43
			ACTIONDRILL® Double-Center cooled	ACTIONDRILL® INOX-Pilot	ACTIONDRILL® INOX-170Pilot	ACTIONDRILL® INOX-3xD-Pilot cooled	ACTIONDRILL® INOX-6xD cooled
Thread core hole Ø [mm]	for thread taps and thread mills	for thread formers	ACTIONDRILL Double- Center cooled centering drill 145° with double angle for chamfers of 60° or 90° with ITK	2xD step drill 140° and 90° chamfer ACTIONDRILL Pilot	2xD step drill 170° and 90° chamfer ACTIONDRILL INOX- 170Pilot	3xD step drill 140° and 90° chamfer ACTIONDRILL Pilot cooled with ITK	6xD drill 140° ACTIONDRILL INOX- 6xD cooled with ITK
0.75	M1x0.25	-	AD.DC.075.200.IK.XX	AD.90.075.140	AD.90.075.170	AD.90.075.140.IK	AD.075.140.IK.6xD
0.85	M1.1x0.25	-	AD.DC.085.210.IK.XX	AD.90.085.140	AD.90.085.170	AD.90.085.140.IK	AD.085.140.IK.6xD
0.9	-	M1	AD.DC.090.210.IK.XX	AD.90.090.140	AD.90.090.170	AD.90.090.140.IK	AD.090.140.IK.6xD
0.95	M1.2x0.25	-	AD.DC.095.220.IK.XX	AD.90.095.140	AD.90.095.170	AD.90.095.140.IK	AD.095.140.IK.6xD
1.000	M1.2x0.2	M1.1	AD.DC.100.220.IK.XX	AD.90.100.140	AD.90.100.170	AD.90.100.140.IK	AD.100.140.IK.6xD
1.100	M1.4	M1.2	AD.DC.110.230.IK.XX	AD.90.110.140	AD.90.110.170	AD.90.110.140.IK	AD.110.140.IK.6xD
1.200	M1.4x0.2	-	AD.DC.120.240.IK.XX	AD.90.120.140	AD.90.120.170	AD.90.120.140.IK	AD.120.140.IK.6xD
1.250	UNF-Nr.0 / M1.6x0.35	-	AD.DC.125.250.IK.XX	AD.90.125.140	AD.90.125.170	AD.90.125.140.IK	AD.125.140.IK.6xD
1.300	M1.6x0.35	-	AD.DC.130.250.IK.XX	AD.90.130.140	AD.90.130.170	AD.90.130.140.IK	AD.130.140.IK.6xD
1.350	M1.7	-	AD.DC.135.260.IK.XX	AD.90.135.140	AD.90.135.170	AD.90.135.140.IK	AD.135.140.IK.6xD
1.400	M1.6x0.2	#0-80	AD.DC.140.260.IK.XX	AD.90.140.140	AD.90.140.170	AD.90.140.140.IK	AD.140.140.IK.6xD
1.450	M1.8	-	AD.DC.145.270.IK.XX	AD.90.145.140	AD.90.145.170	AD.90.145.140.IK	AD.145.140.IK.6xD
1.500	UNC-Nr.1	M1.6	AD.DC.150.270.IK.XX	AD.90.150.140	AD.90.150.170	AD.90.150.140.IK	AD.150.140.IK.6xD
1.550	#1-64	-	AD.DC.155.280.IK.XX	AD.90.155.140	AD.90.155.170	AD.90.155.140.IK	AD.155.140.IK.6xD
1.600	UNF-Nr.1/M2/ M1.8x0.2	-	AD.DC.160.280.IK.XX	AD.90.160.140	AD.90.160.170	AD.90.160.140.IK	AD.160.140.IK.6xD
1.700	-	#1-64/ #1-72	AD.DC.170.290.IK.XX	AD.90.170.140	AD.90.170.170	AD.90.170.140.IK	AD.170.140.IK.6xD
1.750	M2.2/M2x0.25	-	AD.DC.175.300.IK.XX	AD.90.175.140	AD.90.175.170	AD.90.175.140.IK	AD.175.140.IK.6xD
1.800	UNC-Nr.2	-	AD.DC.180.300.IK.XX	AD.90.180.140	AD.90.180.170	AD.90.180.140.IK	AD.180.140.IK.6xD
1.850	#2-56/#2-64	M2	AD.DC.185.310.IK.XX	AD.90.185.140	AD.90.185.170	AD.90.185.140.IK	AD.180.140.IK.6xD
1.900	UNF-Nr.2/M2.3	-	AD.DC.190.310.IK.XX	AD.90.190.140	AD.90.190.170	AD.90.190.140.IK	AD.185.140.IK.6xD
1.950	M2.2x0.25/ M2.3x0.35	-	AD.DC.195.320.IK.XX	AD.90.195.140	AD.90.195.170	AD.90.195.140.IK	AD.190.140.IK.6xD
2.000	-	#2-56	AD.DC.200.320.IK.XX	AD.90.200.140	AD.90.200.170	AD.90.200.140.IK	AD.195.140.IK.6xD
2.030	-	M2.2	AD.DC.203.330.IK.XX	AD.90.203.140	AD.90.203.170	AD.90.203.140.IK	AD.200.140.IK.6xD
2.050	M2.5/M2.3x0.25	-	AD.DC.205.330.IK.XX	AD.90.205.140	AD.90.205.170	AD.90.205.140.IK	AD.203.140.IK.6xD
2.100	MJ2.5x0.45/ #3-48/UNF-Nr.3	-	AD.DC.210.330.IK.XX	AD.90.210.140	AD.90.210.170	AD.90.210.140.IK	AD.205.140.IK.6xD
2.150	M2.6/ M2.5x0.35/#3-56	M2.3	AD.DC.215.340.IK.XX	AD.90.215.140	AD.90.215.170	AD.90.215.140.IK	AD.210.140.IK.6xD
2.200	-	-	AD.DC.220.340.IK.XX	AD.90.220.140	AD.90.220.170	AD.90.220.140.IK	AD.215.140.IK.6xD
2.250	M2.6x0.35	-	AD.DC.225.350.IK.XX	AD.90.225.140	AD.90.225.170	AD.90.225.140.IK	AD.225.140.IK.6xD
2.300	UNC-Nr.4	#3-48	AD.DC.230.350.IK.XX	AD.90.230.140	AD.90.230.170	AD.90.230.140.IK	AD.230.140.IK.6xD
2.330	-	M2.5	AD.DC.233.360.IK.XX	AD.90.233.140	AD.90.233.170	AD.90.233.140.IK	AD.233.140.IK.6xD
2.350	#4-40	-	AD.DC.235.360.IK.XX	AD.90.235.140	AD.90.235.170	AD.90.235.140.IK	AD.235.140.IK.6xD
2.400	UNF-Nr.4/#4-48	-	AD.DC.240.360.IK.XX	AD.90.240.140	AD.90.240.170	AD.90.240.140.IK	AD.240.140.IK.6xD
2.500	M3	-	AD.DC.250.370.IK.XX	AD.90.250.140	AD.90.250.170	AD.90.250.140.IK	AD.250.140.IK.6xD
2.550	-	#4-40	AD.DC.255.380.IK.XX	AD.90.255.140	AD.90.255.170	AD.90.255.140.IK	AD.255.140.IK.6xD
2.600	UNF/UNC-Nr.5/ MJ3x0.5	-	AD.DC.260.380.IK.XX	AD.90.260.140	AD.90.260.170	AD.90.260.140.IK	AD.260.140.IK.6xD
2.650	M3x0.35/#5-40	-	AD.DC.265.390.IK.XX	AD.90.265.140	AD.90.265.170	AD.90.265.140.IK	AD.265.140.IK.6xD
2.700	#5-44	-	AD.DC.270.390.IK.XX	AD.90.270.140	AD.90.270.170	AD.90.270.140.IK	AD.270.140.IK.6xD
2.750	M3x0.25	-	AD.DC.275.400.IK.XX	AD.90.275.140	AD.90.275.170	AD.90.275.140.IK	AD.275.140.IK.6xD
2.800	UNC-Nr.6	M3	AD.DC.280.400.IK.XX	AD.90.280.140	AD.90.280.170	AD.90.280.140.IK	AD.280.140.IK.6xD

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TARGETDRILL® INOX-Pilot 130°	TARGETDRILL® Thread-Core 3.5xD-Pilot cooled	TARGETDRILL® INOX-6xD cooled	TARGETDRILL® INOX-Flatdrill 180°	TARGETDRILL® micro-INOX 3xD	TARGETDRILL® micro-INOX 5xD
2xD step drill 130° and 90° chamfer TARGETDRILL Pilot	3.5xD step drill 140° and chamfer with 60° or 90° TARGETDRILL Thread-Core 3.5xD-Pilot cooled with IK	6xD core drill 130° TARGETDRILL INOX-6xD cooled with IK	TARGETDRILL INOX- Flatdrill 180° 3.5xD Flat drill	TARGETDRILL micro-3xD drill blank and coated	TARGETDRILL micro-5xD drill blank and coated
TD.IP.075.150.90	TD.TC.075.IK.XX	TD.075.IK.6D	-	TD.MI.075.3D	TD.MI.075.5D
TD.IP.085.170.90	TD.TC.085.IK.XX	TD.085.IK.6D	TD.I180.085.3000	TD.MI.085.3D	TD.MI.085.5D
TD.IP.090.180.90	TD.TC.090.IK.XX	TD.090.IK.6D	TD.I180.090.3200	TD.MI.090.3D	TD.MI.090.5D
TD.IP.095.190.90	TD.TC.095.IK.XX	TD.095.IK.6D	TD.I180.095.3300	TD.MI.095.3D	TD.MI.095.5D
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TD.IP.110.220.90	TD.TC.110.IK.XX	TD.110.IK.6D	TD.I180.110.3900	TD.MI.110.3D	TD.MI.110.5D
TD.IP.120.240.90	TD.TC.120.IK.XX	TD.120.IK.6D	TD.I180.120.4200	TD.MI.120.3D	TD.MI.120.5D
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TD.IP.280.560.90	TD.TC.280.IK.XX	TD.280.IK.6D	TD.I180.280.9800	TD.MI.280.3D	TD.MI.280.5D

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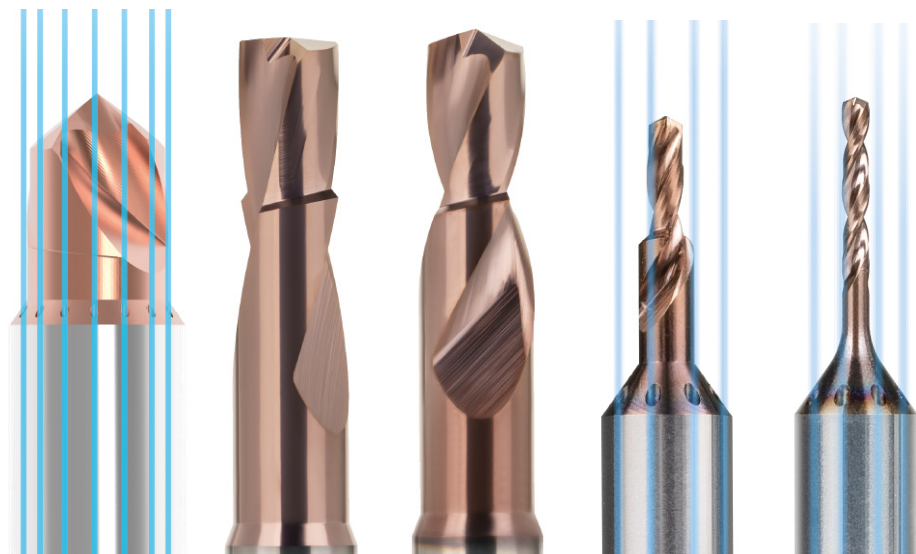
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			ACTIONDRILL® Double-Center cooled	ACTIONDRILL® INOX-Pilot	ACTIONDRILL® INOX-170Pilot	ACTIONDRILL® INOX-3xD-Pilot cooled	ACTIONDRILL® INOX-6xD cooled
Thread core hole Ø [mm]	for thread taps and thread mills	for thread formers	ACTIONDRILL Double- Center cooled centering drill 145° with double angle for chamfers of 60° or 90° with ITK	2xD step drill 140° and 90° chamfer ACTIONDRILL Pilot	2xD step drill 170° and 90° chamfer ACTIONDRILL INOX- 170Pilot	3xD step drill 140° and 90° chamfer ACTIONDRILL Pilot cooled with ITK	6xD drill 140° ACTIONDRILL INOX- 6xD cooled with ITK
2.850	#6-32	-	AD.DC.285.410.IK.XX	AD.90.285.140	AD.90.285.170	AD.90.285.140.IK	AD.285.140.IK.6xD
2.900	UNF-Nr.6/M3.5	#5-40	AD.DC.290.410.IK.XX	AD.90.290.140	AD.90.290.170	AD.90.290.140.IK	AD.290.140.IK.6xD
3.150	M3.5x0.35	-	AD.DC.315.440.IK.XX	AD.90.315.140	AD.90.315.170	-	-
3.250	-	M3.5	AD.DC.325.450.IK.XX	AD.90.325.140	AD.90.325.170	-	-
3.300	M4	M3.5x0.5	AD.DC.330.450.IK.XX	AD.90.330.140	AD.90.330.170	-	-
3.400	UNC-Nr.8	-	AD.DC.340.460.IK.XX	AD.90.340.140	AD.90.340.170	-	-
3.500	UNF-Nr.8/M4x0.5	-	AD.DC.350.470.IK.XX	AD.90.350.140	AD.90.350.170	-	-
3.650	M4x0.35	-	AD.DC.365.490.IK.XX	AD.90.365.140	AD.90.365.170	-	-
3.700	M4.5	M4	AD.DC.370.490.IK.XX	AD.90.370.140	AD.90.370.170	-	-
3.800	UNC-Nr.10	-	AD.DC.380.500.IK.XX	AD.90.380.140	AD.90.380.170	-	-
4.100	UNF-Nr.10	-	AD.DC.410.530.IK.XX	AD.90.410.140	AD.90.410.170	-	-
4.200	M5/M5x0.75	M4.5	AD.DC.420.540.IK.XX	AD.90.420.140	AD.90.420.170	-	-
4.500	UNC-Nr.12/M5x0.5	-	AD.DC.365.490.IK.XX	AD.90.450.140	AD.90.450.170	-	-
4.600	UNF-Nr.12	-	AD.DC.460.580.IK.XX	AD.90.460.140	AD.90.460.170	-	-
4.650	-	M5	AD.DC.465.590.IK.XX	AD.90.465.140	AD.90.465.170	-	-
4.700	UNEF-Nr.12	-	AD.DC.470.590.IK.XX	AD.90.470.140	AD.90.470.170	-	-
5.000	M6	#12-24	AD.DC.500.620.IK.XX	AD.90.500.140	AD.90.500.170	-	-
5.200	M6x0.75	-	AD.DC.520.640.IK.XX	AD.90.520.140	AD.90.520.170	-	-
5.500	M6x0.5/UNF-1/4"	-	AD.DC.550.670.IK.XX	AD.90.550.140	AD.90.500.170	-	-
5.600	MJ6x0.5	M6	AD.DC.560.680.IK.XX	AD.90.560.140	AD.90.560.170	-	-
6.000	M7	-	AD.DC.600.720.IK.XX	AD.90.600.140	AD.90.600.170	-	-
6.200	M7x0.75	-	AD.DC.620.760.IK.XX	AD.90.620.140	AD.90.620.170	-	-
6.600	5/16-18	M7	AD.DC.660.780.IK.XX	AD.90.660.140	AD.90.660.170	-	-
6.700	1/16"	-	AD.DC.670.800.IK.XX	AD.90.670.140	AD.90.670.170	-	-
6.800	M8/G1/16	M7x0.5	AD.DC.680.800.IK.XX	AD.90.680.140	AD.90.680.170	-	-
6.900	UNF-5/16"	-	AD.DC.690.800.IK.XX	AD.90.690.140	AD.90.690.170	-	-
7.000	M8x1	-	AD.DC.700.800.IK.XX	AD.90.700.140	AD.90.700.170	-	-
7.200	UNEF-5/16"	-	AD.DC.720.800.IK.XX	AD.90.720.140	AD.90.720.170	-	-



Threaded core drill | HB microtec

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TARGETDRILL® INOX-Pilot 130°	TARGETDRILL® Thread-Core 3.5xD-Pilot cooled	TARGETDRILL® INOX-6xD cooled	TARGETDRILL® INOX-Flatdrill 180°	TARGETDRILL® micro-INOX 3xD	TARGETDRILL® micro-INOX 5xD
2xD step drill 130° and 90° chamfer TARGETDRILL Pilot	3.5xD step drill 140° and chamfer with 60° or 90° TARGETDRILL Thread-Core 3.5xD-Pilot cooled with IK	6xD core drill 130° TARGETDRILL INOX-6xD cooled with IK	TARGETDRILL INOX- Flatdrill 180° 3.5xD Flat drill	TARGETDRILL micro-3xD drill blank and coated	TARGETDRILL micro-5xD drill blank and coated
TD.IP.285.570.90	TD.TC.285.IK.XX	TD.285.IK.6D	TD.I180.285.10000	TD.MI.285.3D	TD.MI.285.5D
TD.IP.290.580.90	TD.TC.290.IK.XX	TD.290.IK.6D	TD.I180.290.10100	TD.MI.290.3D	TD.MI.290.5D
TD.IP.315.630.90	TD.TC.315.IK.XX	TD.315.IK.6D	-	-	-
TD.IP.325.650.90	TD.TC.325.IK.XX	TD.325.IK.6D	-	-	-
TD.IP.330.660.90	TD.TC.330.IK.XX	TD.330.IK.6D	TD.I180.330.11600	-	-
TD.IP.340.680.90	TD.TC.340.IK.XX	TD.340.IK.6D	TD.I180.340.11900	-	-
TD.IP.350.700.90	TD.TC.350.IK.XX	TD.350.IK.6D	TD.I180.350.12300	-	-
TD.IP.365.730.90	TD.TC.365.IK.XX	TD.365.IK.6D	-	-	-
TD.IP.370.740.90	TD.TC.370.IK.XX	TD.370.IK.6D	TD.I180.370.13000	-	-
TD.IP.380.760.90	TD.TC.380.IK.XX	TD.380.IK.6D	TD.I180.380.13300	-	-
TD.IP.410.820.90	TD.TC.410.IK.XX	TD.410.IK.6D	TD.I180.410.14400	-	-
TD.IP.420.840.90	TD.TC.420.IK.XX	TD.420.IK.6D	TD.I180.420.14700	-	-
TD.IP.450.900.90	TD.TC.450.IK.XX	TD.450.IK.6D	TD.I180.450.15800	-	-
TD.IP.460.920.90	TD.TC.460.IK.XX	TD.460.IK.6D	TD.I180.460.16100	-	-
TD.IP.465.930.90	TD.TC.465.IK.XX	TD.465.IK.6D	-	-	-
TD.IP.470.940.90	TD.TC.470.IK.XX	TD.470.IK.6D	TD.I180.470.16500	-	-
TD.IP.500.1000.90	TD.TC.500.IK.XX	TD.500.IK.6D	TD.I180.500.17500	-	-
TD.IP.520.1040.90	TD.TC.520.IK.XX	TD.520.IK.6D	TD.I180.520.18200	-	-
TD.IP.550.1100.90	TD.TC.550.IK.XX	TD.550.IK.6D	TD.I180.550.19300	-	-
TD.IP.560.1120.90	TD.TC.560.IK.XX	TD.560.IK.6D	TD.I180.560.19600	-	-
TD.IP.600.1200.90	TD.TC.600.IK.XX	TD.600.IK.6D	TD.I180.600.21000	-	-
TD.IP.620.12400.90	TD.TC.620.IK.XX	TD.620.IK.6D	-	-	-
TD.IP.660.1320.90	TD.TC.660.IK.XX	TD.660.IK.6D	-	-	-
TD.IP.670.1340.90	TD.TC.670.IK.XX	TD.670.IK.6D	-	-	-
TD.IP.680.1360.90	TD.TC.680.IK.XX	TD.680.IK.6D	-	-	-
TD.IP.690.1380.90	TD.TC.690.IK.XX	TD.690.IK.6D	-	-	-
TD.IP.700.1400.90	TD.TC.700.IK.XX	TD.700.IK.6D	-	-	-
TD.IP.720.1400.90	TD.TC.720.IK.XX	TD.720.IK.6D	-	-	-



Threaded core drill | HB microtec

Centering drill with integrated cooling and double angle

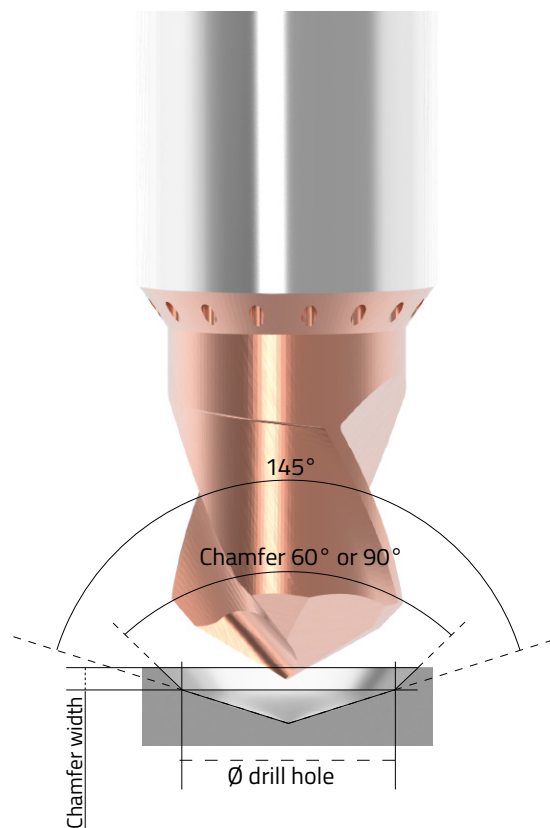
145°±4°-Drill centering angle and centering drill with double angle

Chamfer angle 60° or 90°

from Ø 0.3
to Ø 7.2

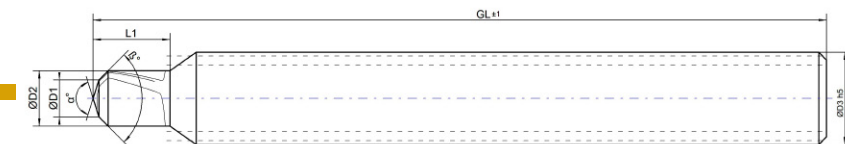
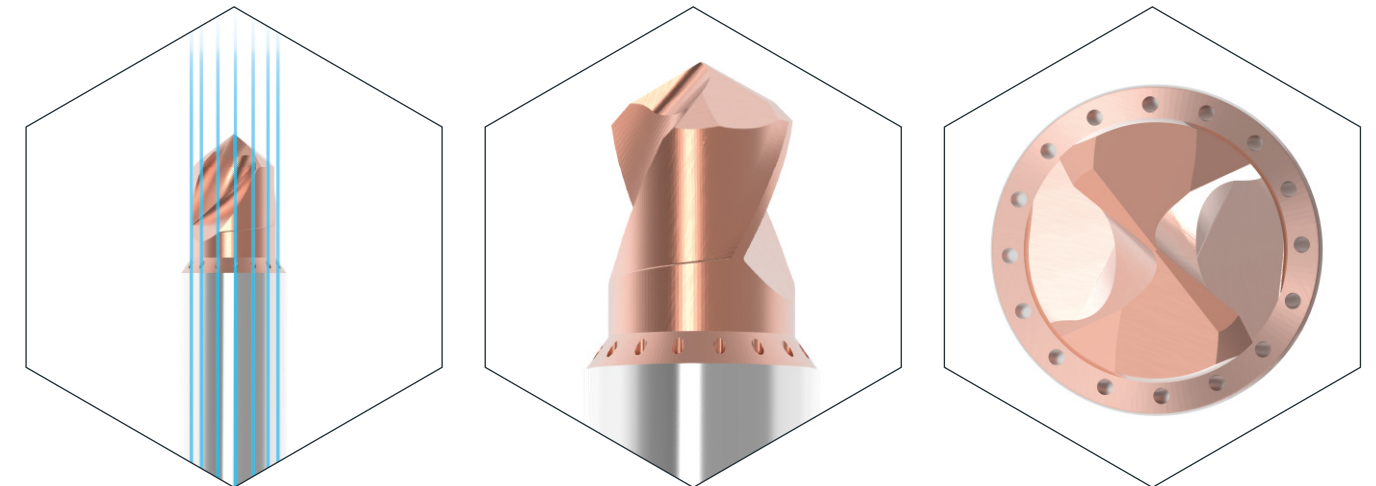
The high-performance α-INOX coating guarantees a long tool life and prevents the cutting edges from sticking

Suitable for drills with a tip angle of up to 142°



The reinforced shank in h5 quality combined with an optimized working length makes the tool robust and vibration-free.

High feed and cutting speeds are made possible by the use of ultra-fine-grained solid carbide with high fracture toughness.



☐ Order

Order number: _____

☐ Inquiry

Dimensions:

D₁: _____ GL: _____ α: _____

D₂: _____ L₁: _____ β: _____

D₃: _____

Coating:

☐ Coated*: _____

☐ Uncoated

Cooling channels:

☐ No ☐ Yes

Cutting direction:

☐ Right ☐ Left

Material to be machined:

Shank shape:

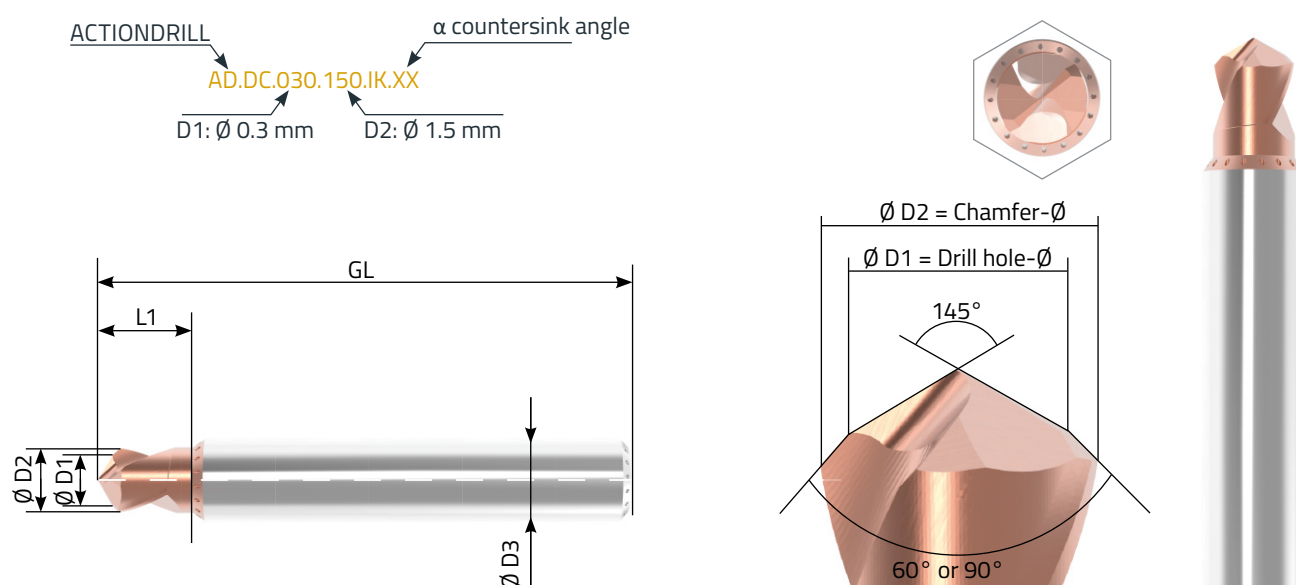
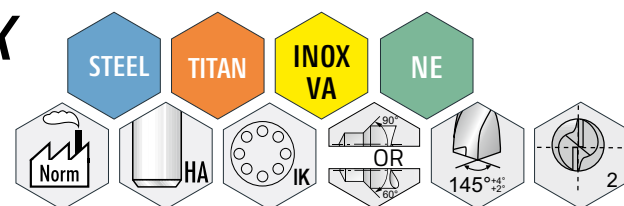
Quantity:

Date, signature & company stamp:

Contact person:

* Without further information, the most suitable coating will be used.

Centering drill with ITK with double angle



■ α-INOX coated



5 PRO's of the ACTIONDRILL:

- Combination tool Centering with 145° + chamfering (60° or 90°)
- Centering is tailored to the drill diameter
- The drill corners are protected
- Integrated cooling prevents chip build-up and leaves a clean centering for the following drill
- Short process times and high process reliability

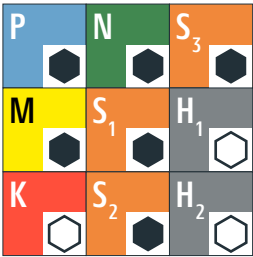
Article number	D1 [mm]	D1 [inch]	D2	L1	D3	GL	α (XX°)
AD.DC.030.150.IK.XX	Ø0.30	-	Ø1.50	7.00	4.00	40	60°/90°
AD.DC.035.160.IK.XX	Ø0.35	-	Ø1.60	7.00	4.00	40	60°/90°
AD.DC.040.160.IK.XX	Ø0.40	-	Ø1.60	7.00	4.00	40	60°/90°
AD.DC.045.170.IK.XX	Ø0.45	-	Ø1.70	7.00	4.00	40	60°/90°
AD.DC.050.170.IK.XX	Ø0.50	-	Ø1.70	7.00	4.00	40	60°/90°
AD.DC.055.180.IK.XX	Ø0.55	-	Ø1.80	7.00	4.00	40	60°/90°
AD.DC.060.180.IK.XX	Ø0.60	-	Ø1.80	7.00	4.00	40	60°/90°
AD.DC.065.190.IK.XX	Ø0.65	-	Ø1.90	7.00	4.00	40	60°/90°
AD.DC.070.190.IK.XX	Ø0.70	-	Ø1.90	7.00	4.00	40	60°/90°
AD.DC.075.200.IK.XX	Ø0.75	-	Ø2.00	7.00	4.00	40	60°/90°
AD.DC.080.200.IK.XX	Ø0.80	-	Ø2.00	7.00	4.00	40	60°/90°
AD.DC.085.210.IK.XX	Ø0.85	-	Ø2.10	7.00	4.00	40	60°/90°
AD.DC.090.210.IK.XX	Ø0.90	-	Ø2.10	7.00	4.00	40	60°/90°
AD.DC.095.220.IK.XX	Ø0.95	-	Ø2.20	7.00	4.00	40	60°/90°
AD.DC.100.220.IK.XX	Ø1.00	-	Ø2.20	7.00	4.00	40	60°/90°
AD.DC.105.230.IK.XX	Ø1.05	-	Ø2.30	7.00	4.00	40	60°/90°
AD.DC.110.230.IK.XX	Ø1.10	-	Ø2.30	7.00	4.00	40	60°/90°
AD.DC.115.240.IK.XX	Ø1.15	-	Ø2.40	7.00	4.00	40	60°/90°
AD.DC.120.240.IK.XX	Ø1.20	-	Ø2.40	7.00	4.00	40	60°/90°
AD.DC.125.250.IK.XX	Ø1.25	-	Ø2.50	7.00	4.00	40	60°/90°
AD.DC.130.250.IK.XX	Ø1.30	-	Ø2.50	7.00	4.00	40	60°/90°
AD.DC.135.260.IK.XX	Ø1.35	-	Ø2.60	9.00	6.00	50	60°/90°
AD.DC.140.260.IK.XX	Ø1.40	-	Ø2.60	9.00	6.00	50	60°/90°
AD.DC.145.270.IK.XX	Ø1.45	-	Ø2.70	9.00	6.00	50	60°/90°
AD.DC.150.270.IK.XX	Ø1.50	-	Ø2.70	9.00	6.00	50	60°/90°
AD.DC.155.280.IK.XX	Ø1.55	-	Ø2.80	9.00	6.00	50	60°/90°
AD.DC.1587.280.IK.XX	Ø1.587	1 / 16"	Ø2.80	9.00	6.00	50	60°/90°
AD.DC.160.280IK.XX	Ø1.60	-	Ø2.80	9.00	6.00	50	60°/90°
AD.DC.165.290.IK.XX	Ø1.65	-	Ø2.90	9.00	6.00	50	60°/90°
AD.DC.170.290.IK.XX	Ø1.70	-	Ø2.90	9.00	6.00	50	60°/90°
AD.DC.175.300.IK.XX	Ø1.75	-	Ø3.00	9.00	6.00	50	60°/90°
AD.DC.180.300.IK.XX	Ø1.80	-	Ø3.00	9.00	6.00	50	60°/90°
AD.DC.185.310.IK.XX	Ø1.85	-	Ø3.10	9.00	6.00	50	60°/90°
AD.DC.190.310.IK.XX	Ø1.90	-	Ø3.10	9.00	6.00	50	60°/90°
AD.DC.195.320.IK.XX	Ø1.95	-	Ø3.20	9.00	6.00	50	60°/90°
AD.DC.200.320.IK.XX	Ø2.00	-	Ø3.20	9.00	6.00	50	60°/90°
AD.DC.203.330.IK.XX	Ø2.03	-	Ø3.30	9.00	6.00	50	60°/90°

Article number	D1 [mm]	D1 [inch]	D2	L1	D3	GL	α (XX°)
AD.DC.205.330.IK.XX	Ø2.05	-	Ø3.30	9.00	6.00	50	60°/90°
AD.DC.210.330.IK.XX	Ø2.10	-	Ø3.30	9.00	6.00	50	60°/90°
AD.DC.215.340.IK.XX	Ø2.15	-	Ø3.40	9.00	6.00	50	60°/90°
AD.DC.220.340.IK.XX	Ø2.20	-	Ø3.40	9.00	6.00	50	60°/90°
AD.DC.225.350.IK.XX	Ø2.25	-	Ø3.50	9.00	6.00	50	60°/90°
AD.DC.230.350.IK.XX	Ø2.30	-	Ø3.50	9.00	6.00	50	60°/90°
AD.DC.233.360.IK.XX	Ø2.33	-	Ø3.60	9.00	6.00	50	60°/90°
AD.DC.235.360.IK.XX	Ø2.35	-	Ø3.60	9.00	6.00	50	60°/90°
AD.DC.2381.360.IK.XX	Ø2.381	3 / 32"	Ø3.60	9.00	6.00	50	60°/90°
AD.DC.240.360.IK.XX	Ø2.40	-	Ø3.60	9.00	6.00	50	60°/90°
AD.DC.245.370.IK.XX	Ø2.45	-	Ø3.70	9.00	6.00	50	60°/90°
AD.DC.250.370.IK.XX	Ø2.50	-	Ø3.70	9.00	6.00	50	60°/90°
AD.DC.255.380.IK.XX	Ø2.55	-	Ø3.80	9.00	6.00	50	60°/90°
AD.DC.260.380.IK.XX	Ø2.60	-	Ø3.80	9.00	6.00	50	60°/90°
AD.DC.265.390.IK.XX	Ø2.65	-	Ø3.90	9.00	6.00	50	60°/90°
AD.DC.270.390.IK.XX	Ø2.70	-	Ø3.90	9.00	6.00	50	60°/90°
AD.DC.275.400.IK.XX	Ø2.75	-	Ø4.00	9.00	6.00	50	60°/90°
AD.DC.280.400.IK.XX	Ø2.80	-	Ø4.00	9.00	6.00	50	60°/90°
AD.DC.285.410.IK.XX	Ø2.85	-	Ø4.10	10.00	8.00	60	60°/90°
AD.DC.290.410.IK.XX	Ø2.90	-	Ø4.10	10.00	8.00	60	60°/90°
AD.DC.295.420.IK.XX	Ø2.95	-	Ø4.20	10.00	8.00	60	60°/90°
AD.DC.300.420.IK.XX	Ø3.00	-	Ø4.20	10.00	8.00	60	60°/90°
AD.DC.310.430.IK.XX	Ø3.10	-	Ø4.30	10.00	8.00	60	60°/90°
AD.DC.315.440.IK.XX	Ø3.15	-	Ø4.40	10.00	8.00	60	60°/90°
AD.DC.3175.440.IK.XX	Ø3.175	1 / 8"	Ø4.40	10.00	8.00	60	60°/90°
AD.DC.320.440.IK.XX	Ø3.20	-	Ø4.40	10.00	8.00	60	60°/90°
AD.DC.325.450.IK.XX	Ø3.25	-	Ø4.50	10.00	8.00	60	60°/90°
AD.DC.330.450.IK.XX	Ø3.30	-	Ø4.50	10.00	8.00	60	60°/90°
AD.DC.340.460.IK.XX	Ø3.40	-	Ø4.60	10.00	8.00	60	60°/90°
AD.DC.350.470.IK.XX	Ø3.50	-	Ø4.70	10.00	8.00	60	60°/90°
AD.DC.360.480.IK.XX	Ø3.60	-	Ø4.80	10.00	8.00	60	60°/90°
AD.DC.365.490.IK.XX	Ø3.65	-	Ø4.90	10.00	8.00	60	60°/90°
AD.DC.370.490.IK.XX	Ø3.70	-	Ø4.90	10.00	8.00	60	60°/90°
AD.DC.380.500.IK.XX	Ø3.80	-	Ø5.00	10.00	8.00	60	60°/90°
AD.DC.390.510.IK.XX	Ø3.90	-	Ø5.10	10.00	8.00	60	60°/90°
AD.DC.3986.520.IK.XX	Ø3.986	5 / 32"	Ø5.20	10.00	8.00	60	60°/90°
AD.DC.400.520.IK.XX	Ø4.00	-	Ø5.20	10.00	8.00	60	60°/90°

Article number	D1 [mm]	D1 [inch]	D2	L1	D3	GL	α (XX°)
AD.DC.410.530.IK.XX	Ø4.10	-	Ø5.30	10.00	8.00	60	60°/90°
AD.DC.420.540.IK.XX	Ø4.20	-	Ø5.40	10.00	8.00	60	60°/90°
AD.DC.430.550.IK.XX	Ø4.30	-	Ø5.50	10.00	8.00	60	60°/90°
AD.DC.440.560.IK.XX	Ø4.40	-	Ø5.60	10.00	8.00	60	60°/90°
AD.DC.450.570.IK.XX	Ø4.50	-	Ø5.70	10.00	8.00	60	60°/90°
AD.DC.460.580.IK.XX	Ø4.60	-	Ø5.80	10.00	8.00	60	60°/90°
AD.DC.465.590.IK.XX	Ø4.65	-	Ø5.90	10.00	8.00	60	60°/90°
AD.DC.470.590.IK.XX	Ø4.70	-	Ø5.90	10.00	8.00	60	60°/90°
AD.DC.4762.600.IK.XX	Ø4.762	3 / 16"	Ø6.00	10.00	8.00	60	60°/90°
AD.DC.480.600.IK.XX	Ø4.80	-	Ø6.00	12.00	10.00	67	60°/90°
AD.DC.490.610.IK.XX	Ø4.90	-	Ø6.10	12.00	10.00	67	60°/90°
AD.DC.500.620.IK.XX	Ø5.00	-	Ø6.20	12.00	10.00	67	60°/90°
AD.DC.510.630.IK.XX	Ø5.10	-	Ø6.30	12.00	10.00	67	60°/90°
AD.DC.520.640.IK.XX	Ø5.20	-	Ø6.40	12.00	10.00	67	60°/90°
AD.DC.530.650.IK.XX	Ø5.30	-	Ø6.50	12.00	10.00	67	60°/90°
AD.DC.540.660.IK.XX	Ø5.40	-	Ø6.60	12.00	10.00	67	60°/90°
AD.DC.550.670.IK.XX	Ø5.50	-	Ø6.70	12.00	10.00	67	60°/90°
AD.DC.5556.680.IK.XX	Ø5.556	7 / 32"	Ø6.80	12.00	10.00	67	60°/90°
AD.DC.560.680.IK.XX	Ø5.60	-	Ø6.80	12.00	10.00	67	60°/90°
AD.DC.570.690.IK.XX	Ø5.70	-	Ø6.90	12.00	10.00	67	60°/90°
AD.DC.580.700.IK.XX	Ø5.80	-	Ø7.00	12.00	10.00	67	60°/90°
AD.DC.590.710.IK.XX	Ø5.90	-	Ø7.10	12.00	10.00	67	60°/90°
AD.DC.600.720.IK.XX	Ø6.00	-	Ø7.20	12.00	10.00	67	60°/90°
AD.DC.620.760.IK.XX	Ø6.20	-	Ø7.60	12.00	10.00	67	60°/90°
AD.DC.6350.760.IK.XX	Ø6.350	1 / 4"	Ø7.60	12.00	10.00	67	60°/90°
AD.DC.660.780.IK.XX	Ø6.60	-	Ø7.80	12.00	10.00	67	60°/90°
AD.DC.670.800.IK.XX	Ø6.70	-	Ø8.00	12.00	10.00	67	60°/90°
AD.DC.680.800.IK.XX	Ø6.80	-	Ø8.00	12.00	10.00	67	60°/90°
AD.DC.690.800.IK.XX	Ø6.90	-	Ø8.00	12.00	10.00	67	60°/90°
AD.DC.700.800.IK.XX	Ø7.00	-	Ø8.00	12.00	10.00	67	60°/90°
AD.DC.720.800.IK.XX	Ø7.20	-	Ø8.00	12.00	10.00	67	60°/90°

Delivery time: 3-4 weeks

Example for Ø2.05 drill and 90° chamfer: AD.DC.205.330.IK.90



Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11Mn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 55 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

Recommended use Highly suitable Partially suitable Not recommended

Ø 0.3 mm - 1.0 mm		Ø 1.0 mm - 2.5 mm		Ø 2.5 mm - 4.5 mm		Ø 4.5 mm - 7.2 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
60-120	0.008 - 0.03	60-120	0.022- 0.046	60-130	0.042- 0.066	60-130	0.090 - 0.182
60-100	0.08 - 0.03	60-100	0.018- 0.026	60-120	0.042- 0.056	60-130	0.090 - 0.182
50-100	0.08 - 0.03	50-100	0.009 - 0.016	50-120	0.025 - 0.04	50-120	0.060 - 0.080
50-80	0.08 - 0.03	50-80	0.008 - 0.020	50-80	0.02 - 0.038	50-90	0.050 - 0.070
80-140	0.010 - 0.034	80-140	0.030 - 0.042	80-140	0.030 - 0.042	80-160	0.096 - 0.135
80-160	0.012 - 0.036	80-160	0.032 - 0.046	80-160	0.042 - 0.066	80-160	0.132 - 0.18
80-140	0.012 - 0.036	80-140	0.036 - 0.068	80-140	0.046 - 0.088	80-160	0.132 - 0.210
80-120	0.012 - 0.034	80-120	0.030 - 0.048	80-120	0.032 - 0.088	80-140	0.085 - 0.120
15 - 50	0.08 - 0.03	15 - 50	0.025 - 0.045	15 - 50	0.025 - 0.045	15 - 60	0.060 - 0.092
15 - 50	0.08 - 0.03	15 - 50	0.025 - 0.045	15 - 50	0.025 - 0.045	15 - 60	0.060 - 0.120
15 - 50	0.08 - 0.03	15 - 50	0.020 - 0.024	15 - 50	0.020 - 0.024	15 - 50	0.055 - 0.092
15-32	0.006 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.012
15-32	0.006 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.012

INOX-170Pilot

170° α -INOX
high-performance point
geometry, 2x faster drilling
on inclined surfaces
compared to 180° flat
drills.

from $\varnothing$ 0.3 k6
to $\varnothing$ 7.2 k6

The high-performance α -INOX
coating guarantees a long tool
life and prevents the
cutting edges from
sticking.

2xD drilling depth with 90°
countersink cutting edge for
chamfering.

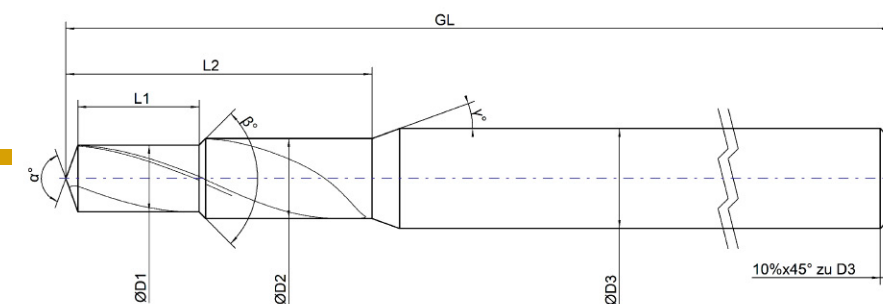
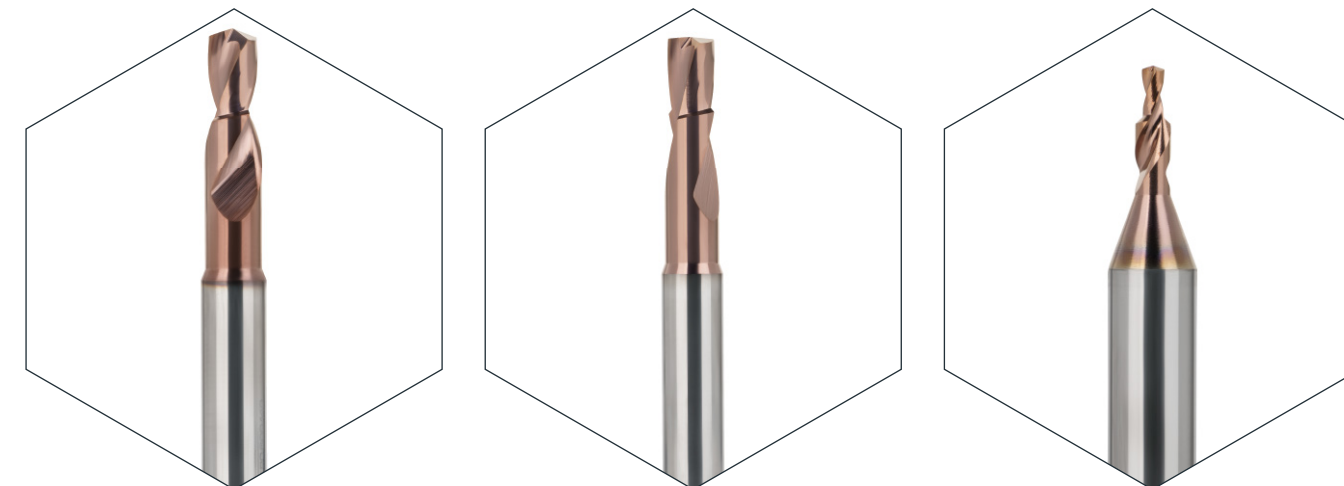
The reinforced shank in h6
quality combined with an op-
timized usable length makes
the tool robust and vibration-
free.

High feed and cutting speeds
are made possible by the use
of ultra-fine grain solid
carbide with high fracture
toughness.

INOX-Pilot

140° $\pm 4^\circ$ α -INOX
High-performance point
geometry, self-centering.

from $\varnothing$ 0.75 k6
to $\varnothing$ 7.2 k6



☐ Inquiry

☐ Order

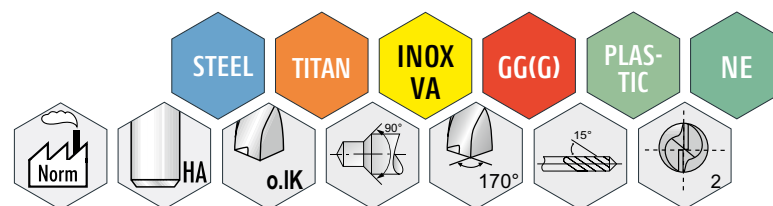
Order number: _____

Other: _____

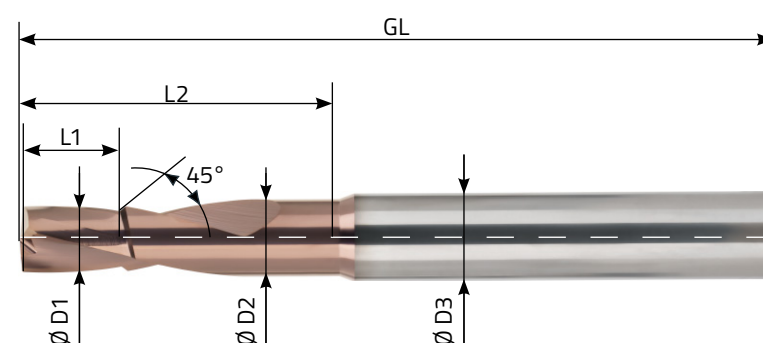
Dimensions: D ₁ : _____ GL: _____ α : _____ D ₂ : _____ L ₁ : _____ β : _____ D ₃ : _____ L ₂ : _____ γ : _____ Z: _____	Coating: ☐ Coated*: _____ ☐ Uncoated	With cooling channels? ☐ No ☐ Yes Cutting direction: ☐ Right ☐ Left
Material to be machined: _____	Shank shape: _____	Quantity: _____
Date, signature & company stamp: _____		Contact person: _____

* Without further information, the most suitable coating will be used.

INOX-170Pilot



ACTIONDRILL
AD.90.030.170
170° Point angle
90° chamfer
D1: Ø 0.3 mm



5 PRO's of the ACTIONDRILL:

- Direct drilling on inclined surfaces
- For surfaces with an inclination angle up to 61°
- Combination tool: drilling + chamfering
- Perfect positional accuracy
- Shorter process times and high process reliability

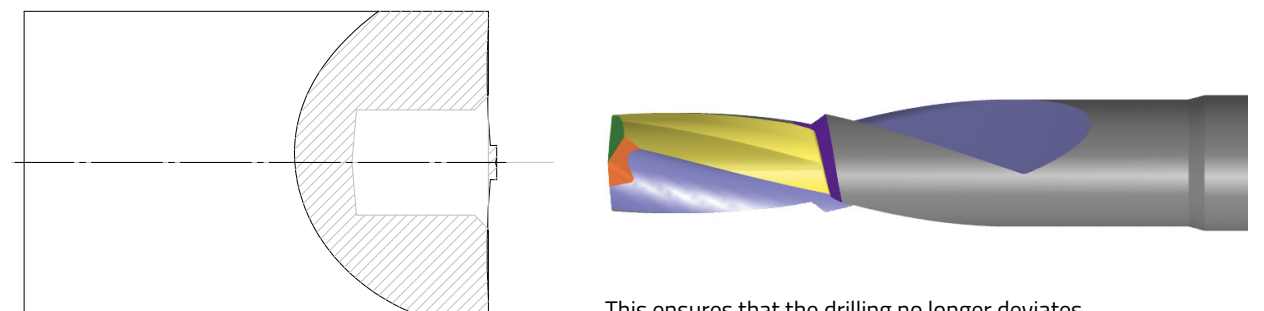
Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.030.170	Ø 0.30	-	Ø 0.70	Ø 4.00	0.60	2.30	55.00
AD.90.035.170	Ø 0.35	-	Ø 0.75	Ø 4.00	0.70	2.55	55.00
AD.90.040.170	Ø 0.40	-	Ø 0.80	Ø 4.00	0.80	2.80	55.00
AD.90.045.170	Ø 0.45	-	Ø 0.85	Ø 4.00	0.90	3.05	55.00
AD.90.050.170	Ø 0.50	-	Ø 0.90	Ø 4.00	1.00	3.30	55.00
AD.90.055.170	Ø 0.55	-	Ø 0.95	Ø 4.00	1.10	3.55	55.00
AD.90.060.170	Ø 0.60	-	Ø 1.00	Ø 4.00	1.20	3.80	55.00
AD.90.065.170	Ø 0.65	-	Ø 1.05	Ø 4.00	1.30	4.05	55.00
AD.90.070.170	Ø 0.70	-	Ø 1.10	Ø 4.00	1.40	4.30	55.00
AD.90.075.170	Ø 0.75	-	Ø 1.15	Ø 4.00	1.50	4.55	55.00
AD.90.080.170	Ø 0.80	-	Ø 1.20	Ø 4.00	1.60	4.80	55.00
AD.90.085.170	Ø 0.85	-	Ø 1.25	Ø 4.00	1.70	5.05	55.00
AD.90.090.170	Ø 0.90	-	Ø 1.30	Ø 4.00	1.80	5.30	55.00
AD.90.095.170	Ø 0.95	-	Ø 1.35	Ø 4.00	1.90	5.55	55.00
AD.90.100.170	Ø 1.00	-	Ø 1.60	Ø 4.00	2.00	6.70	55.00
AD.90.105.170	Ø 1.05	-	Ø 1.65	Ø 4.00	2.10	6.80	55.00
AD.90.110.170	Ø 1.10	-	Ø 1.70	Ø 4.00	2.20	7.00	55.00
AD.90.115.170	Ø 1.15	-	Ø 1.75	Ø 4.00	2.30	7.10	55.00
AD.90.120.170	Ø 1.20	-	Ø 1.80	Ø 4.00	2.40	7.20	55.00
AD.90.125.170	Ø 1.25	-	Ø 1.85	Ø 4.00	2.50	8.20	55.00
AD.90.130.170	Ø 1.30	-	Ø 1.90	Ø 4.00	2.60	8.30	55.00
AD.90.135.170	Ø 1.35	-	Ø 1.95	Ø 4.00	2.70	8.40	55.00
AD.90.140.170	Ø 1.40	-	Ø 2.00	Ø 4.00	2.80	8.50	55.00
AD.90.145.170	Ø 1.45	-	Ø 2.05	Ø 4.00	2.90	8.60	55.00
AD.90.150.170	Ø 1.50	-	Ø 2.10	Ø 4.00	3.00	9.60	55.00
AD.90.155.170	Ø 1.55	-	Ø 2.15	Ø 4.00	3.10	9.70	55.00
AD.90.1587.170	Ø1.587	1/16"	Ø 2.20	Ø 4.00	3.17	9.80	55.00
AD.90.160.170	Ø 1.60	-	Ø 2.20	Ø 4.00	3.20	9.80	55.00
AD.90.165.170	Ø 1.65	-	Ø 2.25	Ø 4.00	3.30	9.90	55.00
AD.90.170.170	Ø 1.70	-	Ø 2.30	Ø 4.00	3.40	10.10	55.00
AD.90.175.170	Ø 1.75	-	Ø 2.35	Ø 4.00	3.50	10.20	55.00
AD.90.180.170	Ø 1.80	-	Ø 2.40	Ø 4.00	3.60	11.10	55.00
AD.90.185.170	Ø 1.85	-	Ø 2.45	Ø 4.00	3.70	11.30	55.00
AD.90.190.170	Ø 1.90	-	Ø 2.50	Ø 4.00	3.80	11.40	55.00
AD.90.195.170	Ø 1.95	-	Ø 2.55	Ø 4.00	3.90	11.50	55.00
AD.90.200.170	Ø 2.00	-	Ø 2.60	Ø 4.00	4.00	11.60	60.00
AD.90.203.170	Ø 2.03	-	Ø 2.85	Ø 4.00	4.06	11.70	60.00
AD.90.205.170	Ø 2.05	-	Ø 2.85	Ø 4.00	4.10	11.70	60.00
AD.90.210.170	Ø 2.10	-	Ø 2.90	Ø 4.00	4.20	11.80	60.00
AD.90.215.170	Ø 2.15	-	Ø 2.95	Ø 4.00	4.30	11.90	60.00
AD.90.220.170	Ø 2.20	-	Ø 3.00	Ø 4.00	4.40	13.80	60.00
AD.90.225.170	Ø 2.25	-	Ø 3.05	Ø 4.00	4.50	13.90	60.00
AD.90.230.170	Ø 2.30	-	Ø 3.10	Ø 4.00	4.60	14.00	60.00
AD.90.233.170	Ø 2.33	-	Ø 3.15	Ø 4.00	4.66	14.10	60.00
AD.90.235.170	Ø 2.35	-	Ø 3.15	Ø 4.00	4.70	14.10	60.00
AD.90.2381.170	Ø2.381	3/32"	Ø 3.20	Ø 4.00	4.76	14.20	60.00
AD.90.240.170	Ø 2.40	-	Ø 3.20	Ø 4.00	4.80	14.20	60.00
AD.90.245.170	Ø 2.45	-	Ø 3.25	Ø 4.00	4.90	14.40	60.00
AD.90.250.170	Ø 2.50	-	Ø 3.30	Ø 4.00	5.00	14.50	60.00

Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.255.170	Ø 2.55	-	Ø 3.35	Ø 4.00	5.10	14.60	60.00
AD.90.260.170	Ø 2.60	-	Ø 3.40	Ø 4.00	5.20	14.70	60.00
AD.90.265.170	Ø 2.65	-	Ø 3.45	Ø 4.00	5.30	15.70	60.00
AD.90.270.170	Ø 2.70	-	Ø 3.50	Ø 4.00	5.40	15.80	60.00
AD.90.275.170	Ø 2.75	-	Ø 3.55	Ø 4.00	5.50	15.90	60.00
AD.90.280.170	Ø 2.80	-	Ø 3.60	Ø 4.00	5.60	16.00	60.00
AD.90.285.170	Ø 2.85	-	Ø 3.65	Ø 4.00	5.70	16.10	60.00
AD.90.290.170	Ø 2.90	-	Ø 3.70	Ø 4.00	5.80	16.20	60.00
AD.90.295.170	Ø 2.95	-	Ø 6.75	Ø 4.00	5.90	16.40	60.00
AD.90.300.170	Ø 3.00	-	Ø 3.80	Ø 4.00	6.00	17.20	65.00
AD.90.310.170	Ø 3.10	-	Ø 3.90	Ø 4.00	6.20	17.40	65.00
AD.90.310.170	Ø 3.15	-	Ø 4.00	Ø 4.00	6.30	17.70	65.00
AD.90.3175.170	Ø 3.175	1/8"	Ø 4.00	Ø 4.00	6.35	17.70	65.00
AD.90.320.170	Ø 3.20	-	Ø 4.00	Ø 4.00	6.40	17.70	65.00
AD.90.325.170	Ø 3.25	-	Ø 4.10	Ø 6.00	6.50	17.90	65.00
AD.90.330.170	Ø 3.30	-	Ø 4.10	Ø 6.00	6.60	17.90	65.00
AD.90.340.170	Ø 3.40	-	Ø 4.20	Ø 6.00	6.80	18.10	65.00
AD.90.350.170	Ø 3.50	-	Ø 4.30	Ø 6.00	7.00	18.30	65.00
AD.90.360.170	Ø 3.60	-	Ø 4.40	Ø 6.00	7.20	18.60	65.00
AD.90.365.170	Ø 3.65	-	Ø 4.50	Ø 6.00	7.30	18.80	65.00
AD.90.370.170	Ø 3.70	-	Ø 4.50	Ø 6.00	7.40	18.80	65.00
AD.90.380.170	Ø 3.80	-	Ø 4.60	Ø 6.00	7.60	19.00	65.00
AD.90.390.170	Ø 3.90	-	Ø 4.70	Ø 6.00	7.80	19.20	65.00
AD.90.3968.170	Ø 3.968	5/32"	Ø 4.80	Ø 6.00	7.94	19.50	65.00
AD.90.400.170	Ø 4.00	-	Ø 4.80	Ø 6.00	8.00	19.50	65.00
AD.90.410.170	Ø 4.10	-	Ø 5.10	Ø 6.00	8.20	21.30	65.00
AD.90.420.170	Ø 4.20	-	Ø 5.20	Ø 6.00	8.40	21.00	65.00
AD.90.430.170	Ø 4.30	-	Ø 5.30	Ø 6.00	8.60	21.60	65.00
AD.90.440.170	Ø 4.40	-	Ø 5.40	Ø 6.00	8.80	21.70	65.00
AD.90.450.170	Ø 4.50	-	Ø 5.50	Ø 6.00	9.00	27.00	70.00
AD.90.460.170	Ø 4.60	-	Ø 5.60	Ø 6.00	9.20	27.10	70.00
AD.90.465.170	Ø 4.65	-	Ø 5.70	Ø 6.00	9.40	27.30	70.00
AD.90.470.170	Ø 4.70	-	Ø 5.70	Ø 6.00	9.40	27.30	70.00
AD.90.4762.170	Ø 4.762	3/16"	Ø 5.80	Ø 6.00	9.52	27.40	70.00
AD.90.480.170	Ø 4.80	-	Ø 5.80	Ø 6.00	9.60	27.40	70.00
AD.90.490.170	Ø 4.90	-	Ø 5.90	Ø 6.00	9.80	27.60	70.00
AD.90.500.170	Ø 5.00	-	Ø 6.00	Ø 6.00	10.00	27.70	70.00
AD.90.510.170	Ø 5.10	-	Ø 6.10	Ø 8.00	10.20	27.90	70.00
AD.90.520.170	Ø 5.20	-	Ø 6.20	Ø 8.00	10.40	28.00	70.00
AD.90.530.170	Ø 5.30	-	Ø 6.30	Ø 8.00	10.60	28.10	70.00
AD.90.540.170	Ø 5.40	-	Ø 6.40	Ø 8.00	10.80	28.30	70.00
AD.90.550.170	Ø 5.50	-	Ø 6.50	Ø 8.00	11.00	28.40	70.00
AD.90.5556.170	Ø 5.556	7/32"	Ø 6.60	Ø 8.00	11.12	28.60	70.00
AD.90.560.170	Ø 5.60	-	Ø 6.60	Ø 8.00	11.20	28.60	70.00
AD.90.570.170	Ø 5.70	-	Ø 6.70	Ø 8.00	11.40	28.70	70.00
AD.90.580.170	Ø 5.80	-	Ø 6.80	Ø 8.00	11.60	28.90	70.00
AD.90.590.170	Ø 5.90	-	Ø 6.90	Ø 8.00	11.80	29.00	70.00
AD.90.600.170	Ø 6.00	-	Ø 7.00	Ø 8.00	12.00	29.10	70.00
AD.90.6350.170	Ø 6.350	1/4"	Ø 7.40	Ø 8.00	12.70	30.00	70.00

Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.660.170	Ø 6.60	-	Ø 8.00	Ø 8.00	13.20	-	70.00
AD.90.670.170	Ø 6.70	-	Ø 8.00	Ø 8.00	13.40	-	70.00
AD.90.680.170	Ø 6.80	-	Ø 8.00	Ø 8.00	13.60	-	70.00
AD.90.690.170	Ø 6.90	-	Ø 8.00	Ø 8.00	13.80	-	70.00
AD.90.700.170	Ø 7.00	-	Ø 8.00	Ø 8.00	14.00	-	70.00
AD.90.720.170	Ø 7.20	-	Ø 8.00	Ø 8.00	14.00	-	70.00

Available from stock

Positional accurate piloting / drilling despite "burrs" or uneven surfaces

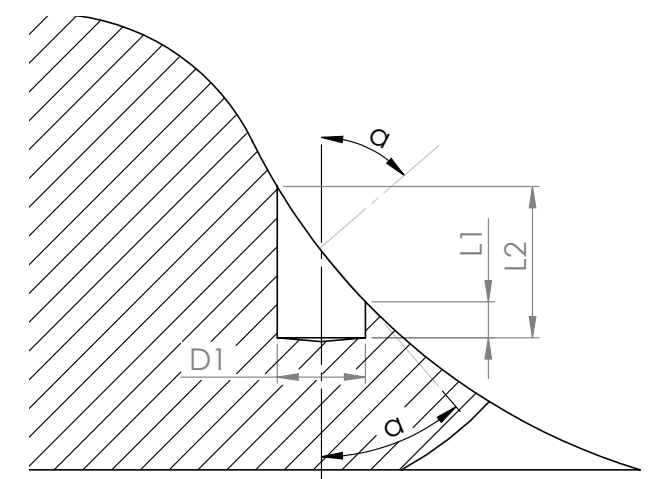


This ensures that the drilling no longer deviates.



Piloting/pre-drilling on the incline

without having to "spot face" with a mill



Calculation of the "short web width":

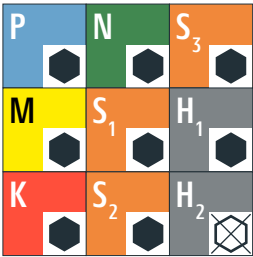
Formula: $L1 = 2 \times D - D \times \tan(\alpha)$

Calculation example:

Incline of 45°; drill Ø 1.85

$L1 = 2 \times 1.85 \text{ mm} - 1.85 \text{ mm} \times \tan(45^\circ) = 1.85 \text{ mm}$

Cutting data - ACTIONDRILL INOX-170 Pilot

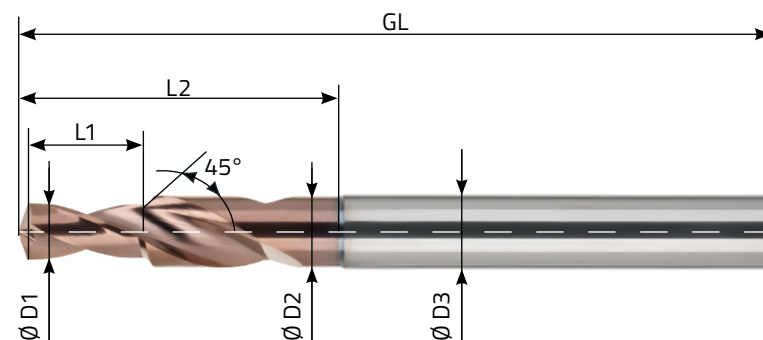
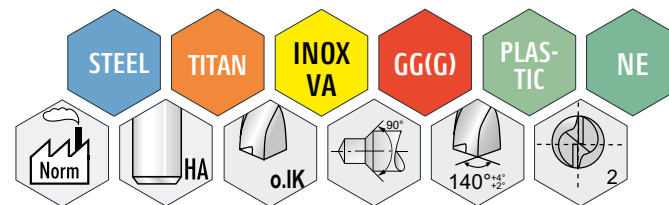


Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 55 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

Recommended use Highly suitable Partially suitable Not recommended

Ø 0.3 mm - Ø 0.4 mm		Ø 0.4 mm - Ø 0.8 mm		Ø 0.8 mm - Ø 1.2 mm		Ø 1.2 mm - Ø 1.8 mm		Ø 1.8 mm - Ø 2.5 mm		Ø 2.5 mm - Ø 3.0 mm		Ø 3.0 mm - Ø 7.2 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
80	0.004 - 0.006	80	0.008 - 0.012	80	0.013 - 0.015	80	0.022 - 0.028	80	0.030 - 0.032	100	0.028 - 0.032	100	0.040 - 0.08
60	0.003 - 0.005	60	0.008 - 0.012	60	0.012 - 0.014	60	0.020 - 0.022	70	0.028 - 0.030	70	0.028 - 0.042	70	0.03 - 0.040
50	0.003 - 0.005	50	0.007 - 0.010	50	0.013 - 0.015	50	0.013 - 0.015	60	0.010 - 0.020	60	0.014 - 0.018	60	0.035 - 0.045
50	0.003 - 0.005	50	0.004 - 0.006	50	0.010 - 0.012	50	0.010 - 0.012	50	0.010 - 0.020	50	0.012 - 0.014	50	0.035 - 0.045
80	0.004 - 0.008	80	0.007 - 0.01	80	0.01 - 0.015	80	0.01 - 0.015	80	0.026 - 0.030	80	0.03 - 0.045	80	0.045 - 0.06
120	0.008 - 0.01	120	0.010 - 0.018	120	0.015 - 0.02	120	0.016 - 0.022	140	0.032 - 0.04	140	0.036 - 0.042	140	0.036 - 0.05
80	0.008 - 0.01	80	0.012 - 0.018	80	0.018 - 0.020	80	0.018 - 0.022	80	0.032 - 0.04	80	0.034 - 0.044	80	0.036 - 0.05
80	0.008 - 0.01	80	0.010 - 0.016	80	0.016 - 0.02	80	0.016 - 0.022	80	0.032 - 0.04	80	0.032 - 0.042	80	0.036 - 0.05
40	0.002 - 0.003	40	0.006 - 0.008	40	0.007 - 0.01	40	0.009 - 0.010	40	0.010 - 0.012	40	0.012 - 0.016	40	0.014 - 0.018
40	0.003 - 0.005	40	0.006 - 0.008	40	0.007 - 0.01	40	0.018 - 0.020	40	0.010 - 0.012	40	0.012 - 0.018	40	0.014 - 0.018
20	0.002 - 0.003	20	0.002 - 0.004	20	0.007 - 0.01	20	0.009 - 0.010	20	0.010 - 0.012	25	0.012 - 0.018	25	0.014 - 0.018
20	0.003 - 0.005	20	0.002 - 0.004	20	0.003 - 0.004	20	0.003 - 0.005	20	0.003 - 0.007	20	0.009 - 0.014	20	0.004 - 0.018
no data available													

INOX-Pilot



■ α-INOX coated



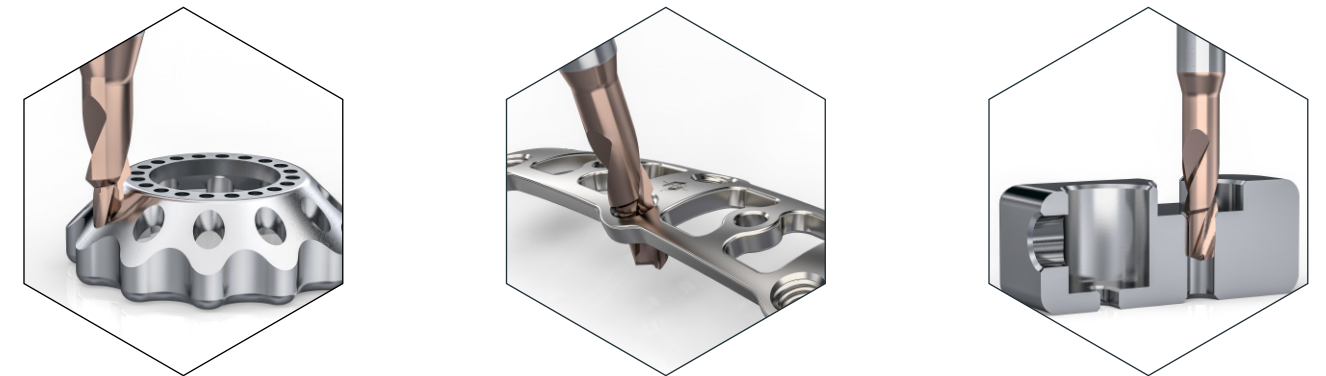
5 PRO's of the ACTIONDRILL:

- Combination tool: centering + drilling + chamfering
- Perfect positional accuracy
- 2xD drilling + chamfering
- Pilot drill (tolerance Øk6) for deep-hole drilling
- Shorter process times and high process reliability

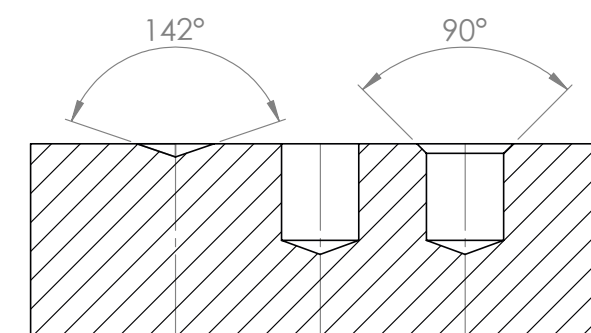
Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.075.140	Ø 0.75	-	Ø 1.60	Ø 3.00	1.50	6.70	50.00
AD.90.080.140	Ø 0.80	-	Ø 1.60	Ø 3.00	1.60	6.70	50.00
AD.90.085.140	Ø 0.85	-	Ø 1.60	Ø 3.00	1.70	6.70	50.00
AD.90.090.140	Ø 0.90	-	Ø 1.60	Ø 3.00	1.80	6.70	50.00
AD.90.095.140	Ø 0.95	-	Ø 1.60	Ø 3.00	1.90	6.70	50.00
AD.90.100.140	Ø 1.00	-	Ø 1.60	Ø 4.00	2.00	6.70	55.00
AD.90.105.140	Ø 1.05	-	Ø 1.65	Ø 4.00	2.10	6.80	55.00
AD.90.110.140	Ø 1.10	-	Ø 1.70	Ø 4.00	2.20	7.00	55.00
AD.90.115.140	Ø 1.15	-	Ø 1.75	Ø 4.00	2.30	7.10	55.00
AD.90.120.140	Ø 1.20	-	Ø 1.80	Ø 4.00	2.40	7.20	55.00
AD.90.125.140	Ø 1.25	-	Ø 1.85	Ø 4.00	2.50	8.20	55.00
AD.90.130.140	Ø 1.30	-	Ø 1.90	Ø 4.00	2.60	8.30	55.00
AD.90.135.140	Ø 1.35	-	Ø 1.95	Ø 4.00	2.70	8.40	55.00
AD.90.140.140	Ø 1.40	-	Ø 2.00	Ø 4.00	2.80	8.50	55.00
AD.90.145.140	Ø 1.45	-	Ø 2.05	Ø 4.00	2.90	8.60	55.00
AD.90.150.140	Ø 1.50	-	Ø 2.10	Ø 4.00	3.00	9.60	55.00
AD.90.155.140	Ø 1.55	-	Ø 2.15	Ø 4.00	3.10	9.70	55.00
AD.90.1587.140	Ø 1.587	1/16"	Ø 2.20	Ø 4.00	3.17	9.80	55.00
AD.90.160.140	Ø 1.60	-	Ø 2.20	Ø 4.00	3.20	9.80	55.00
AD.90.165.140	Ø 1.65	-	Ø 2.25	Ø 4.00	3.30	9.90	55.00
AD.90.170.140	Ø 1.70	-	Ø 2.30	Ø 4.00	3.40	10.10	55.00
AD.90.175.140	Ø 1.75	-	Ø 2.35	Ø 4.00	3.50	10.20	55.00
AD.90.180.140	Ø 1.80	-	Ø 2.40	Ø 4.00	3.60	11.10	55.00
AD.90.185.140	Ø 1.85	-	Ø 2.45	Ø 4.00	3.70	11.30	55.00
AD.90.190.140	Ø 1.90	-	Ø 2.50	Ø 4.00	3.80	11.40	55.00
AD.90.195.140	Ø 1.95	-	Ø 2.55	Ø 4.00	3.90	11.50	55.00
AD.90.200.140	Ø 2.00	-	Ø 2.60	Ø 4.00	4.00	11.60	60.00
AD.90.203.140	Ø 2.03	-	Ø 2.85	Ø 4.00	4.06	11.70	60.00
AD.90.205.140	Ø 2.05	-	Ø 2.85	Ø 4.00	4.10	11.70	60.00
AD.90.210.140	Ø 2.10	-	Ø 2.90	Ø 4.00	4.20	11.80	60.00
AD.90.215.140	Ø 2.15	-	Ø 2.95	Ø 4.00	4.30	11.90	60.00
AD.90.220.140	Ø 2.20	-	Ø 3.00	Ø 4.00	4.40	13.80	60.00
AD.90.225.140	Ø 2.25	-	Ø 3.05	Ø 4.00	4.50	13.90	60.00
AD.90.230.140	Ø 2.30	-	Ø 3.10	Ø 4.00	4.60	14.00	60.00
AD.90.233.140	Ø 2.33	-	Ø 3.15	Ø 4.00	4.66	14.10	60.00
AD.90.235.140	Ø 2.35	-	Ø 3.15	Ø 4.00	4.70	14.10	60.00
AD.90.2381.140	Ø2.381	3/32"	Ø 3.20	Ø 4.00	4.76	14.20	60.00
AD.90.240.140	Ø 2.40	-	Ø 3.20	Ø 4.00	4.80	14.20	60.00
AD.90.245.140	Ø 2.45	-	Ø 3.25	Ø 4.00	4.90	14.40	60.00
AD.90.250.140	Ø 2.50	-	Ø 3.30	Ø 4.00	5.00	14.50	60.00
AD.90.255.140	Ø 2.55	-	Ø 3.35	Ø 4.00	5.10	14.60	60.00
AD.90.260.140	Ø 2.60	-	Ø 3.40	Ø 4.00	5.20	14.70	60.00
AD.90.265.140	Ø 2.65	-	Ø 3.45	Ø 4.00	5.30	15.70	60.00
AD.90.270.140	Ø 2.70	-	Ø 3.50	Ø 4.00	5.40	15.80	60.00
AD.90.275.140	Ø 2.75	-	Ø 3.55	Ø 4.00	5.50	15.90	60.00
AD.90.280.140	Ø 2.80	-	Ø 3.60	Ø 4.00	5.60	16.00	60.00
AD.90.285.140	Ø 2.85	-	Ø 3.65	Ø 4.00	5.70	16.10	60.00
AD.90.290.140	Ø 2.90	-	Ø 3.70	Ø 4.00	5.80	16.20	60.00
AD.90.295.140	Ø 2.95	-	Ø 3.75	Ø 4.00	5.90	16.40	60.00
AD.90.300.140	Ø 3.00	-	Ø 3.80	Ø 4.00	6.00	17.20	65.00

Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.310.140	Ø 3.10	-	Ø 3.90	Ø 4.00	6.20	17.40	65.00
AD.90.315.140	Ø 3.15	-	Ø 4.00	Ø 4.00	6.30	17.70	65.00
AD.90.3175.140	Ø 3.175	1/8"	Ø 4.00	Ø 4.00	6.35	17.70	65.00
AD.90.320.140	Ø 3.20	-	Ø 4.00	Ø 4.00	6.40	17.70	65.00
AD.90.325.140	Ø 3.25	-	Ø 4.10	Ø 4.00	6.50	17.90	65.00
AD.90.330.140	Ø 3.30	-	Ø 4.10	Ø 6.00	6.60	17.90	65.00
AD.90.340.140	Ø 3.40	-	Ø 4.20	Ø 6.00	6.80	18.10	65.00
AD.90.350.140	Ø 3.50	-	Ø 4.30	Ø 6.00	7.00	18.30	65.00
AD.90.360.140	Ø 3.60	-	Ø 4.40	Ø 6.00	7.20	18.60	65.00
AD.90.365.140	Ø 3.65	-	Ø 4.50	Ø 6.00	7.30	18.80	65.00
AD.90.370.140	Ø 3.70	-	Ø 4.50	Ø 6.00	7.40	18.80	65.00
AD.90.380.140	Ø 3.80	-	Ø 4.60	Ø 6.00	7.60	19.00	65.00
AD.90.390.140	Ø 3.90	-	Ø 4.70	Ø 6.00	7.80	19.20	65.00
AD.90.3968.140	Ø 3.968	5/32"	Ø 4.80	Ø 6.00	7.94	19.50	65.00
AD.90.400.140	Ø 4.00	-	Ø 4.80	Ø 6.00	8.00	19.50	65.00
AD.90.410.140	Ø 4.10	-	Ø 5.10	Ø 6.00	8.20	21.30	65.00
AD.90.420.140	Ø 4.20	-	Ø 5.20	Ø 6.00	8.40	21.00	65.00
AD.90.430.140	Ø 4.30	-	Ø 5.30	Ø 6.00	8.60	21.60	65.00
AD.90.440.140	Ø 4.40	-	Ø 5.40	Ø 6.00	8.80	21.70	65.00
AD.90.450.140	Ø 4.50	-	Ø 5.50	Ø 6.00	9.00	27.00	70.00
AD.90.460.140	Ø 4.60	-	Ø 5.60	Ø 6.00	9.20	27.10	70.00
AD.90.465.140	Ø 4.65	-	Ø 5.70	Ø 6.00	9.40	27.30	70.00
AD.90.470.140	Ø 4.70	-	Ø 5.70	Ø 6.00	9.40	27.30	70.00
AD.90.4762.140	Ø 4.762	3/16"	Ø 5.80	Ø 6.00	9.52	27.40	70.00
AD.90.480.140	Ø 4.80	-	Ø 5.80	Ø 6.00	9.60	27.40	70.00
AD.90.490.140	Ø 4.90	-	Ø 5.90	Ø 6.00	9.80	27.60	70.00
AD.90.500.140	Ø 5.00	-	Ø 6.00	Ø 6.00	10.00	27.70	70.00
AD.90.510.140	Ø 5.10	-	Ø 6.10	Ø 8.00	10.20	27.90	70.00
AD.90.520.140	Ø 5.20	-	Ø 6.20	Ø 8.00	10.40	28.00	70.00
AD.90.530.140	Ø 5.30	-	Ø 6.30	Ø 8.00	10.60	28.10	70.00
AD.90.540.140	Ø 5.40	-	Ø 6.40	Ø 8.00	10.80	28.30	70.00
AD.90.550.140	Ø 5.50	-	Ø 6.50	Ø 8.00	11.00	28.40	70.00
AD.90.5556.140	Ø 5.556	7/32"	Ø 6.60	Ø 8.00	11.12	28.60	70.00
AD.90.560.140	Ø 5.60	-	Ø 6.60	Ø 8.00	11.20	28.60	70.00
AD.90.570.140	Ø 5.70	-	Ø 6.70	Ø 8.00	11.40	28.70	70.00
AD.90.580.140	Ø 5.80	-	Ø 6.80	Ø 8.00	11.60	28.90	70.00
AD.90.590.140	Ø 5.90	-	Ø 6.90	Ø 8.00	11.80	29.00	70.00
AD.90.600.140	Ø 6.00	-	Ø 7.00	Ø 8.00	12.00	29.10	70.00
AD.90.620.140	Ø 6.20	-	Ø 7.40	Ø 8.00	12.70	30.00	70.00
AD.90.6350.140	Ø 6.350	1/4"	Ø 7.40	Ø 8.00	12.70	30.00	70.00
AD.90.660.140	Ø 6.60	-	Ø 7.80	Ø 8.00	13.20	30.00	70.00
AD.90.670.140	Ø 6.70	-	Ø 8.00	Ø 8.00	13.40	30.00	70.00
AD.90.680.140	Ø 6.80	-	Ø 8.00	Ø 8.00	13.60	30.00	70.00
AD.90.690.140	Ø 6.90	-	Ø 8.00	Ø 8.00	13.80	30.00	70.00
AD.90.700.140	Ø 7.00	-	Ø 8.00	Ø 8.00	14.00	30.00	70.00
AD.90.720.140	Ø 7.20	-	Ø 8.00	Ø 8.00	14.40	30.00	70.00

Available from stock



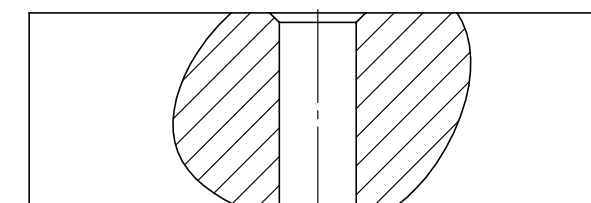
Conventional machining with 3 tools



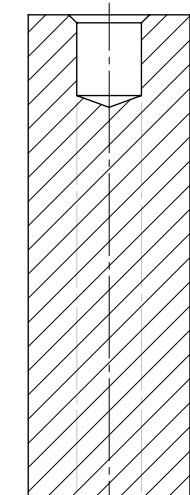
- 1. Centering
- 2. Drilling
- 3. Chamfering

Now with just one tool

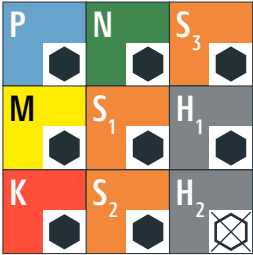
Centering, drilling + chamfering!



- Short drilling 2xD + chamfer



- Pilot drilling (k6)
- 2xD + chamfer
- For deep-hole drilling



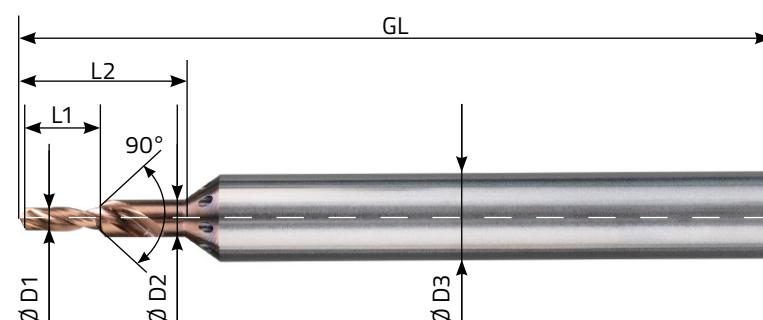
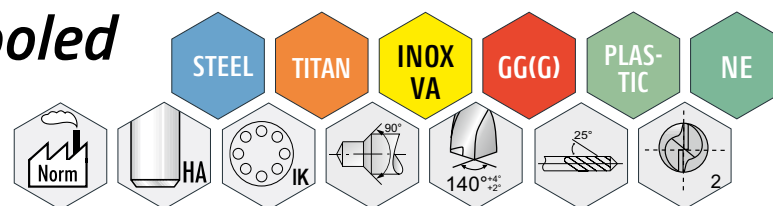
Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 55 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

Recommended use Highly suitable Partially suitable Not recommended

Ø 0.75 mm - Ø 1.2 mm		Ø 1.2 mm - Ø 1.8 mm		Ø 1.8 mm - Ø 2.5 mm		Ø 2.5 mm - Ø 3.0 mm		Ø 3.0 mm - Ø 7.2 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
60-130	0.042 - 0.066	60-130	0.122 - 0.128	60-130	0.130 - 0.182	60-140	0.128 - 0.232	60-160	0.220 - 0.280
60-120	0.042 - 0.056	60-120	0.120 - 0.122	60-130	0.130 - 0.182	60-120	0.128 - 0.202	60-150	0.200 - 0.260
50-120	0.025 - 0.04	50-120	0.043 - 0.055	50-120	0.060 - 0.080	50-100	0.074 - 0.098	50-120	0.115 - 0.185
50-80	0.02 - 0.038	50-80	0.040 - 0.068	50-90	0.050 - 0.070	50-90	0.072 - 0.084	50-100	0.115 - 0.175
80-140	0.030 - 0.042	80-140	0.06 - 0.115	80-160	0.126 - 0.135	80-160	0.100 - 0.145	80-180	0.145 - 0.210
80-160	0.042 - 0.066	80-160	0.096 - 0.122	80-160	0.132 - 0.18	80-160	0.136 - 0.172	80-180	0.200 - 0.250
80-140	0.046 - 0.088	80-140	0.098 - 0.122	80-160	0.132 - 0.210	80-160	0.134 - 0.164	80-180	0.200 - 0.252
80-120	0.032 - 0.088	80-120	0.066 - 0.122	80-140	0.085 - 0.120	80-120	0.132 - 0.162	80-160	0.195 - 0.242
15 - 50	0.025 - 0.045	15 - 50	0.049 - 0.060	15 - 60	0.060 - 0.072	15 - 70	0.062 - 0.076	15 - 80	0.080 - 0.098
15 - 50	0.025 - 0.045	15 - 50	0.048 - 0.060	15 - 60	0.060 - 0.072	15 - 70	0.062 - 0.078	15 - 80	0.080 - 0.098
15 - 50	0.020 - 0.024	15 - 50	0.05 - 0.060	15 - 50	0.055 - 0.072	15 - 60	0.052 - 0.08	15 - 75	0.076 - 0.098
15-32	0.006 - 0.009	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.009 - 0.014	15-40	0.009 - 0.018
no data available									

* Without further information, the most suitable coating will be used.

INOX-3xD-Pilot cooled



■ α-INOX coated



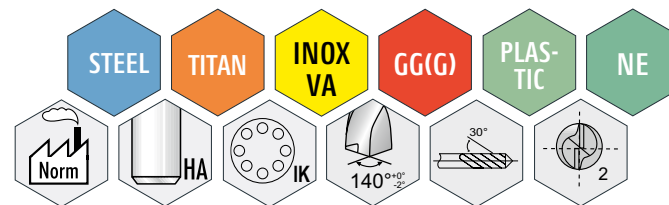
5 PRO's of the ACTIONDRILL:

- Combination tool: centering + drilling + chamfering
- High performance & positioning accuracy
- Cooled "micro" step drill
- 3xD pilot drill for your deep-hole application
- Winding chips are efficiently flushed away

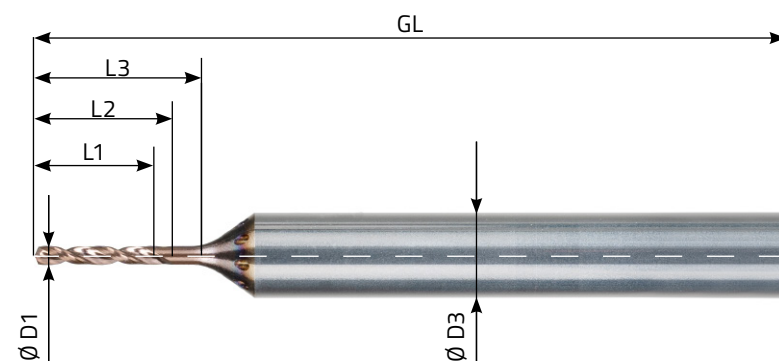
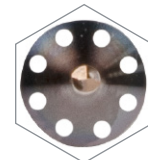
Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.030.140.IK	Ø 0.300	-	Ø 0.70	Ø 4.00	0.90	3.30	40.00
AD.90.035.140.IK	Ø 0.350	-	Ø 0.75	Ø 4.00	1.05	3.40	40.00
AD.90.040.140.IK	Ø 0.400	-	Ø 0.80	Ø 4.00	1.20	3.60	40.00
AD.90.045.140.IK	Ø 0.450	-	Ø 0.85	Ø 4.00	1.35	3.80	40.00
AD.90.050.140.IK	Ø 0.500	-	Ø 0.90	Ø 4.00	1.50	4.00	40.00
AD.90.055.140.IK	Ø 0.550	-	Ø 0.95	Ø 4.00	1.65	4.20	40.00
AD.90.060.140.IK	Ø 0.600	-	Ø 1.00	Ø 4.00	1.80	4.40	40.00
AD.90.065.140.IK	Ø 0.650	-	Ø 1.05	Ø 4.00	1.95	4.70	40.00
AD.90.070.140.IK	Ø 0.700	-	Ø 1.10	Ø 4.00	2.10	5.00	40.00
AD.90.075.140.IK	Ø 0.750	-	Ø 1.15	Ø 4.00	2.25	5.30	40.00
AD.90.080.140.IK	Ø 0.800	-	Ø 1.20	Ø 4.00	2.40	5.60	40.00
AD.90.085.140.IK	Ø 0.850	-	Ø 1.25	Ø 4.00	2.55	6.00	40.00
AD.90.090.140.IK	Ø 0.900	-	Ø 1.30	Ø 4.00	2.70	6.30	40.00
AD.90.095.140.IK	Ø 0.950	-	Ø 1.35	Ø 4.00	2.85	6.70	40.00
AD.90.100.140.IK	Ø 1.000	-	Ø 1.60	Ø 4.00	3.00	7.10	50.00
AD.90.105.140.IK	Ø 1.050	-	Ø 1.65	Ø 4.00	3.15	7.40	50.00
AD.90.110.140.IK	Ø 1.100	-	Ø 1.70	Ø 4.00	3.30	7.60	50.00
AD.90.115.140.IK	Ø 1.150	-	Ø 1.75	Ø 4.00	3.45	8.00	50.00
AD.90.120.140.IK	Ø 1.200	-	Ø 1.80	Ø 4.00	3.60	8.40	50.00
AD.90.125.140.IK	Ø 1.250	-	Ø 1.85	Ø 4.00	3.75	8.80	50.00
AD.90.130.140.IK	Ø 1.300	-	Ø 1.90	Ø 4.00	3.90	9.10	50.00
AD.90.135.140.IK	Ø 1.350	-	Ø 1.95	Ø 4.00	4.05	9.30	50.00
AD.90.140.140.IK	Ø 1.400	-	Ø 2.00	Ø 4.00	4.20	9.40	50.00
AD.90.145.140.IK	Ø 1.450	-	Ø 2.05	Ø 4.00	4.35	9.60	50.00
AD.90.150.140.IK	Ø 1.500	-	Ø 2.10	Ø 4.00	4.50	9.70	50.00
AD.90.155.140.IK	Ø 1.550	-	Ø 2.15	Ø 4.00	4.65	10.00	50.00
AD.90.1587.140.IK	Ø 1.587	1/16"	Ø 2.20	Ø 4.00	4.76	10.20	50.00
AD.90.160.140.IK	Ø 1.600	-	Ø 2.20	Ø 4.00	4.80	10.20	50.00
AD.90.165.140.IK	Ø 1.650	-	Ø 2.25	Ø 4.00	4.95	10.50	50.00
AD.90.170.140.IK	Ø 1.700	-	Ø 2.30	Ø 4.00	5.10	10.80	50.00
AD.90.175.140.IK	Ø 1.750	-	Ø 2.35	Ø 4.00	5.25	11.10	50.00
AD.90.180.140.IK	Ø 1.800	-	Ø 2.40	Ø 4.00	5.40	11.40	50.00
AD.90.185.140.IK	Ø 1.850	-	Ø 2.45	Ø 4.00	5.55	11.70	50.00
AD.90.190.140.IK	Ø 1.900	-	Ø 2.50	Ø 4.00	5.70	12.00	50.00
AD.90.195.140.IK	Ø 1.950	-	Ø 2.55	Ø 4.00	5.85	12.30	50.00
AD.90.200.140.IK	Ø 2.000	-	Ø 2.60	Ø 4.00	6.00	12.60	50.00
AD.90.203.140.IK	Ø 2.030	-	Ø 3.30	Ø 6.00	6.09	12.60	50.00
AD.90.205.140.IK	Ø 2.050	-	Ø 3.30	Ø 6.00	4.10	12.60	50.00
AD.90.210.140.IK	Ø 2.100	-	Ø 3.30	Ø 6.00	4.20	12.60	50.00
AD.90.215.140.IK	Ø 2.150	-	Ø 3.30	Ø 6.00	4.30	12.60	50.00
AD.90.225.140.IK	Ø 2.250	-	Ø 3.50	Ø 6.00	4.50	12.60	50.00
AD.90.230.140.IK	Ø 2.30	-	Ø 3.50	Ø 6.00	4.60	12.60	50.00
AD.90.233.140.IK	Ø 2.330	-	Ø 3.50	Ø 6.00	4.66	12.60	50.00
AD.90.235.140.IK	Ø 2.350	-	Ø 3.50	Ø 6.00	4.70	12.60	50.00
AD.90.2381.140.IK	Ø 2.381	3/32"	Ø 3.20	Ø 4.00	7.14	15.00	60.00
AD.90.240.140.IK	Ø 2.400	-	Ø 3.60	Ø 6.00	4.80	12.60	50.00
AD.90.250.140.IK	Ø 2.500	-	Ø 3.70	Ø 6.00	5.00	12.60	50.00
AD.90.255.140.IK	Ø 2.550	-	Ø 3.80	Ø 6.00	5.10	12.60	50.00
AD.90.260.140.IK	Ø 2.600	-	Ø 3.80	Ø 6.00	5.20	12.60	50.00
AD.90.265.140.IK	Ø 2.650	-	Ø 3.90	Ø 6.00	5.30	12.60	50.00
AD.90.270.140.IK	Ø 2.700	-	Ø 4.00	Ø 6.00	5.40	12.60	50.00
AD.90.275.140.IK	Ø 2.750	-	Ø 4.00	Ø 6.00	5.50	12.60	50.00
AD.90.280.140.IK	Ø 2.800	-	Ø 4.00	Ø 6.00	5.60	12.60	50.00
AD.90.285.140.IK	Ø 2.850	-	Ø 4.10	Ø 6.00	5.70	12.60	50.00
AD.90.290.140.IK	Ø 2.900	-	Ø 4.10	Ø 6.00	5.80	12.60	50.00

Available from stock

INOX-6xD cooled



ACTIONDRILL
AD.030.140.IK.6D
Integrated cooling
6xD drilling depth
D1: Ø 0.3 mm
140° Point angle



■ α-INOX coated



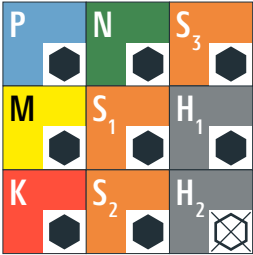
5 PRO's of the ACTIONDRILL:

- 6xD "micro" drill with integrated cooling from Ø 0.3
- Matched to our INOX-3xD Pilot cooled
- Perfect positional accuracy
- Shorter process times and high process reliability
- Long chips are flushed out through the integrated cooling

channels without retracting

Article number	D1 k5 (mm)	D1 (inch)	D3 h5 (mm)	L1 (6xD1 / mm)	L2 (7xD1 / mm)	L3 (9xD1 / mm)	GL (mm)
AD.030.140.IK.6D	Ø 0.300	-	Ø 4.00	1.80	2.10	2.70	40.00
AD.035.140.IK.6D	Ø 0.350	-	Ø 4.00	2.10	2.45	3.15	40.00
AD.040.140.IK.6D	Ø 0.400	-	Ø 4.00	2.40	2.80	3.60	40.00
AD.045.140.IK.6D	Ø 0.450	-	Ø 4.00	2.70	3.15	4.05	40.00
AD.050.140.IK.6D	Ø 0.500	-	Ø 4.00	3.00	3.50	4.50	40.00
AD.055.140.IK.6D	Ø 0.550	-	Ø 4.00	3.30	3.85	4.95	40.00
AD.060.140.IK.6D	Ø 0.600	-	Ø 4.00	3.60	4.20	5.40	40.00
AD.065.140.IK.6D	Ø 0.650	-	Ø 4.00	3.90	4.55	5.85	40.00
AD.070.140.IK.6D	Ø 0.700	-	Ø 4.00	4.20	4.90	6.30	40.00
AD.075.140.IK.6D	Ø 0.750	-	Ø 4.00	4.50	5.25	6.75	40.00
AD.080.140.IK.6D	Ø 0.800	-	Ø 4.00	4.80	5.60	7.20	40.00
AD.085.140.IK.6D	Ø 0.850	-	Ø 4.00	5.10	5.95	7.65	40.00
AD.090.140.IK.6D	Ø 0.900	-	Ø 4.00	5.40	6.30	8.10	40.00
AD.095.140.IK.6D	Ø 0.950	-	Ø 4.00	5.70	6.65	8.55	40.00
AD.100.140.IK.6D	Ø 1.000	-	Ø 4.00	6.00	7.00	9.00	50.00
AD.105.140.IK.6D	Ø 1.050	-	Ø 4.00	6.30	7.35	9.45	50.00
AD.110.140.IK.6D	Ø 1.100	-	Ø 4.00	6.60	7.70	9.90	50.00
AD.115.140.IK.6D	Ø 1.150	-	Ø 4.00	6.90	8.05	10.35	50.00
AD.120.140.IK.6D	Ø 1.200	-	Ø 4.00	7.20	8.40	10.80	50.00
AD.125.140.IK.6D	Ø 1.250	-	Ø 4.00	7.50	8.75	11.25	50.00
AD.130.140.IK.6D	Ø 1.300	-	Ø 4.00	7.80	9.10	11.70	50.00
AD.135.140.IK.6D	Ø 1.350	-	Ø 4.00	8.10	9.45	12.15	50.00
AD.140.140.IK.6D	Ø 1.400	-	Ø 4.00	8.40	9.80	12.60	50.00
AD.145.140.IK.6D	Ø 1.450	-	Ø 4.00	8.70	10.15	13.05	50.00
AD.150.140.IK.6D	Ø 1.500	-	Ø 4.00	9.00	10.50	13.50	50.00
AD.155.140.IK.6D	Ø 1.550	-	Ø 4.00	9.30	10.85	13.95	50.00
AD.1587.140.IK.6D	Ø 1.587	1/16"	Ø 4.00	9.52	11.11	14.283	50.00
AD.160.140.IK.6D	Ø 1.600	-	Ø 4.00	9.60	11.20	14.40	50.00
AD.165.140.IK.6D	Ø 1.650	-	Ø 4.00	9.90	11.55	14.85	50.00
AD.170.140.IK.6D	Ø 1.700	-	Ø 4.00	10.20	11.90	15.30	50.00
AD.175.140.IK.6D	Ø 1.750	-	Ø 4.00	10.50	12.25	15.75	50.00
AD.180.140.IK.6D	Ø 1.800	-	Ø 4.00	10.80	12.60	16.20	50.00
AD.185.140.IK.6D	Ø 1.850	-	Ø 4.00	11.10	12.95	16.65	50.00
AD.190.140.IK.6D	Ø 1.900	-	Ø 4.00	11.40	13.30	17.10	50.00
AD.195.140.IK.6D	Ø 1.950	-	Ø 4.00	11.70	13.65	17.55	50.00
AD.200.140.IK.6D	Ø 2.000	-	Ø 4.00	12.00	14.00	18.00	50.00
AD.203.140.IK.6D	Ø 2.030	-	Ø 4.00	14.21	16.24	18.27	50.00
AD.205.140.IK.6D	Ø 2.050	-	Ø 4.00	14.35	16.40	18.45	50.00
AD.210.140.IK.6D	Ø 2.100	-	Ø 4.00	14.70	16.80	18.90	50.00
AD.215.140.IK.6D	Ø 2.150	-	Ø 4.00	15.05	17.20	19.35	50.00
AD.225.140.IK.6D	Ø 2.250	-	Ø 4.00	15.75	18.00	20.25	50.00
AD.230.140.IK.6D	Ø 2.30	-	Ø 4.00	16.10	18.40	20.70	50.00
AD.233.140.IK.6D	Ø 2.330	-	Ø 4.00	16.31	18.64	20.97	50.00
AD.235.140.IK.6D	Ø 2.350	-	Ø 4.00	16.45	18.80	21.15	50.00
AD.2381.140.IK.6D	Ø 2.381	3/32"	Ø 4.00	14.30	16.70	21.50	60.00
AD.240.140.IK.6D	Ø 2.400	-	Ø 4.00	16.80	19.20	21.60	50.00
AD.250.140.IK.6D	Ø 2.500	-	Ø 4.00	17.50	20.00	22.50	60.00
AD.255.140.IK.6D	Ø 2.550	-	Ø 4.00	17.85	20.40	22.95	60.00
AD.260.140.IK.6D	Ø 2.600	-	Ø 4.00	18.20	20.80	23.40	60.00
AD.265.140.IK.6D	Ø 2.650	-	Ø 4.00	18.55	21.20	23.85	60.00
AD.270.140.IK.6D	Ø 2.700	-	Ø 4.00	18.90	21.60	24.30	60.00
AD.275.140.IK.6D	Ø 2.750	-	Ø 4.00	19.25	22.00	24.75	60.00
AD.280.140.IK.6D	Ø 2.800	-	Ø 4.00	19.60	22.40	25.20	60.00
AD.285.140.IK.6D	Ø 2.850	-	Ø 4.00	19.95	22.80	25.65	60.00
AD.290.140.IK.6D	Ø 2.900	-	Ø 4.00	20.30	23.20	26.10	60.00

Available from stock



Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 55 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

Recommended use



Highly suitable



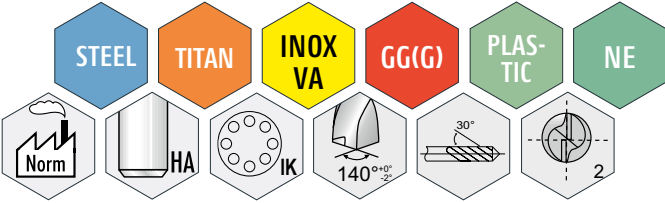
Partially suitable



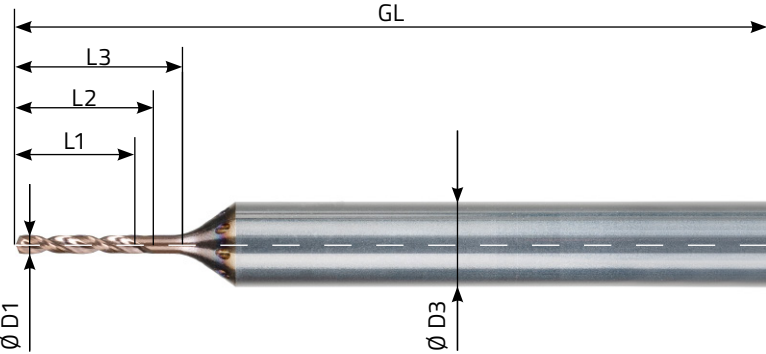
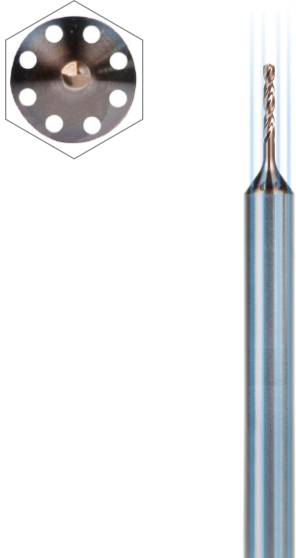
Not recommended

Ø 0.3 mm - Ø 0.4 mm		Ø 0.4 mm - Ø 0.8 mm		Ø 0.8 mm - Ø 1.2 mm		Ø 1.2 mm - Ø 2.9 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
60-120	0.008 - 0.01	60-120	0.022- 0.046	60-130	0.042- 0.066	60-130	0.090 - 0.182
60-100	0.08 - 0.01	60-100	0.018- 0.026	60-120	0.042- 0.056	60-130	0.090 - 0.182
50-100	0.08 - 0.01	50-100	0.009 - 0.016	50-120	0.025 - 0.04	50-120	0.060 - 0.080
50-80	0.08 - 0.01	50-80	0.008 - 0.020	50-80	0.02 - 0.038	50-90	0.050 - 0.070
80-140	0.010 - 0.014	80-140	0.030 - 0.042	80-140	0.030 - 0.042	80-160	0.096 - 0.135
80-160	0.012 - 0.016	80-160	0.032 - 0.046	80-160	0.042 - 0.066	80-160	0.132 - 0.18
80-140	0.012 - 0.016	80-140	0.036 - 0.068	80-140	0.046 - 0.088	80-160	0.132 - 0.210
80-120	0.012 - 0.014	80-120	0.030 - 0.048	80-120	0.032 - 0.088	80-140	0.085 - 0.120
15 - 50	0.08 - 0.01	15 - 50	0.025 - 0.045	15 - 50	0.025 - 0.045	15 - 60	0.060 - 0.092
15 - 50	0.08 - 0.01	15 - 50	0.025 - 0.045	15 - 50	0.025 - 0.045	15 - 60	0.060 - 0.120
15 - 50	0.08 - 0.01	15 - 50	0.020 - 0.024	15 - 50	0.020 - 0.024	15 - 50	0.055 - 0.092
15-32	0.006 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.012
no data available							

INOX-8xD cooled



ACTIONDRILL
AD.030.140.IK.8D
Integrated cooling
8xD drilling depth
D1: Ø 0.3 mm
140° Point angle



■ α-INOX coated



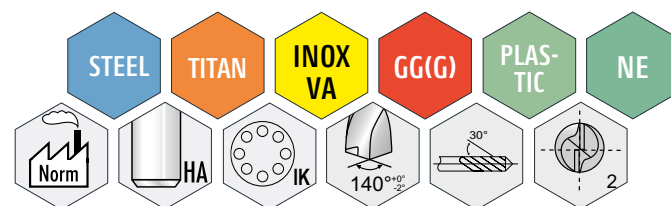
5 PRO's of the ACTIONDRILL:

- 8xD "micro" drill with integrated cooling from Ø 0.25
- Matched to our INOX-3xD-Pilot cooled
- Perfect positional accuracy
- Shorter process times and high process reliability
- Long chips are flushed out through the integrated cooling channels without retracting

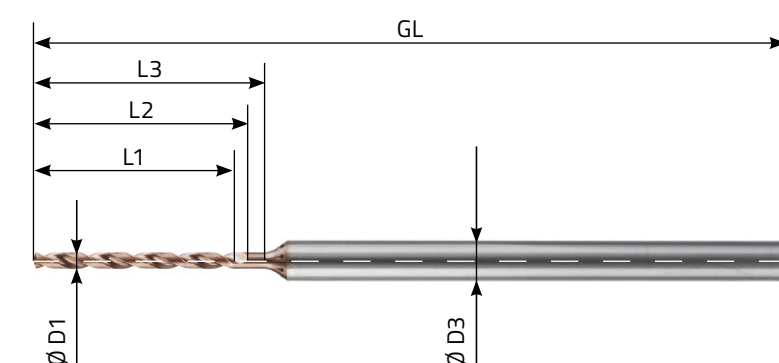
Article number	D1 k5 (mm)	D1 (inch)	D3 h5 (mm)	L1 (8xD1 / mm)	L2 (9xD1 / mm)	L3 (10xD1 / mm)	GL (mm)
AD.025.140.IK.8D	Ø 0.250	-	Ø 4.00	2.00	2.25	2.50	40.00
AD.030.140.IK.8D	Ø 0.300	-	Ø 4.00	2.40	2.70	3.00	40.00
AD.035.140.IK.8D	Ø 0.350	-	Ø 4.00	2.80	3.15	3.50	40.00
AD.040.140.IK.8D	Ø 0.400	-	Ø 4.00	3.20	3.60	4.00	40.00
AD.045.140.IK.8D	Ø 0.450	-	Ø 4.00	3.60	4.05	4.50	40.00
AD.050.140.IK.8D	Ø 0.500	-	Ø 4.00	4.00	4.50	5.00	40.00
AD.055.140.IK.8D	Ø 0.550	-	Ø 4.00	4.40	4.95	5.50	40.00
AD.060.140.IK.8D	Ø 0.600	-	Ø 4.00	4.80	5.40	6.00	40.00
AD.065.140.IK.8D	Ø 0.650	-	Ø 4.00	5.20	5.85	6.50	40.00
AD.070.140.IK.8D	Ø 0.700	-	Ø 4.00	5.60	6.30	7.00	40.00
AD.075.140.IK.8D	Ø 0.750	-	Ø 4.00	6.00	6.75	7.50	40.00
AD.080.140.IK.8D	Ø 0.800	-	Ø 4.00	6.40	7.20	8.00	40.00
AD.085.140.IK.8D	Ø 0.850	-	Ø 4.00	6.80	7.65	8.50	40.00
AD.090.140.IK.8D	Ø 0.900	-	Ø 4.00	7.20	8.10	9.00	40.00
AD.095.140.IK.8D	Ø 0.950	-	Ø 4.00	7.60	8.55	9.50	40.00
AD.100.140.IK.8D	Ø 1.000	-	Ø 4.00	8.00	9.00	10.00	50.00
AD.105.140.IK.8D	Ø 1.050	-	Ø 4.00	8.40	9.45	10.50	50.00
AD.110.140.IK.8D	Ø 1.100	-	Ø 4.00	8.80	9.90	11.00	50.00
AD.115.140.IK.8D	Ø 1.150	-	Ø 4.00	9.20	10.35	11.50	50.00
AD.120.140.IK.8D	Ø 1.200	-	Ø 4.00	9.60	10.80	12.00	50.00
AD.125.140.IK.8D	Ø 1.250	-	Ø 4.00	10.00	11.25	12.50	50.00
AD.130.140.IK.8D	Ø 1.300	-	Ø 4.00	10.40	11.70	13.00	50.00
AD.135.140.IK.8D	Ø 1.350	-	Ø 4.00	10.80	12.15	13.50	50.00
AD.140.140.IK.8D	Ø 1.400	-	Ø 4.00	11.20	12.60	14.00	50.00
AD.145.140.IK.8D	Ø 1.450	-	Ø 4.00	11.60	13.05	14.50	50.00
AD.150.140.IK.8D	Ø 1.500	-	Ø 4.00	12.00	13.50	15.00	50.00
AD.155.140.IK.8D	Ø 1.550	-	Ø 4.00	12.40	13.95	15.50	50.00
AD.1587.140.IK.8D	Ø 1.587	1/16"	Ø 4.00	12.70	14.28	15.87	50.00
AD.160.140.IK.8D	Ø 1.600	-	Ø 4.00	12.80	14.40	16.00	50.00
AD.165.140.IK.8D	Ø 1.650	-	Ø 4.00	13.20	14.85	16.50	50.00
AD.170.140.IK.8D	Ø 1.700	-	Ø 4.00	13.60	15.30	17.00	50.00
AD.175.140.IK.8D	Ø 1.750	-	Ø 4.00	14.00	15.75	17.50	50.00
AD.180.140.IK.8D	Ø 1.800	-	Ø 4.00	14.40	16.20	18.00	50.00
AD.185.140.IK.8D	Ø 1.850	-	Ø 4.00	14.80	16.65	18.50	50.00
AD.190.140.IK.8D	Ø 1.900	-	Ø 4.00	15.20	17.10	19.00	50.00
AD.195.140.IK.8D	Ø 1.950	-	Ø 4.00	15.60	17.55	19.50	50.00
AD.200.140.IK.8D	Ø 2.000	-	Ø 4.00	16.00	18.00	20.00	60.00
AD.2381.140.IK.8D	Ø 2.381	3/32"	Ø 4.00	19.05	21.50	24.00	60.00

Available from stock

INOX-12xD cooled



ACTIONDRILL
AD.030.140.IK.12D
Integrated cooling
12xD drilling depth
D1: Ø 0.3 mm
140° Point angle



■ α-INOX coated



5 PRO's of the ACTIONDRILL:

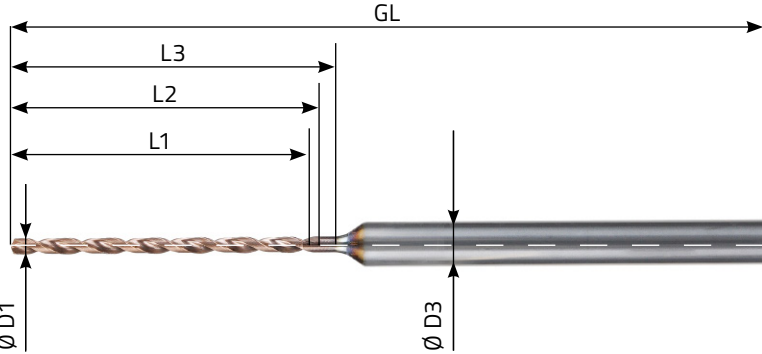
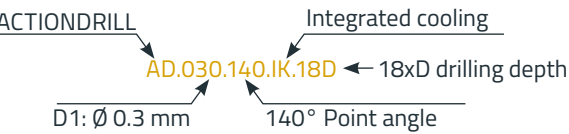
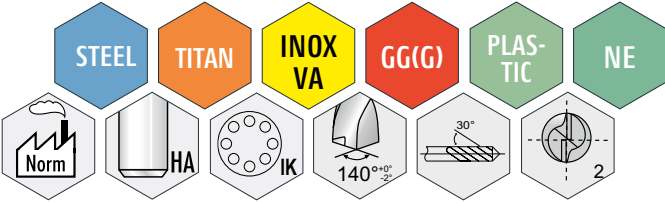
- 12xD "micro" drill with integrated cooling from Ø 0.3
- Matched to our pilot drill INOX-3xD Pilot cooled
- Perfect positional accuracy
- Shorter process times and high process reliability
- Long chips are flushed out through the integrated cooling

channels without retracting

Article number	D1 k5 (mm)	D1 (inch)	D3 h5 (mm)	L1 (12xD1/mm)	L2 (13xD1/mm)	L3 (14xD1/mm)	GL (mm)
AD.030.140.IK.12D	Ø 0.300	-	Ø 4.00	3.60	3.90	4.20	50.00
AD.035.140.IK.12D	Ø 0.350	-	Ø 4.00	4.20	4.55	4.90	50.00
AD.040.140.IK.12D	Ø 0.400	-	Ø 4.00	4.80	5.20	5.60	50.00
AD.045.140.IK.12D	Ø 0.450	-	Ø 4.00	5.40	5.85	6.30	50.00
AD.050.140.IK.12D	Ø 0.500	-	Ø 4.00	6.00	6.50	7.00	50.00
AD.055.140.IK.12D	Ø 0.550	-	Ø 4.00	6.60	7.15	7.70	50.00
AD.060.140.IK.12D	Ø 0.600	-	Ø 4.00	7.20	7.80	8.40	50.00
AD.065.140.IK.12D	Ø 0.650	-	Ø 4.00	7.80	8.45	9.10	50.00
AD.070.140.IK.12D	Ø 0.700	-	Ø 4.00	8.40	9.10	9.80	50.00
AD.075.140.IK.12D	Ø 0.750	-	Ø 4.00	9.00	9.75	10.50	50.00
AD.080.140.IK.12D	Ø 0.800	-	Ø 4.00	9.60	10.40	11.20	50.00
AD.085.140.IK.12D	Ø 0.850	-	Ø 4.00	10.20	11.05	11.90	60.00
AD.090.140.IK.12D	Ø 0.900	-	Ø 4.00	10.80	11.70	12.60	60.00
AD.095.140.IK.12D	Ø 0.950	-	Ø 4.00	11.40	12.35	13.30	60.00
AD.100.140.IK.12D	Ø 1.000	-	Ø 4.00	12.00	13.00	14.00	60.00
AD.105.140.IK.12D	Ø 1.050	-	Ø 4.00	12.60	13.65	14.70	60.00
AD.110.140.IK.12D	Ø 1.100	-	Ø 4.00	13.20	14.30	15.40	60.00
AD.115.140.IK.12D	Ø 1.150	-	Ø 4.00	13.80	14.95	16.10	60.00
AD.120.140.IK.12D	Ø 1.200	-	Ø 4.00	14.40	15.60	16.80	80.00
AD.125.140.IK.12D	Ø 1.250	-	Ø 4.00	15.00	16.25	17.50	80.00
AD.130.140.IK.12D	Ø 1.300	-	Ø 4.00	15.60	16.90	18.20	80.00
AD.135.140.IK.12D	Ø 1.350	-	Ø 4.00	16.20	17.55	18.90	80.00
AD.140.140.IK.12D	Ø 1.400	-	Ø 4.00	16.80	18.20	19.60	80.00
AD.145.140.IK.12D	Ø 1.450	-	Ø 4.00	17.40	18.85	20.30	80.00
AD.150.140.IK.12D	Ø 1.500	-	Ø 4.00	18.00	19.50	21.00	80.00
AD.155.140.IK.12D	Ø 1.550	-	Ø 4.00	18.60	20.15	21.70	80.00
AD.1587.140.IK.12D	Ø 1.587	1/16"	Ø 4.00	19.04	20.63	22.22	80.00
AD.160.140.IK.12D	Ø 1.600	-	Ø 4.00	19.20	20.80	22.40	80.00
AD.165.140.IK.12D	Ø 1.650	-	Ø 4.00	19.80	21.45	23.10	80.00
AD.170.140.IK.12D	Ø 1.700	-	Ø 4.00	20.40	22.10	23.80	80.00
AD.175.140.IK.12D	Ø 1.750	-	Ø 4.00	21.00	22.75	24.50	80.00
AD.180.140.IK.12D	Ø 1.800	-	Ø 4.00	21.60	23.40	25.20	80.00
AD.185.140.IK.12D	Ø 1.850	-	Ø 4.00	22.20	24.05	25.90	80.00
AD.190.140.IK.12D	Ø 1.900	-	Ø 4.00	22.80	24.70	26.60	80.00
AD.195.140.IK.12D	Ø 1.950	-	Ø 4.00	23.40	25.35	27.30	80.00
AD.200.140.IK.12D	Ø 2.000	-	Ø 4.00	24.00	26.00	28.00	80.00
AD.2381.140.IK.12D	Ø 2.381	3/32"	Ø 4.00	28.60	31.00	33.38	80.00

Available from stock

INOX-18xD cooled



■ α-INOX coated



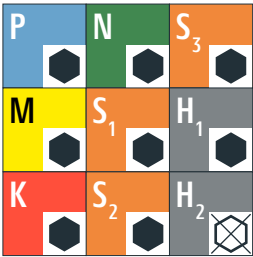
5 PRO's of the ACTIONDRILL:

- 18xD "micro" drill with integrated cooling from Ø 0.3
- Matched to our pilot drill INOX-3xD Pilot cooled
- Perfect positional accuracy
- Shorter process times and high process reliability
- Long chips are flushed out through the integrated cooling channels without retracting

Article number	D1 k5 (mm)	D1 (inch)	D3 h5 (mm)	L1 (18xD/mm)	L2 (19xD/mm)	L3 (20xD/mm)	GL (mm)
AD.030.140.IK.18D	Ø 0.300	-	4.00	5.40	5.70	6.00	60.00
AD.035.140.IK.18D	Ø 0.350	-	4.00	6.30	6.65	7.00	60.00
AD.040.140.IK.18D	Ø 0.400	-	4.00	7.20	7.60	8.00	60.00
AD.045.140.IK.18D	Ø 0.450	-	4.00	8.10	8.55	9.00	60.00
AD.050.140.IK.18D	Ø 0.500	-	4.00	9.00	9.50	10.00	60.00
AD.055.140.IK.18D	Ø 0.550	-	4.00	9.90	10.45	11.00	60.00
AD.060.140.IK.18D	Ø 0.600	-	4.00	10.80	11.40	12.00	60.00
AD.065.140.IK.18D	Ø 0.650	-	4.00	11.70	12.35	13.00	60.00
AD.070.140.IK.18D	Ø 0.700	-	4.00	12.60	13.30	14.00	60.00
AD.075.140.IK.18D	Ø 0.750	-	4.00	13.50	14.25	15.00	60.00
AD.080.140.IK.18D	Ø 0.800	-	4.00	14.40	15.20	16.00	60.00
AD.085.140.IK.18D	Ø 0.850	-	4.00	15.30	16.15	17.00	80.00
AD.090.140.IK.18D	Ø 0.900	-	4.00	16.20	17.10	18.00	80.00
AD.095.140.IK.18D	Ø 0.950	-	4.00	17.10	18.05	19.00	80.00
AD.100.140.IK.18D	Ø 1.000	-	4.00	18.00	19.00	20.00	80.00
AD.105.140.IK.18D	Ø 1.050	-	4.00	18.90	19.95	21.00	80.00
AD.110.140.IK.18D	Ø 1.100	-	4.00	19.80	20.90	22.00	80.00
AD.115.140.IK.18D	Ø 1.150	-	4.00	20.70	21.85	23.00	80.00
AD.120.140.IK.18D	Ø 1.200	-	4.00	21.60	22.80	24.00	80.00
AD.125.140.IK.18D	Ø 1.250	-	4.00	22.50	23.75	25.00	80.00
AD.130.140.IK.18D	Ø 1.300	-	4.00	23.40	24.70	26.00	80.00
AD.135.140.IK.18D	Ø 1.350	-	4.00	24.30	25.65	27.00	80.00
AD.140.140.IK.18D	Ø 1.400	-	4.00	25.20	26.60	28.00	80.00
AD.145.140.IK.18D	Ø 1.450	-	4.00	26.10	27.55	29.00	80.00
AD.150.140.IK.18D	Ø 1.500	-	4.00	27.00	28.50	30.00	80.00
AD.155.140.IK.18D	Ø 1.550	-	4.00	27.90	29.45	31.00	80.00
AD.1587.140.IK.18D	Ø 1.587	1/16"	4.00	28.62	30.21	31.80	80.00
AD.160.140.IK.18D	Ø 1.600	-	4.00	28.80	30.40	32.00	80.00
AD.165.140.IK.18D	Ø 1.650	-	4.00	29.70	31.35	33.00	80.00
AD.170.140.IK.18D	Ø 1.700	-	4.00	30.60	32.30	34.00	80.00
AD.175.140.IK.18D	Ø 1.750	-	4.00	31.50	33.25	35.00	80.00
AD.180.140.IK.18D	Ø 1.800	-	4.00	32.40	34.20	36.00	80.00
AD.185.140.IK.18D	Ø 1.850	-	4.00	33.30	35.15	37.00	80.00
AD.190.140.IK.18D	Ø 1.900	-	4.00	34.20	36.10	38.00	80.00
AD.195.140.IK.18D	Ø 1.950	-	4.00	35.10	37.05	39.00	80.00
AD.200.140.IK.18D	Ø 2.000	-	4.00	36.00	38.00	40.00	80.00
AD.2381.140.IK.18D	Ø 2.381	3/32"	Ø 4.00	42.86	45.30	40.00	80.00

Available from stock

ACTIONDRILL[®]
by HB microtec
INOX-8xD cooled
INOX-12xD cooled
INOX-18xD cooled

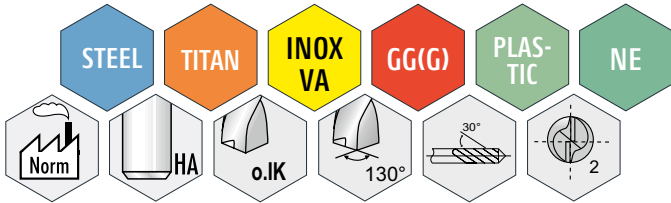


Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 55 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

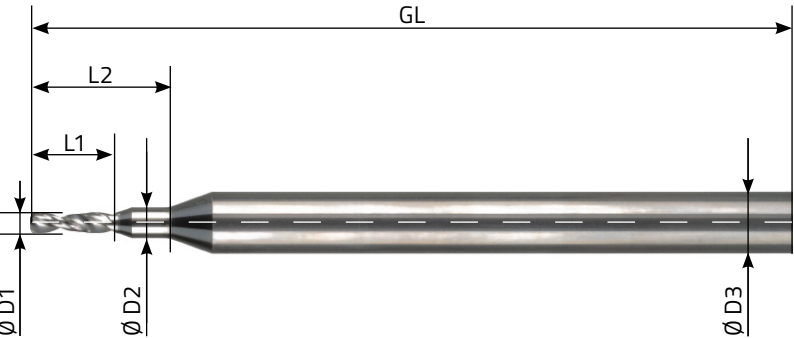
Recommended use Highly suitable Partially suitable Not recommended

Ø 0.25 mm - Ø 0.4 mm		Ø 0.4 mm - Ø 0.8 mm		Ø 0.8 mm - Ø 1.2 mm		Ø 1.2 mm - Ø 2.381 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
60-120	0.008 - 0.01	60-120	0.012- 0.046	60-130	0.042- 0.066	60-130	0.040 - 0.12
60-100	0.08 - 0.01	60-100	0.018- 0.026	60-120	0.042- 0.056	60-130	0.040 - 0.12
50-100	0.08 - 0.01	50-100	0.009 - 0.016	50-120	0.025 - 0.04	50-120	0.040 - 0.080
50-80	0.08 - 0.01	50-80	0.008 - 0.020	50-80	0.02 - 0.038	50-90	0.040 - 0.070
80-140	0.010 - 0.014	80-140	0.012 - 0.042	80-140	0.030 - 0.042	80-160	0.08 - 0.135
80-160	0.012 - 0.016	80-160	0.012 - 0.046	80-160	0.042 - 0.066	80-160	0.08 - 0.18
80-140	0.012 - 0.016	80-140	0.026 - 0.068	80-140	0.046 - 0.088	80-160	0.08 - 0.210
80-120	0.012 - 0.014	80-120	0.024 - 0.048	80-120	0.032 - 0.088	80-140	0.085 - 0.120
15 - 50	0.08 - 0.01	15 - 50	0.025 - 0.045	15 - 50	0.025 - 0.045	15 - 60	0.060 - 0.092
15 - 50	0.08 - 0.01	15 - 50	0.025 - 0.045	15 - 50	0.025 - 0.045	15 - 60	0.060 - 0.120
15 - 50	0.08 - 0.01	15 - 50	0.020 - 0.024	15 - 50	0.020 - 0.024	15 - 50	0.055 - 0.092
15-32	0.006 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.012
no data available							

VHM micro-INOX 3xD



TARGETDRILL micro-INOX
TD.MI.010.3D(.01) ← α-INOX coating
D1: Ø 0.10 mm 3xD



- α-INOX coated with suffix .01 or blank
- D1 +0/-0.004 blank & D1 +0/-0.002 coated

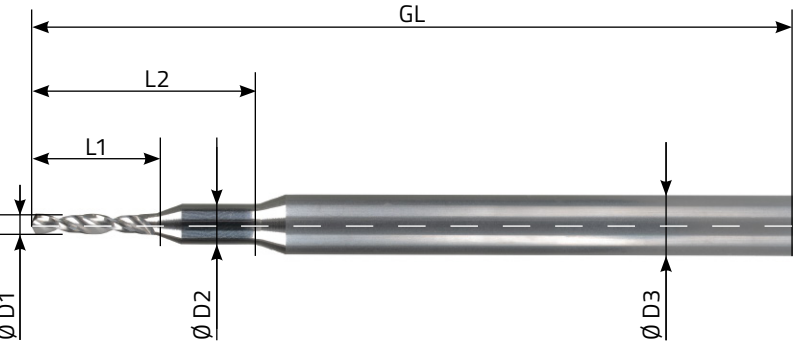
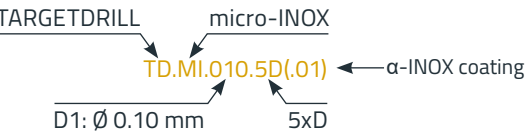
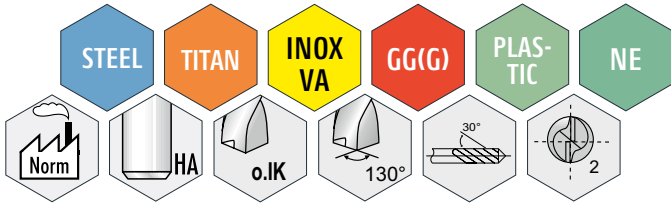
Article number	α-INOX	D1 (mm)	D2 (mm)	D3 h5 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.MI.010.3D	.01	Ø 0.10	1.00	3.00	0.30	3.00	38.00
TD.MI.015.3D	.01	Ø 0.15	1.00	3.00	0.45	3.00	38.00
TD.MI.020.3D	.01	Ø 0.20	1.00	3.00	0.60	3.00	38.00
TD.MI.025.3D	.01	Ø 0.25	1.00	3.00	0.75	3.00	38.00
TD.MI.030.3D	.01	Ø 0.30	1.00	3.00	0.90	3.00	38.00
TD.MI.035.3D	.01	Ø 0.35	1.00	3.00	1.05	3.00	38.00
TD.MI.040.3D	.01	Ø 0.40	1.00	3.00	1.20	3.00	38.00
TD.MI.045.3D	.01	Ø 0.45	1.00	3.00	1.35	3.00	38.00
TD.MI.050.3D	.01	Ø 0.50	1.50	3.00	1.50	6.00	38.00
TD.MI.055.3D	.01	Ø 0.55	1.50	3.00	1.80	6.00	38.00
TD.MI.060.3D	.01	Ø 0.60	1.50	3.00	1.80	6.00	38.00
TD.MI.065.3D	.01	Ø 0.65	1.50	3.00	2.10	6.00	38.00
TD.MI.070.3D	.01	Ø 0.70	1.50	3.00	2.10	6.00	38.00
TD.MI.075.3D	.01	Ø 0.75	1.50	3.00	2.40	6.00	38.00
TD.MI.080.3D	.01	Ø 0.80	1.50	3.00	2.40	6.00	38.00
TD.MI.085.3D	.01	Ø 0.85	1.50	3.00	2.70	6.00	38.00
TD.MI.090.3D	.01	Ø 0.90	1.50	3.00	2.70	6.00	38.00



Article number	α-INOX	D1 (mm)	D2 (mm)	D3 h5 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.MI.095.3D	.01	Ø 0.95	1.50	3.00	3.00	6.00	38.00
TD.MI.100.3D	.01	Ø 1.00	2.00	3.00	3.00	6.00	38.00
TD.MI.105.3D	.01	Ø 1.05	2.00	3.00	3.30	6.00	38.00
TD.MI.110.3D	.01	Ø 1.10	2.00	3.00	3.30	6.00	38.00
TD.MI.115.3D	.01	Ø 1.15	2.00	3.00	3.60	6.00	38.00
TD.MI.120.3D	.01	Ø 1.20	2.00	3.00	3.60	6.00	38.00
TD.MI.125.3D	.01	Ø 1.25	2.00	3.00	3.90	6.00	38.00
TD.MI.130.3D	.01	Ø 1.30	2.00	3.00	3.90	6.00	38.00
TD.MI.135.3D	.01	Ø 1.35	2.00	3.00	4.20	6.00	38.00
TD.MI.140.3D	.01	Ø 1.40	2.00	3.00	4.20	6.00	38.00
TD.MI.145.3D	.01	Ø 1.45	2.00	3.00	4.50	6.00	38.00
TD.MI.150.3D	.01	Ø 1.50	-	3.00	4.50	-	38.00
TD.MI.155.3D	.01	Ø 1.55	-	3.00	4.80	-	38.00
TD.MI.160.3D	.01	Ø 1.60	-	3.00	4.80	-	38.00
TD.MI.165.3D	.01	Ø 1.65	-	3.00	5.10	-	38.00
TD.MI.170.3D	.01	Ø 1.70	-	3.00	5.10	-	38.00
TD.MI.175.3D	.01	Ø 1.75	-	3.00	5.40	-	38.00
TD.MI.180.3D	.01	Ø 1.80	-	3.00	5.40	-	38.00
TD.MI.185.3D	.01	Ø 1.85	-	3.00	5.70	-	38.00
TD.MI.190.3D	.01	Ø 1.90	-	3.00	5.70	-	38.00
TD.MI.195.3D	.01	Ø 1.95	-	3.00	6.00	-	38.00
TD.MI.200.3D	.01	Ø 2.00	-	3.00	6.00	-	38.00
TD.MI.205.3D	.01	Ø 2.05	-	3.00	6.30	-	38.00
TD.MI.210.3D	.01	Ø 2.10	-	3.00	6.30	-	38.00
TD.MI.215.3D	.01	Ø 2.15	-	3.00	6.60	-	38.00
TD.MI.220.3D	.01	Ø 2.20	-	3.00	6.60	-	38.00
TD.MI.225.3D	.01	Ø 2.25	-	3.00	6.90	-	38.00
TD.MI.230.3D	.01	Ø 2.30	-	3.00	6.90	-	38.00
TD.MI.235.3D	.01	Ø 2.35	-	3.00	7.20	-	38.00
TD.MI.240.3D	.01	Ø 2.40	-	3.00	7.20	-	38.00
TD.MI.245.3D	.01	Ø 2.45	-	3.00	7.50	-	38.00
TD.MI.250.3D	.01	Ø 2.50	-	3.00	7.50	-	38.00
TD.MI.255.3D	.01	Ø 2.55	-	3.00	7.80	-	38.00
TD.MI.260.3D	.01	Ø 2.60	-	3.00	7.80	-	38.00
TD.MI.265.3D	.01	Ø 2.65	-	3.00	8.10	-	38.00
TD.MI.270.3D	.01	Ø 2.70	-	3.00	8.10	-	38.00
TD.MI.275.3D	.01	Ø 2.75	-	3.00	8.40	-	38.00
TD.MI.280.3D	.01	Ø 2.80	-	3.00	8.40	-	38.00
TD.MI.285.3D	.01	Ø 2.85	-	3.00	8.70	-	38.00
TD.MI.290.3D	.01	Ø 2.90	-	3.00	8.70	-	38.00
TD.MI.295.3D	.01	Ø 2.95	-	3.00	9.00	-	38.00
TD.MI.300.3D	.01	Ø 3.00	-	3.00	9.00	-	38.00

Available from stock

VHM micro-INOX 5xD



- α-INOX coated with suffix .01 or blank
- D1 +0/-0.004 blank & D1 +0/-0.002 coated



5 PRO's of the TARGETDRILL:

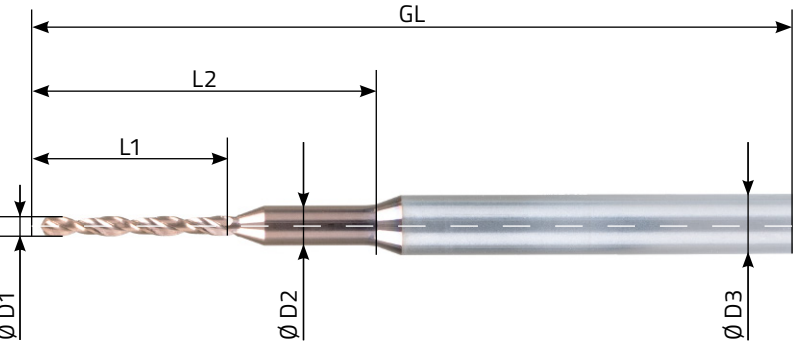
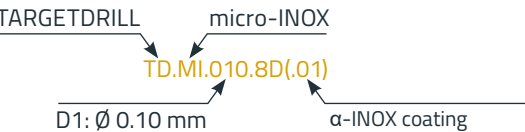
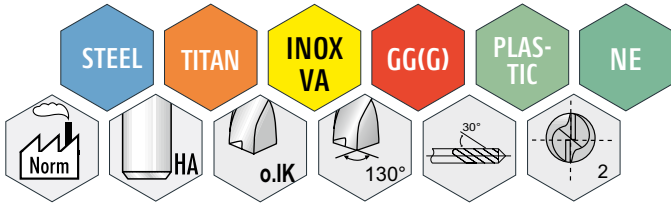
- From Ø 0.1 to Ø 3.0 in 0.01 mm increments, available from stock
- 5xD micro-INOX drill
- Reinforced shank
- Available coated and uncoated
- Excellent price-performance ratio

Article number	α-INOX	D1 (mm)	D2 (mm)	D3 h5 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.MI.010.5D	.01	Ø 0.10	Ø 1.0	Ø 3.00	0.50	5.00	38.00
TD.MI.011.5D	.01	Ø 0.11	Ø 1.0	Ø 3.00	0.60	5.00	38.00
TD.MI.012.5D	.01	Ø 0.12	Ø 1.0	Ø 3.00	0.70	5.00	38.00
TD.MI.013.5D	.01	Ø 0.13	Ø 1.0	Ø 3.00	0.80	5.00	38.00
TD.MI.014.5D	.01	Ø 0.14	Ø 1.0	Ø 3.00	0.90	5.00	38.00
TD.MI.015.5D	.01	Ø 0.15	Ø 1.0	Ø 3.00	1.00	5.00	38.00
TD.MI.016.5D	.01	Ø 0.16	Ø 1.0	Ø 3.00	1.25	5.00	38.00
TD.MI.017.5D	.01	Ø 0.17	Ø 1.0	Ø 3.00	1.50	5.00	38.00
TD.MI.018.5D	.01	Ø 0.18	Ø 1.0	Ø 3.00	1.75	5.00	38.00
TD.MI.019.5D	.01	Ø 0.19	Ø 1.0	Ø 3.00	2.00	5.00	38.00
TD.MI.020.5D	.01	Ø 0.20	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.021.5D	.01	Ø 0.21	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.022.5D	.01	Ø 0.22	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.023.5D	.01	Ø 0.23	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.024.5D	.01	Ø 0.24	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.025.5D	.01	Ø 0.25	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.026.5D	.01	Ø 0.26	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.027.5D	.01	Ø 0.27	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.028.5D	.01	Ø 0.28	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.029.5D	.01	Ø 0.29	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.030.5D	.01	Ø 0.30	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.031.5D	.01	Ø 0.31	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.032.5D	.01	Ø 0.32	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.033.5D	.01	Ø 0.33	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.034.5D	.01	Ø 0.34	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.035.5D	.01	Ø 0.35	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.036.5D	.01	Ø 0.36	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.037.5D	.01	Ø 0.37	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.038.5D	.01	Ø 0.38	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.039.5D	.01	Ø 0.39	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.040.5D	.01	Ø 0.40	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.041.5D	.01	Ø 0.41	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.042.5D	.01	Ø 0.42	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.043.5D	.01	Ø 0.43	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.044.5D	.01	Ø 0.44	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.045.5D	.01	Ø 0.45	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.046.5D	.01	Ø 0.46	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.047.5D	.01	Ø 0.47	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.048.5D	.01	Ø 0.48	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.049.5D	.01	Ø 0.49	Ø 1.0	Ø 3.00	2.25	5.00	38.00
TD.MI.050.5D	.01	Ø 0.50	Ø 1.5	Ø 3.00	2.5	10.00	38.00
TD.MI.051.5D	.01	Ø 0.51	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.052.5D	.01	Ø 0.52	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.053.5D	.01	Ø 0.53	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.054.5D	.01	Ø 0.54	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.055.5D	.01	Ø 0.55	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.056.5D	.01	Ø 0.56	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.057.5D	.01	Ø 0.57	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.058.5D	.01	Ø 0.58	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.059.5D	.01	Ø 0.59	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.060.5D	.01	Ø 0.60	Ø 1.5	Ø 3.00	3.00	10.00	38.00
TD.MI.061.5D	.01	Ø 0.61	Ø 1.5	Ø 3.00	3.50	10.00	38.00
TD.MI.062.5D	.01	Ø 0.62	Ø 1.5	Ø 3.00	3.50	10.00	38.00
TD.MI.063.5D	.01	Ø 0.63	Ø 1.5	Ø 3.00	3.50	10.00	38.00
TD.MI.064.5D	.01	Ø 0.64	Ø 1.5	Ø 3.00	3.50	10.00	38.00
TD.MI.065.5D	.01	Ø 0.65	Ø 1.5	Ø 3.00	3.50	10.00	38.00
TD.MI.066.5D	.01	Ø 0.66	Ø 1.5	Ø 3.00	3.50	10.00	38.00
TD.MI.067.5D	.01	Ø 0.67	Ø 1.5	Ø 3.00	3.50	10.00	38.00
TD.MI.068.5D	.01	Ø 0.68	Ø 1.5	Ø 3.00	3.50	10.00	38.00

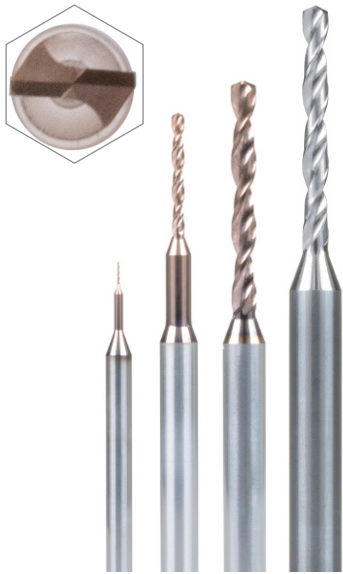
Article number	α-INOX	D1 (mm)	D2 (mm)	D3 h5 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.MI.246.5D	.01	Ø 2.46	-	Ø 3.00	12.50	-	38.00
TD.MI.247.5D	.01	Ø 2.47	-	Ø 3.00	12.50	-	38.00
TD.MI.248.5D	.01	Ø 2.48	-	Ø 3.00	12.50	-	38.00
TD.MI.249.5D	.01	Ø 2.49	-	Ø 3.00	12.50	-	38.00
TD.MI.250.5D	.01	Ø 2.50	-	Ø 3.00	12.50	-	38.00
TD.MI.251.5D	.01	Ø 2.51	-	Ø 3.00	13.00	-	38.00
TD.MI.252.5D	.01	Ø 2.52	-	Ø 3.00	13.00	-	38.00
TD.MI.253.5D	.01	Ø 2.53	-	Ø 3.00	13.00	-	38.00
TD.MI.254.5D	.01	Ø 2.54	-	Ø 3.00	13.00	-	38.00
TD.MI.255.5D	.01	Ø 2.55	-	Ø 3.00	13.00	-	38.00
TD.MI.256.5D	.01	Ø 2.56	-	Ø 3.00	13.00	-	38.00
TD.MI.257.5D	.01	Ø 2.57	-	Ø 3.00	13.00	-	38.00
TD.MI.258.5D	.01	Ø 2.58	-	Ø 3.00	13.00	-	38.00
TD.MI.259.5D	.01	Ø 2.59	-	Ø 3.00	13.00	-	38.00
TD.MI.260.5D	.01	Ø 2.60	-	Ø 3.00	13.00	-	38.00
TD.MI.261.5D	.01	Ø 2.61	-	Ø 3.00	13.50	-	38.00
TD.MI.262.5D	.01	Ø 2.62	-	Ø 3.00	13.50	-	38.00
TD.MI.263.5D	.01	Ø 2.63	-	Ø 3.00	13.50	-	38.00
TD.MI.264.5D	.01	Ø 2.64	-	Ø 3.00	13.50	-	38.00
TD.MI.265.5D	.01	Ø 2.65	-	Ø 3.00	13.50	-	38.00
TD.MI.266.5D	.01	Ø 2.66	-	Ø 3.00	13.50	-	38.00
TD.MI.267.5D	.01	Ø 2.67	-	Ø 3.00	13.50	-	38.00
TD.MI.268.5D	.01	Ø 2.68	-	Ø 3.00	13.50	-	38.00
TD.MI.269.5D	.01	Ø 2.69	-	Ø 3.00	13.50	-	38.00
TD.MI.270.5D	.01	Ø 2.70	-	Ø 3.00	13.50	-	38.00
TD.MI.271.5D	.01	Ø 2.71	-	Ø 3.00	14.00	-	38.00
TD.MI.272.5D	.01	Ø 2.72	-	Ø 3.00	14.00	-	38.00
TD.MI.273.5D	.01	Ø 2.73	-	Ø 3.00	14.00	-	38.00
TD.MI.274.5D	.01	Ø 2.74	-	Ø 3.00	14.00	-	38.00
TD.MI.275.5D	.01	Ø 2.75	-	Ø 3.00	14.00	-	38.00
TD.MI.276.5D	.01	Ø 2.76	-	Ø 3.00	14.00	-	38.00
TD.MI.277.5D	.01	Ø 2.77	-	Ø 3.00	14.00	-	38.00
TD.MI.278.5D	.01	Ø 2.78	-	Ø 3.00	14.00	-	38.00
TD.MI.279.5D	.01	Ø 2.79	-	Ø 3.00	14.00	-	38.00
TD.MI.280.5D	.01	Ø 2.80	-	Ø 3.00	14.00	-	38.00
TD.MI.281.5D	.01	Ø 2.81	-	Ø 3.00	14.50	-	38.00
TD.MI.282.5D	.01	Ø 2.82	-	Ø 3.00	14.50	-	38.00
TD.MI.283.5D	.01	Ø 2.83	-	Ø 3.00	14.50	-	38.00
TD.MI.284.5D	.01	Ø 2.84	-	Ø 3.00	14.50	-	38.00
TD.MI.285.5D	.01	Ø 2.85	-	Ø 3.00	14.50	-	38.00
TD.MI.286.5D	.01	Ø 2.86	-	Ø 3.00	14.50	-	38.00
TD.MI.287.5D	.01	Ø 2.87	-	Ø 3.00	14.50	-	38.00
TD.MI.288.5D	.01	Ø 2.88	-	Ø 3.00	14.50	-	38.00
TD.MI.289.5D	.01	Ø 2.89	-	Ø 3.00	14.50	-	38.00
TD.MI.290.5D	.01	Ø 2.90	-	Ø 3.00	14.50	-	38.00
TD.MI.291.5D	.01	Ø 2.91	-	Ø 3.00	15.00	-	38.00
TD.MI.292.5D	.01	Ø 2.92	-	Ø 3.00	15.00	-	38.00
TD.MI.293.5D	.01	Ø 2.93	-	Ø 3.00	15.00	-	38.00
TD.MI.294.5D	.01	Ø 2.94	-	Ø 3.00	15.00	-	38.00
TD.MI.295.5D	.01	Ø 2.95	-	Ø 3.00	15.00	-	38.00
TD.MI.296.5D	.01	Ø 2.96	-	Ø 3.00	15.00	-	38.00
TD.MI.297.5D	.01	Ø 2.97	-	Ø 3.00	15.00	-	38.00
TD.MI.298.5D	.01	Ø 2.98	-	Ø 3.00	15.00	-	38.00
TD.MI.299.5D	.01	Ø 2.99	-	Ø 3.00	15.00	-	38.00
TD.MI.300.5D	.01	Ø 3.00	-	Ø 3.00	15.00	-	38.00

Available from stock

VHM micro-INOX 8xD



- α-INOX coated with suffix .01 or blank
- D1 +0/-0.004 blank & D1 +0/-0.002 coated



5 PRO's of the TARGETDRILL:

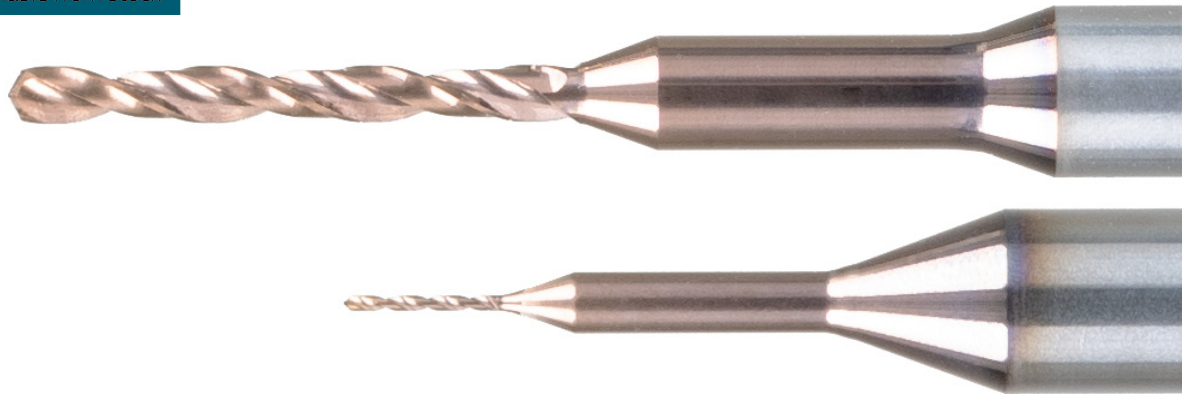
- From Ø 0.1 to Ø 2.05 in 0.01 mm increments, available from stock
- 8xD micro-INOX drill
- Reinforced shank
- Available coated and uncoated
- Excellent price-performance ratio

Article number	α-INOX	D1 (mm)	D2 (mm)	D3 h5 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.MI.010.8D	.01	Ø 0.10	Ø 1.00	Ø 3.00	0.80	5.00	39.00
TD.MI.011.8D	.01	Ø 0.11	Ø 1.00	Ø 3.00	1.00	5.00	39.00
TD.MI.012.8D	.01	Ø 0.12	Ø 1.00	Ø 3.00	1.00	5.00	39.00
TD.MI.013.8D	.01	Ø 0.13	Ø 1.00	Ø 3.00	1.20	5.00	39.00
TD.MI.014.8D	.01	Ø 0.14	Ø 1.00	Ø 3.00	1.20	5.00	39.00
TD.MI.015.8D	.01	Ø 0.15	Ø 1.00	Ø 3.00	1.30	5.00	39.00
TD.MI.016.8D	.01	Ø 0.16	Ø 1.00	Ø 3.00	1.30	5.00	39.00
TD.MI.017.8D	.01	Ø 0.17	Ø 1.00	Ø 3.00	1.50	5.00	39.00
TD.MI.018.8D	.01	Ø 0.18	Ø 1.00	Ø 3.00	1.50	5.00	39.00
TD.MI.019.8D	.01	Ø 0.19	Ø 1.00	Ø 3.00	1.60	5.00	39.00
TD.MI.020.8D	.01	Ø 0.20	Ø 1.00	Ø 3.00	1.60	7.00	39.00
TD.MI.021.8D	.01	Ø 0.21	Ø 1.00	Ø 3.00	2.00	7.00	39.00
TD.MI.022.8D	.01	Ø 0.22	Ø 1.00	Ø 3.00	2.00	7.00	39.00
TD.MI.023.8D	.01	Ø 0.23	Ø 1.00	Ø 3.00	2.00	7.00	39.00
TD.MI.024.8D	.01	Ø 0.24	Ø 1.00	Ø 3.00	2.00	7.00	39.00
TD.MI.025.8D	.01	Ø 0.25	Ø 1.00	Ø 3.00	2.00	7.00	39.00
TD.MI.026.8D	.01	Ø 0.26	Ø 1.00	Ø 3.00	2.40	7.00	39.00
TD.MI.027.8D	.01	Ø 0.27	Ø 1.00	Ø 3.00	2.40	7.00	39.00
TD.MI.028.8D	.01	Ø 0.28	Ø 1.00	Ø 3.00	2.40	7.00	39.00
TD.MI.029.8D	.01	Ø 0.29	Ø 1.00	Ø 3.00	2.40	7.00	39.00
TD.MI.030.8D	.01	Ø 0.30	Ø 1.00	Ø 3.00	2.40	7.00	39.00
TD.MI.031.8D	.01	Ø 0.31	Ø 1.00	Ø 3.00	2.80	7.00	39.00
TD.MI.032.8D	.01	Ø 0.32	Ø 1.00	Ø 3.00	2.80	7.00	39.00
TD.MI.033.8D	.01	Ø 0.33	Ø 1.00	Ø 3.00	2.80	7.00	39.00
TD.MI.034.8D	.01	Ø 0.34	Ø 1.00	Ø 3.00	2.80	7.00	39.00
TD.MI.035.8D	.01	Ø 0.35	Ø 1.00	Ø 3.00	2.80	7.00	39.00
TD.MI.036.8D	.01	Ø 0.36	Ø 1.00	Ø 3.00	3.20	7.00	39.00
TD.MI.037.8D	.01	Ø 0.37	Ø 1.00	Ø 3.00	3.20	7.00	39.00
TD.MI.038.8D	.01	Ø 0.38	Ø 1.00	Ø 3.00	3.20	7.00	39.00
TD.MI.039.8D	.01	Ø 0.39	Ø 1.00	Ø 3.00	3.20	7.00	39.00
TD.MI.040.8D	.01	Ø 0.40	Ø 1.00	Ø 3.00	3.20	7.00	39.00
TD.MI.041.8D	.01	Ø 0.41	Ø 1.00	Ø 3.00	3.60	7.00	39.00
TD.MI.042.8D	.01	Ø 0.42	Ø 1.00	Ø 3.00	3.60	7.00	39.00
TD.MI.043.8D	.01	Ø 0.43	Ø 1.00	Ø 3.00	3.60	7.00	39.00
TD.MI.044.8D	.01	Ø 0.44	Ø 1.00	Ø 3.00	3.60	7.00	39.00
TD.MI.045.8D	.01	Ø 0.45	Ø 1.00	Ø 3.00	3.60	7.00	39.00
TD.MI.046.8D	.01	Ø 0.46	Ø 1.00	Ø 3.00	4.00	7.00	39.00
TD.MI.047.8D	.01	Ø 0.47	Ø 1.00	Ø 3.00	4.00	7.00	39.00
TD.MI.048.8D	.01	Ø 0.48	Ø 1.00	Ø 3.00	4.00	7.00	39.00
TD.MI.049.8D	.01	Ø 0.49	Ø 1.00	Ø 3.00	4.00	7.00	39.00
TD.MI.050.8D	.01	Ø 0.50	Ø 1.00	Ø 3.00	4.00	15.00	39.00
TD.MI.051.8D	.01	Ø 0.51	Ø 1.00	Ø 3.00	4.80	15.00	39.00
TD.MI.052.8D	.01	Ø 0.52	Ø 1.00	Ø 3.00	4.80	15.00	39.00
TD.MI.053.8D	.01	Ø 0.53	Ø 1.00	Ø 3.00	4.80	15.00	39.00

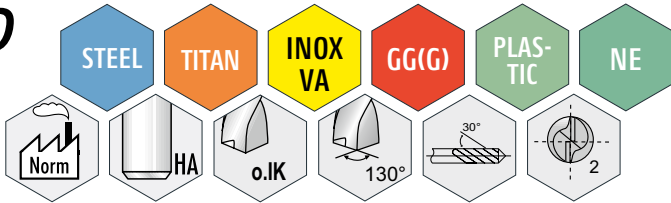
Article number	α-INOX	D1 (mm)	D2 (mm)	D3 h5 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.MI.142.8D	.01	Ø 1.42	Ø 1.50	Ø 3.00	11.20	12.00	39.00
TD.MI.143.8D	.01	Ø 1.43	Ø 1.50	Ø 3.00	11.20	12.00	39.00
TD.MI.144.8D	.01	Ø 1.44	Ø 1.50	Ø 3.00	11.20	12.00	39.00
TD.MI.145.8D	.01	Ø 1.45	Ø 1.50	Ø 3.00	11.20	12.00	39.00
TD.MI.146.8D	.01	Ø 1.46	Ø 1.50	Ø 3.00	11.20	12.00	39.00
TD.MI.147.8D	.01	Ø 1.47	Ø 1.50	Ø 3.00	11.20	12.00	39.00
TD.MI.148.8D	.01	Ø 1.48	Ø 1.50	Ø 3.00	11.20	12.00	39.00
TD.MI.149.8D	.01	Ø 1.49	Ø 1.50	Ø 3.00	11.20	12.00	39.00
TD.MI.150.8D	.01	Ø 1.50	-	Ø 3.00	12.00	-	39.00
TD.MI.151.8D	.01	Ø 1.51	-	Ø 3.00	12.80	-	39.00
TD.MI.152.8D	.01	Ø 1.52	-	Ø 3.00	12.80	-	39.00
TD.MI.153.8D	.01	Ø 1.53	-	Ø 3.00	12.80	-	39.00
TD.MI.154.8D	.01	Ø 1.54	-	Ø 3.00	12.80	-	39.00
TD.MI.155.8D	.01	Ø 1.55	-	Ø 3.00	12.80	-	39.00
TD.MI.156.8D	.01	Ø 1.56	-	Ø 3.00	12.80	-	39.00
TD.MI.157.8D	.01	Ø 1.57	-	Ø 3.00	12.80	-	39.00
TD.MI.158.8D	.01	Ø 1.58	-	Ø 3.00	12.80	-	39.00
TD.MI.159.8D	.01	Ø 1.59	-	Ø 3.00	12.80	-	39.00
TD.MI.160.8D	.01	Ø 1.60	-	Ø 3.00	12.80	-	39.00
TD.MI.161.8D	.01	Ø 1.61	-	Ø 3.00	13.60	-	39.00
TD.MI.162.8D	.01	Ø 1.62	-	Ø 3.00	13.60	-	39.00
TD.MI.163.8D	.01	Ø 1.63	-	Ø 3.00	13.60	-	39.00
TD.MI.164.8D	.01	Ø 1.64	-	Ø 3.00	13.60	-	39.00
TD.MI.165.8D	.01	Ø 1.65	-	Ø 3.00	13.60	-	39.00
TD.MI.166.8D	.01	Ø 1.66	-	Ø 3.00	13.60	-	39.00
TD.MI.167.8D	.01	Ø 1.67	-	Ø 3.00	13.60	-	39.00
TD.MI.168.8D	.01	Ø 1.68	-	Ø 3.00	13.60	-	39.00
TD.MI.169.8D	.01	Ø 1.69	-	Ø 3.00	13.60	-	39.00
TD.MI.170.8D	.01	Ø 1.70	-	Ø 3.00	13.60	-	39.00
TD.MI.171.8D	.01	Ø 1.71	-	Ø 3.00	14.40	-	39.00
TD.MI.172.8D	.01	Ø 1.72	-	Ø 3.00	14.40	-	39.00
TD.MI.173.8D	.01	Ø 1.73	-	Ø 3.00	14.40	-	39.00
TD.MI.174.8D	.01	Ø 1.74	-	Ø 3.00	14.40	-	39.00
TD.MI.175.8D	.01	Ø 1.75	-	Ø 3.00	14.40	-	39.00
TD.MI.176.8D	.01	Ø 1.76	-	Ø 3.00	14.40	-	39.00
TD.MI.177.8D	.01	Ø 1.77	-	Ø 3.00	14.40	-	39.00
TD.MI.178.8D	.01	Ø 1.78	-	Ø 3.00	14.40	-	39.00
TD.MI.179.8D	.01	Ø 1.79	-	Ø 3.00	14.40	-	39.00
TD.MI.180.8D	.01	Ø 1.80	-	Ø 3.00	14.40	-	39.00
TD.MI.181.8D	.01	Ø 1.81	-	Ø 3.00	15.20	-	39.00
TD.MI.182.8D	.01	Ø 1.82	-	Ø 3.00	15.20	-	39.00
TD.MI.183.8D	.01	Ø 1.83	-	Ø 3.00	15.20	-	39.00
TD.MI.184.8D	.01	Ø 1.84	-	Ø 3.00	15.20	-	39.00
TD.MI.185.8D	.01	Ø 1.85	-	Ø 3.00	15.20	-	39.00

Article number	α-INOX	D1 (mm)	D2 (mm)	D3 h5 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.MI.186.8D	.01	Ø 1.86	-	Ø 3.00	15.20	-	39.00
TD.MI.187.8D	.01	Ø 1.87	-	Ø 3.00	15.20	-	39.00
TD.MI.188.8D	.01	Ø 1.88	-	Ø 3.00	15.20	-	39.00
TD.MI.189.8D	.01	Ø 1.89	-	Ø 3.00	15.20	-	39.00
TD.MI.190.8D	.01	Ø 1.90	-	Ø 3.00	15.20	-	39.00
TD.MI.191.8D	.01	Ø 1.91	-	Ø 3.00	16.00	-	39.00
TD.MI.192.8D	.01	Ø 1.92	-	Ø 3.00	16.00	-	39.00
TD.MI.193.8D	.01	Ø 1.93	-	Ø 3.00	16.00	-	39.00
TD.MI.194.8D	.01	Ø 1.94	-	Ø 3.00	16.00	-	39.00
TD.MI.195.8D	.01	Ø 1.95	-	Ø 3.00	16.00	-	39.00
TD.MI.196.8D	.01	Ø 1.96	-	Ø 3.00	16.00	-	39.00
TD.MI.197.8D	.01	Ø 1.97	-	Ø 3.00	16.00	-	39.00
TD.MI.198.8D	.01	Ø 1.98	-	Ø 3.00	16.00	-	39.00
TD.MI.199.8D	.01	Ø 1.99	-	Ø 3.00	16.00	-	39.00
TD.MI.200.8D	.01	Ø 2.00	-	Ø 3.00	16.00	-	39.00
TD.MI.201.8D	.01	Ø 2.01	-	Ø 3.00	16.80	-	39.00
TD.MI.202.8D	.01	Ø 2.02	-	Ø 3.00	16.80	-	39.00
TD.MI.203.8D	.01	Ø 2.03	-	Ø 3.00	16.80	-	39.00
TD.MI.204.8D	.01	Ø 2.04	-	Ø 3.00	16.80	-	39.00
TD.MI.205.8D	.01	Ø 2.05	-	Ø 3.00	16.80	-	39.00

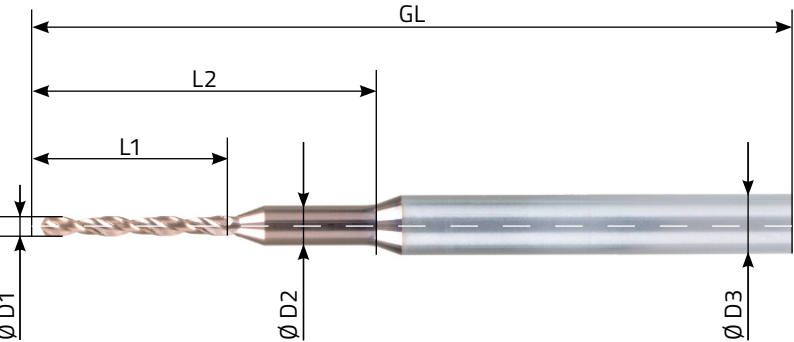
Available from stock



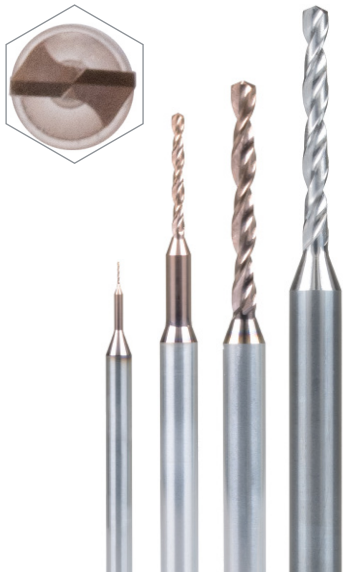
VHM micro-INOX 12xD



TARGETDRILL micro-INOX
TD.MI.030.12D(.01) α-INOX coating
D1: Ø 0.30 mm 12xD



- α-INOX coated with suffix .01 or blank
- D1 +0/-0.004 blank & D1 +0/-0.002 coated



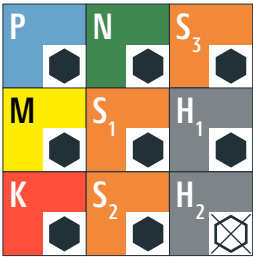
5 PRO's of the TARGETDRILL:

- From Ø 0.3 to Ø 3.00 in 0.05 mm increments, available from stock
- 12xD micro-INOX drill
- Reinforced shank
- Available coated and uncoated
- Excellent price-performance ratio

Article number	α-INOX	D1 (mm)	D2 (mm)	D3 h5 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.MI.030.12D	.01	0.30	1.00	3.00	4.00	10.00	39.00
TD.MI.035.12D	.01	0.35	1.00	3.00	4.60	10.00	39.00
TD.MI.040.12D	.01	0.40	1.00	3.00	5.30	10.00	39.00
TD.MI.045.12D	.01	0.45	1.00	3.00	5.90	10.00	39.00
TD.MI.050.12D	.01	0.50	1.00	3.00	6.60	15.00	39.00
TD.MI.055.12D	.01	0.55	1.50	3.00	7.90	15.00	39.00
TD.MI.060.12D	.01	0.60	1.50	3.00	7.90	15.00	39.00
TD.MI.065.12D	.01	0.65	1.50	3.00	9.20	15.00	39.00
TD.MI.070.12D	.01	0.70	1.50	3.00	9.20	15.00	39.00
TD.MI.075.12D	.01	0.75	1.50	3.00	10.60	18.00	39.00
TD.MI.080.12D	.01	0.80	1.50	3.00	10.60	18.00	39.00
TD.MI.085.12D	.01	0.85	1.50	3.00	11.90	18.00	39.00
TD.MI.090.12D	.01	0.90	1.50	3.00	11.90	18.00	39.00
TD.MI.095.12D	.01	0.95	1.50	3.00	13.20	18.00	39.00
TD.MI.100.12D	.01	1.00	2.00	3.00	13.20	20.00	39.00
TD.MI.105.12D	.01	1.05	2.00	3.00	14.50	20.00	39.00
TD.MI.110.12D	.01	1.10	2.00	3.00	14.50	20.00	39.00
TD.MI.115.12D	.01	1.15	2.00	3.00	15.80	20.00	39.00
TD.MI.120.12D	.01	1.20	2.00	3.00	15.80	20.00	39.00
TD.MI.125.12D	.01	1.25	2.00	3.00	17.20	22.00	39.00
TD.MI.130.12D	.01	1.30	2.00	3.00	17.20	22.00	60.00
TD.MI.135.12D	.01	1.35	2.00	3.00	18.50	22.00	60.00
TD.MI.140.12D	.01	1.40	2.00	3.00	18.50	22.00	60.00
TD.MI.145.12D	.01	1.45	2.00	3.00	19.80	22.00	60.00
TD.MI.150.12D	.01	1.50	-	3.00	19.80	-	60.00
TD.MI.155.12D	.01	1.55	-	3.00	21.10	-	60.00
TD.MI.160.12D	.01	1.60	-	3.00	21.10	-	60.00
TD.MI.165.12D	.01	1.65	-	3.00	22.40	-	60.00
TD.MI.170.12D	.01	1.70	-	3.00	22.40	-	60.00
TD.MI.175.12D	.01	1.75	-	3.00	23.80	-	60.00
TD.MI.180.12D	.01	1.80	-	3.00	23.80	-	60.00
TD.MI.185.12D	.01	1.85	-	3.00	25.40	-	60.00
TD.MI.190.12D	.01	1.90	-	3.00	25.40	-	60.00
TD.MI.195.12D	.01	1.95	-	3.00	26.40	-	60.00
TD.MI.200.12D	.01	2.00	-	3.00	26.40	-	60.00
TD.MI.205.12D	.01	2.05	-	3.00	27.10	-	60.00
TD.MI.210.12D	.01	2.10	-	3.00	27.10	-	60.00
TD.MI.215.12D	.01	2.15	-	3.00	29.00	-	60.00
TD.MI.220.12D	.01	2.20	-	3.00	29.00	-	60.00
TD.MI.225.12D	.01	2.25	-	3.00	30.50	-	60.00
TD.MI.230.12D	.01	2.30	-	3.00	30.50	-	60.00
TD.MI.235.12D	.01	2.35	-	3.00	31.50	-	60.00
TD.MI.240.12D	.01	2.40	-	3.00	31.50	-	60.00
TD.MI.245.12D	.01	2.45	-	3.00	33.00	-	60.00
TD.MI.250.12D	.01	2.50	-	3.00	33.00	-	60.00
TD.MI.255.12D	.01	2.55	-	3.00	34.00	-	60.00
TD.MI.260.12D	.01	2.60	-	3.00	34.00	-	60.00
TD.MI.265.12D	.01	2.65	-	3.00	35.00	-	60.00
TD.MI.270.12D	.01	2.70	-	3.00	35.00	-	60.00
TD.MI.275.12D	.01	2.75	-	3.00	37.00	-	60.00
TD.MI.280.12D	.01	2.80	-	3.00	37.00	-	60.00
TD.MI.285.12D	.01	2.85	-	3.00	38.00	-	60.00
TD.MI.290.12D	.01	2.90	-	3.00	38.00	-	60.00
TD.MI.295.12D	.01	2.95	-	3.00	39.00	-	60.00
TD.MI.300.12D	.01	3.00	-	3.00	39.00	-	60.00

Available from stock

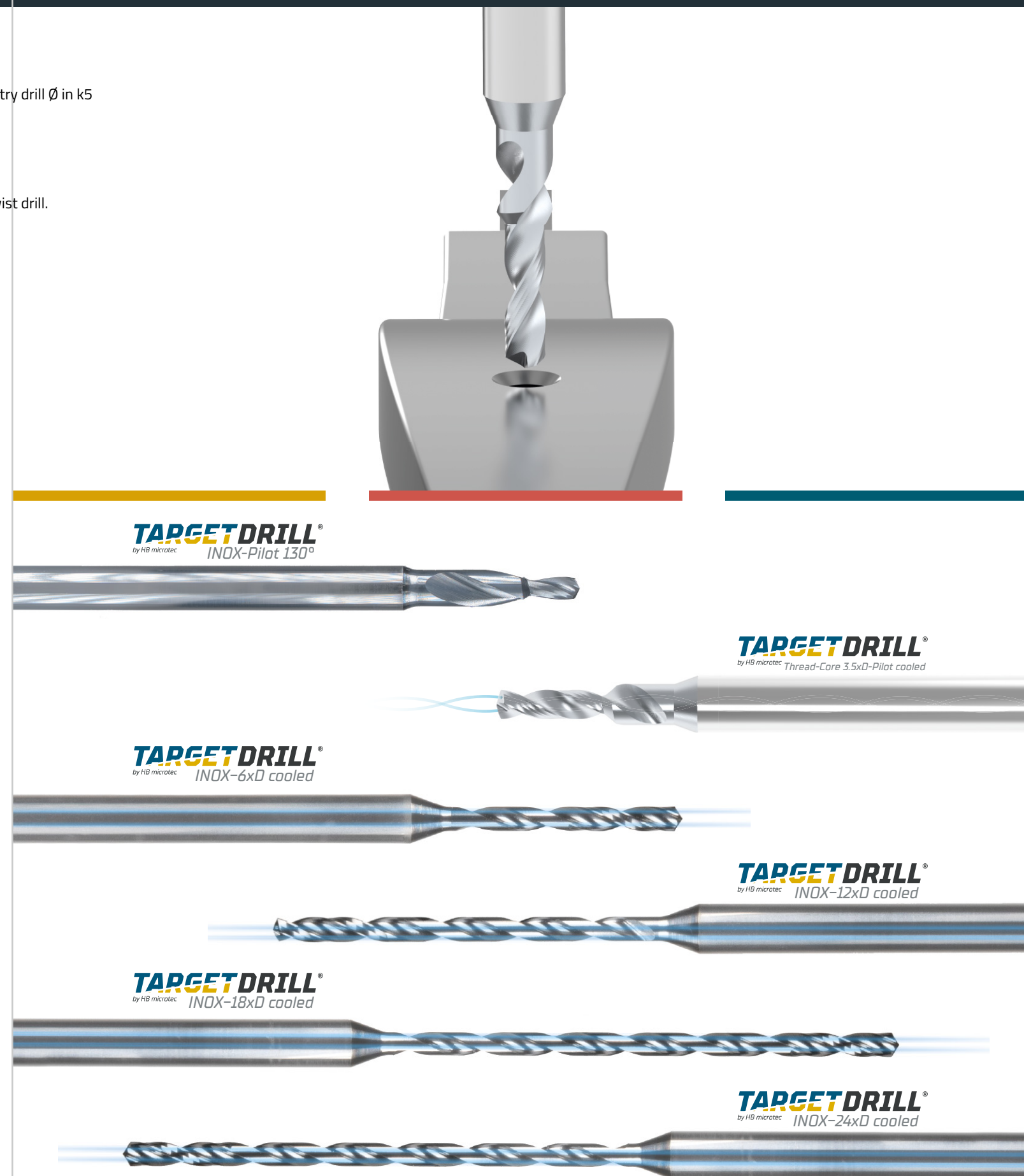
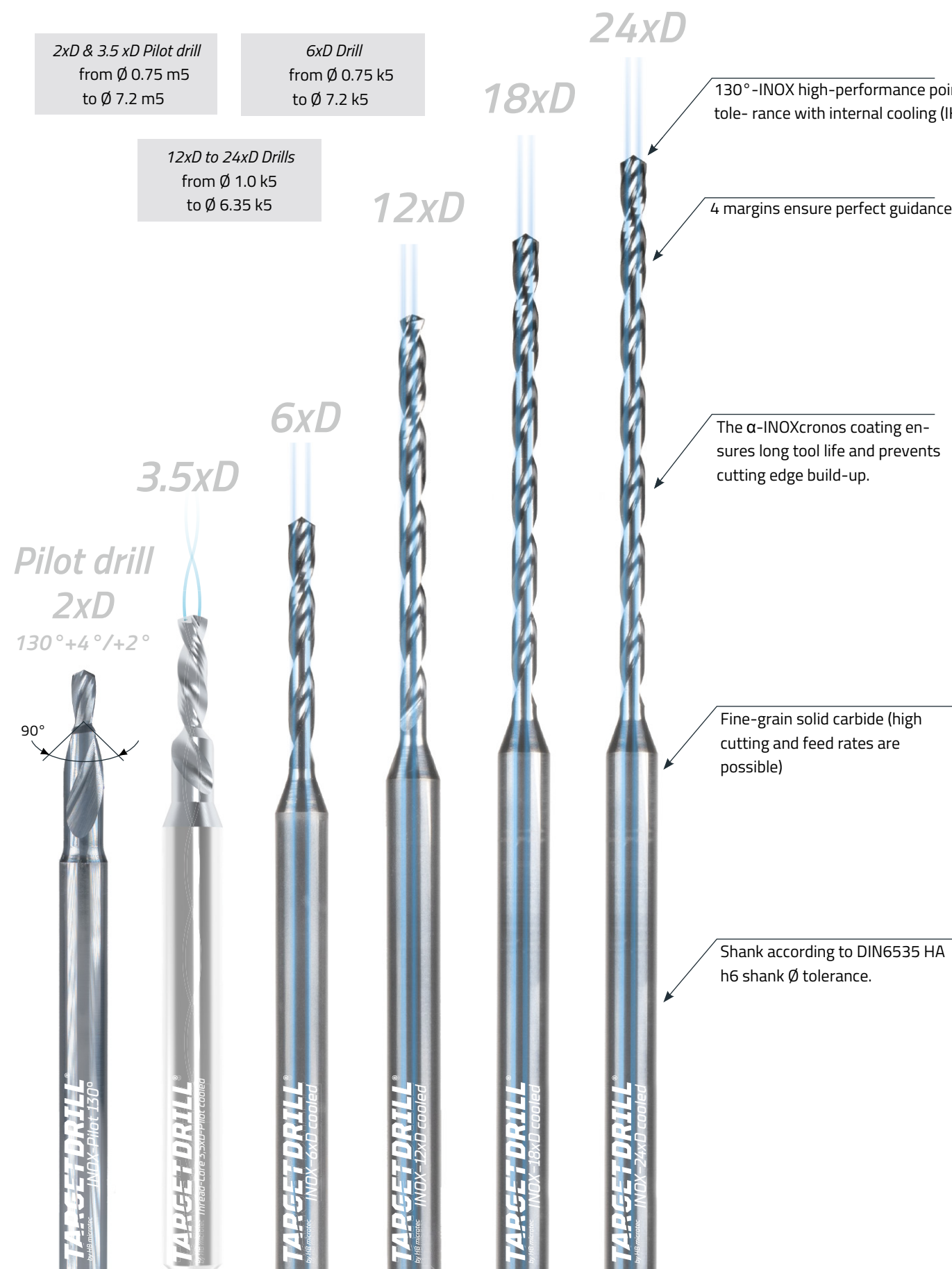
TARGETDRILL[®]
by HB microtec
micro-INOX 3xD
micro-INOX 5xD
micro-INOX 8xD
micro-INOX 12xD



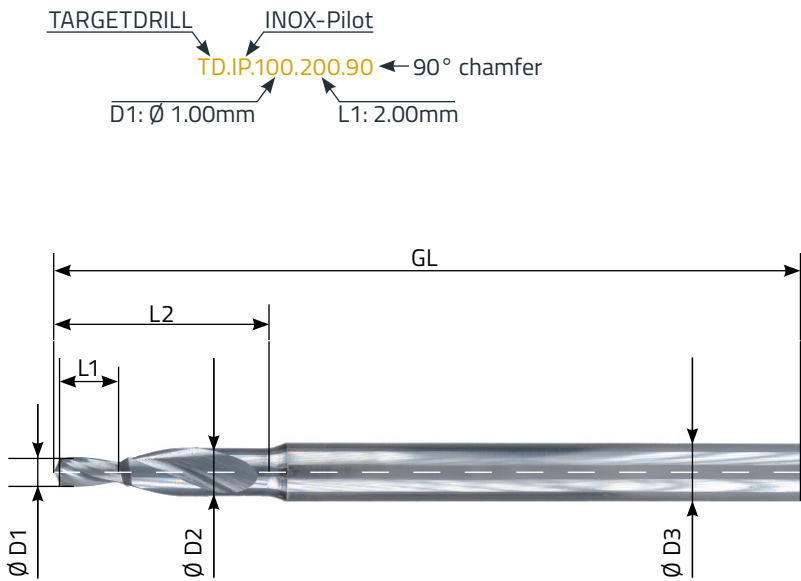
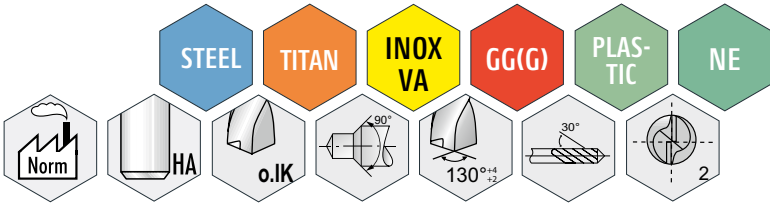
Recommended use Highly suitable Partially suitable Not recommended

Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 60 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

Ø 0.1 mm - Ø 0.5 mm		Ø 0.5 mm - Ø 1.0 mm		Ø 1.0 mm - Ø 1.2 mm		Ø 1.5 mm - Ø 3.00 mm	
vc [m/min]	fz [mm]	vc [m/min]	fz [mm]	vc [m/min]	fz [mm]	vc [m/min]	fz [mm]
30-80	0.004 - 0.01	30-80	0.012- 0.046	40-100	0.015- 0.066	40-100	0.020 - 0.07
30-80	0.004 - 0.01	30-80	0.018- 0.026	40-120	0.015- 0.056	40-120	0.020 - 0.74
30-100	0.004 - 0.01	30-100	0.009 - 0.016	40-120	0.015 - 0.04	40-120	0.020 - 0.080
30-80	0.004 - 0.01	30-80	0.008 - 0.020	40-80	0.014 - 0.038	40-80	0.020 - 0.070
40-100	0.007 - 0.014	40-100	0.01 - 0.042	40-120	0.016 - 0.042	40-120	0.03 - 0.11
30-100	0.007 - 0.016	30-100	0.012 - 0.046	40-120	0.13 - 0.066	40-120	0.035 - 0.12
30-110	0.007 - 0.016	30-110	0.01 - 0.068	40-120	0.013 - 0.088	40-120	0.035 - 0.130
30-120	0.007 - 0.014	30-120	0.01 - 0.048	40-120	0.014 - 0.088	40-120	0.035 - 0.120
15 - 50	0.007 - 0.01	15 - 50	0.008 - 0.045	15 - 50	0.015 - 0.045	15 - 50	0.040 - 0.092
15 - 50	0.007 - 0.01	15 - 50	0.008 - 0.045	15 - 50	0.015 - 0.045	15 - 50	0.040 - 0.120
15 - 50	0.007 - 0.01	15 - 50	0.008 - 0.024	15 - 50	0.01 - 0.024	15 - 50	0.035 - 0.092
15-32	0.003 - 0.009	15-32	0.004 - 0.009	15-32	0.006 - 0.009	15-32	0.006 - 0.012
no data available							



INOX-Pilot 130°



■ α-INOXcronos coated



5 PRO's of the ACTIONDRILL:

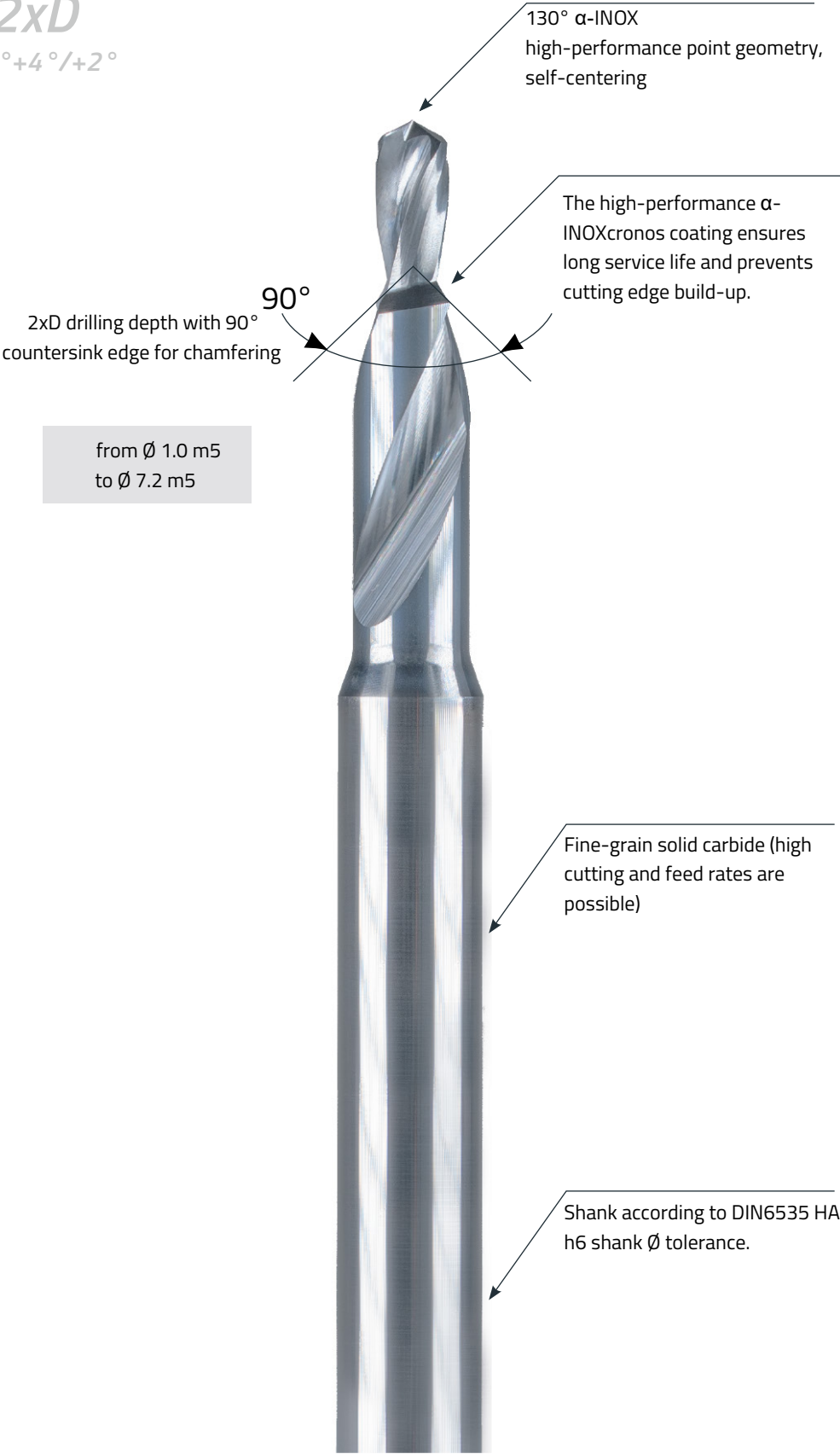
- Combination tool: centering + drilling + chamfering
- Perfect positional accuracy
- 2xD drilling + chamfering
- Pilot drill (tolerance Øm5) for deep-hole drilling
- Shorter process times and high process reliability

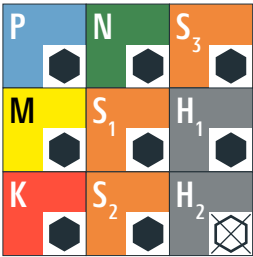
Article number	D1 m5 (mm)	D1 m5 (inch)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.IP.075.150.90	Ø 0.750	-	Ø 1.80	Ø 3.00	1.50	7.30	45.00
TD.IP.080.160.90	Ø 0.800	-	Ø 1.80	Ø 3.00	1.60	7.30	45.00
TD.IP.085.170.90	Ø 0.850	-	Ø 1.80	Ø 3.00	1.70	7.30	45.00
TD.IP.090.180.90	Ø 0.900	-	Ø 1.80	Ø 3.00	1.80	8.30	45.00
TD.IP.095.190.90	Ø 0.950	-	Ø 1.80	Ø 3.00	1.90	7.30	45.00
TD.IP.100.200.90	Ø 1.000	-	Ø 1.80	Ø 4.00	2.00	7.30	45.00
TD.IP.105.210.90	Ø 1.050	-	Ø 1.80	Ø 4.00	2.10	7.70	45.00
TD.IP.110.220.90	Ø 1.100	-	Ø 1.80	Ø 4.00	2.20	8.05	45.00
TD.IP.115.230.90	Ø 1.150	-	Ø 1.80	Ø 4.00	2.30	8.40	45.00
TD.IP.120.240.90	Ø 1.200	-	Ø 2.10	Ø 4.00	2.40	8.80	45.00
TD.IP.125.250.90	Ø 1.250	-	Ø 2.10	Ø 4.00	2.50	9.15	45.00
TD.IP.130.260.90	Ø 1.300	-	Ø 2.10	Ø 4.00	2.60	9.50	45.00
TD.IP.135.270.90	Ø 1.350	-	Ø 2.10	Ø 4.00	2.70	9.90	45.00
TD.IP.140.280.90	Ø 1.400	-	Ø 2.10	Ø 4.00	2.80	10.25	45.00
TD.IP.145.290.90	Ø 1.450	-	Ø 2.45	Ø 4.00	2.90	10.60	45.00
TD.IP.150.300.90	Ø 1.500	-	Ø 2.45	Ø 4.00	3.00	10.95	48.00
TD.IP.155.310.90	Ø 1.550	-	Ø 2.45	Ø 4.00	3.10	11.35	48.00
TD.IP.1588.3175.90	Ø 1.588	1/16"	Ø 2.45	Ø 4.00	3.175	11.70	48.00
TD.IP.160.320.90	Ø 1.600	-	Ø 2.45	Ø 4.00	3.20	11.70	48.00
TD.IP.165.330.90	Ø 1.650	-	Ø 2.45	Ø 4.00	3.30	12.05	48.00
TD.IP.170.340.90	Ø 1.700	-	Ø 2.80	Ø 4.00	3.40	12.45	48.00
TD.IP.175.350.90	Ø 1.750	-	Ø 2.80	Ø 4.00	3.50	12.80	48.00
TD.IP.180.360.90	Ø 1.800	-	Ø 2.80	Ø 4.00	3.60	13.15	48.00
TD.IP.185.370.90	Ø 1.850	-	Ø 2.80	Ø 4.00	3.70	13.55	48.00
TD.IP.190.380.90	Ø 1.900	-	Ø 2.80	Ø 4.00	3.80	13.90	48.00
TD.IP.195.390.90	Ø 1.950	-	Ø 2.80	Ø 4.00	3.90	14.25	48.00
TD.IP.200.400.90	Ø 2.000	-	Ø 3.30	Ø 4.00	4.00	14.60	52.00
TD.IP.203.4060.90	Ø 2.030	-	Ø 3.30	Ø 4.00	4.06	15.00	52.00
TD.IP.205.410.90	Ø 2.050	-	Ø 3.30	Ø 4.00	4.10	15.00	52.00
TD.IP.210.420.90	Ø 2.100	-	Ø 3.30	Ø 4.00	4.20	15.35	52.00
TD.IP.215.430.90	Ø 2.150	-	Ø 3.30	Ø 4.00	4.30	15.70	52.00
TD.IP.220.440.90	Ø 2.200	-	Ø 3.30	Ø 4.00	4.40	16.10	52.00
TD.IP.225.450.90	Ø 2.250	-	Ø 3.30	Ø 4.00	4.50	16.45	52.00
TD.IP.230.460.90	Ø 2.300	-	Ø 3.60	Ø 4.00	4.60	16.80	52.00
TD.IP.233.4660.90	Ø 2.330	-	Ø 3.60	Ø 4.00	4.66	17.20	52.00
TD.IP.235.470.90	Ø 2.350	-	Ø 3.60	Ø 4.00	4.70	17.20	52.00
TD.IP.2381.4762.90	Ø 2.381	3/32"	Ø 3.60	Ø 4.00	4.762	17.55	52.00
TD.IP.240.480.90	Ø 2.400	-	Ø 3.60	Ø 4.00	4.80	17.55	52.00
TD.IP.245.490.90	Ø 2.450	-	Ø 3.60	Ø 4.00	4.90	17.90	52.00
TD.IP.250.500.90	Ø 2.500	-	Ø 3.60	Ø 4.00	5.00	18.25	56.00
TD.IP.255.510.90	Ø 2.550	-	Ø 3.60	Ø 4.00	5.10	18.65	56.00
TD.IP.260.520.90	Ø 2.600	-	Ø 4.00	Ø 4.00	5.20	-	56.00
TD.IP.265.530.90	Ø 2.650	-	Ø 4.00	Ø 4.00	5.30	-	56.00
TD.IP.270.540.90	Ø 2.700	-	Ø 4.00	Ø 4.00	5.40	-	56.00
TD.IP.275.550.90	Ø 2.750	-	Ø 4.00	Ø 4.00	5.50	-	56.00
TD.IP.280.560.90	Ø 2.800	-	Ø 4.00	Ø 4.00	5.60	-	56.00
TD.IP.285.570.90	Ø 2.850	-	Ø 4.00	Ø 4.00	5.70	-	56.00
TD.IP.290.580.90	Ø 2.900	-	Ø 4.00	Ø 4.00	5.80	-	56.00
TD.IP.295.590.90	Ø 2.950	-	Ø 4.00	Ø 4.00	5.90	-	56.00
TD.IP.300.600.90	Ø 3.000	-	Ø 4.80	Ø 6.00	6.00	21.90	60.00
TD.IP.305.610.90	Ø 3.050	-	Ø 4.80	Ø 6.00	6.10	22.30	60.00
TD.IP.310.620.90	Ø 3.100	-	Ø 4.80	Ø 6.00	6.20	22.65	60.00
TD.IP.315.630.90	Ø 3.150	-	Ø 4.80	Ø 6.00	6.30	23.00	60.00

Article number	D1 m5 (mm)	D1 m5 (inch)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.IP.3175.6350.90	Ø 3.175	1/8"	Ø 4.80	Ø 6.00	6.35	23.40	60.00
TD.IP.320.640.90	Ø 3.200	-	Ø 4.80	Ø 6.00	6.40	23.40	60.00
TD.IP.325.650.90	Ø 3.250	-	Ø 4.80	Ø 6.00	6.50	23.75	60.00
TD.IP.330.660.90	Ø 3.300	-	Ø 4.80	Ø 6.00	6.60	24.10	60.00
TD.IP.335.670.90	Ø 3.350	-	Ø 4.80	Ø 6.00	6.70	24.50	60.00
TD.IP.340.680.90	Ø 3.400	-	Ø 4.80	Ø 6.00	6.80	24.85	60.00
TD.IP.345.690.90	Ø 3.450	-	Ø 4.80	Ø 6.00	6.90	25.20	60.00
TD.IP.350.700.90	Ø 3.500	-	Ø 5.50	Ø 6.00	7.00	25.55	65.00
TD.IP.355.710.90	Ø 3.550	-	Ø 5.50	Ø 6.00	7.10	25.95	65.00
TD.IP.360.720.90	Ø 3.600	-	Ø 5.50	Ø 6.00	7.20	26.30	65.00
TD.IP.365.730.90	Ø 3.650	-	Ø 5.50	Ø 6.00	7.30	26.65	65.00
TD.IP.370.740.90	Ø 3.700	-	Ø 5.50	Ø 6.00	7.40	27.05	65.00
TD.IP.375.750.90	Ø 3.750	-	Ø 5.50	Ø 6.00	7.50	27.40	70.00
TD.IP.380.760.90	Ø 3.800	-	Ø 5.50	Ø 6.00	7.60	27.75	70.00
TD.IP.385.770.90	Ø 3.850	-	Ø 5.50	Ø 6.00	7.70	28.15	70.00
TD.IP.390.780.90	Ø 3.900	-	Ø 5.50	Ø 6.00	7.80	28.50	70.00
TD.IP.395.790.90	Ø 3.950	-	Ø 5.50	Ø 6.00	7.90	28.85	70.00
TD.IP.3969.7937.90	Ø 3.969	5/32"	Ø 5.50	Ø 6.00	7.937	29.20	70.00
TD.IP.400.800.90	Ø 4.000	-	Ø 5.50	Ø 6.00	8.00	29.20	70.00
TD.IP.410.820.90	Ø 4.100	-	Ø 6.00	Ø 6.00	8.20	-	75.00
TD.IP.420.840.90	Ø 4.200	-	Ø 6.00	Ø 6.00	8.40	-	75.00
TD.IP.430.860.90	Ø 4.300	-	Ø 6.00	Ø 6.00	8.60	-	75.00
TD.IP.440.880.90	Ø 4.400	-	Ø 6.00	Ø 6.00	8.80	-	75.00
TD.IP.450.900.90	Ø 4.500	-	Ø 6.00	Ø 6.00	9.00	-	75.00
TD.IP.460.920.90	Ø 4.600	-	Ø 6.00	Ø 6.00	9.20	-	75.00
TD.IP.465.930.90	Ø 4.650	-	Ø 6.00	Ø 6.00	9.30	-	75.00
TD.IP.470.940.90	Ø 4.700	-	Ø 6.00	Ø 6.00	9.40	-	75.00
TD.IP.4763.9525.90	Ø 4.763	3/16"	Ø 6.00	Ø 6.00	9.525	-	75.00
TD.IP.480.960.90	Ø 4.800	-	Ø 6.00	Ø 6.00	9.60	-	75.00
TD.IP.490.980.90	Ø 4.900	-	Ø 6.00	Ø 6.00	9.80	-	75.00
TD.IP.500.1000.90	Ø 5.000	-	Ø 8.00	Ø 8.00	10.00	-	80.00
TD.IP.510.1020.90	Ø 5.100	-	Ø 8.00	Ø 8.00	10.20	-	80.00
TD.IP.520.1040.90	Ø 5.200	-	Ø 8.00	Ø 8.00	10.40	-	80.00
TD.IP.530.1060.90	Ø 5.300	-	Ø 8.00	Ø 8.00	10.60	-	80.00
TD.IP.540.1080.90	Ø 5.400	-	Ø 8.00	Ø 8.00	10.80	-	80.00
TD.IP.550.1100.90	Ø 5.500	-	Ø 8.00	Ø 8.00	11.00	-	80.00
TD.IP.5556.1111.90	Ø 5.556	7/32"	Ø 8.00	Ø 8.00	11.112	-	80.00
TD.IP.560.1120.90	Ø 5.600	-	Ø 8.00	Ø 8.00	11.20	-	80.00
TD.IP.570.1140.90	Ø 5.700	-	Ø 8.00	Ø 8.00	11.40	-	80.00
TD.IP.580.1160.90	Ø 5.800	-	Ø 8.00	Ø 8.00	11.60	-	80.00
TD.IP.590.1180.90	Ø 5.900	-	Ø 8.00	Ø 8.00	11.80	-	80.00
TD.IP.600.1200.90	Ø 6.000	-	Ø 8.00	Ø 8.00	12.00	-	80.00
TD.IP.620.12400.90	Ø 6.200	-	Ø 8.00	Ø 8.00	12.40	-	80.00
TD.IP.6350.1270.90	Ø 6.350	1/4"	Ø 8.00	Ø 8.00	12.70	-	80.00
TD.IP.660.1320.90	Ø 6.600	-	Ø 8.00	Ø 8.00	13.20	-	80.00
TD.IP.670.1320.90	Ø 6.700	-	Ø 8.00	Ø 8.00	13.40	-	80.00
TD.IP.680.1360.90	Ø 6.800	-	Ø 8.00	Ø 8.00	13.60	-	80.00
TD.IP.690.1360.90	Ø 6.900	-	Ø 8.00	Ø 8.00	13.80	-	80.00
TD.IP.700.1400.90	Ø 7.000	-	Ø 8.00	Ø 8.00	14.00	-	80.00
TD.IP.720.1400.90	Ø 7.200	-	Ø 8.00	Ø 8.00	14.40	-	80.00

Available from stock

Pilot drill
2xD
130°+4°/+2°



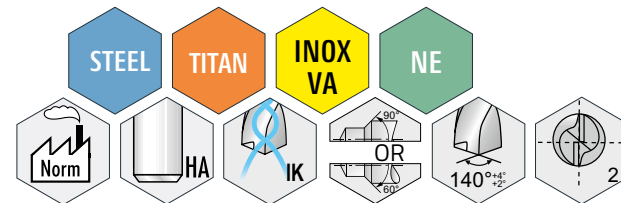


Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 60 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

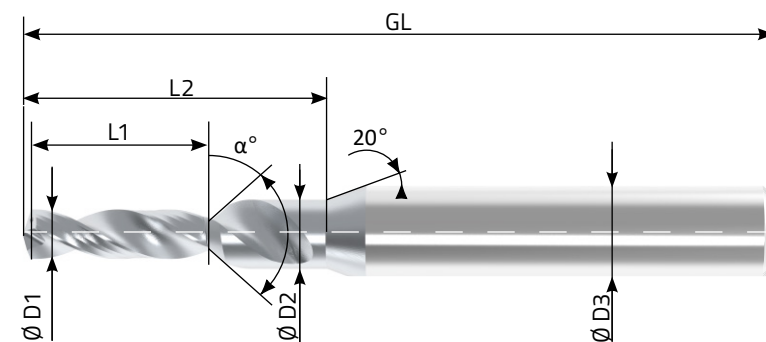
Recommended use Highly suitable Partially suitable Not recommended

Ø 0.75 mm - Ø 1.2 mm		Ø 1.2 mm - Ø 1.8 mm		Ø 1.8 mm - Ø 2.5 mm		Ø 2.5 mm - Ø 4.0 mm		Ø 4.0 mm - Ø 7.2 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
40-85	0.042 - 0.066	60-130	0.122 - 0.128	60-130	0.130 - 0.182	60-140	0.128 - 0.232	60-160	0.220 - 0.280
40-90	0.042 - 0.056	60-120	0.120 - 0.122	60-130	0.130 - 0.182	60-120	0.128 - 0.202	60-150	0.200 - 0.260
50-120	0.025 - 0.04	50-120	0.043 - 0.055	50-120	0.060 - 0.080	50-100	0.074 - 0.098	50-120	0.115 - 0.185
50-80	0.02 - 0.038	50-80	0.040 - 0.068	50-90	0.050 - 0.070	50-90	0.072 - 0.084	50-100	0.115 - 0.175
80-140	0.030 - 0.042	80-140	0.06 - 0.115	80-160	0.126 - 0.135	80-160	0.100 - 0.145	80-180	0.145 - 0.210
80-160	0.042 - 0.066	80-160	0.096 - 0.122	80-160	0.132 - 0.18	80-160	0.136 - 0.172	80-180	0.200 - 0.250
80-140	0.046 - 0.088	80-140	0.098 - 0.122	80-160	0.132 - 0.210	80-160	0.134 - 0.164	80-180	0.200 - 0.252
80-120	0.032 - 0.088	80-120	0.066 - 0.122	80-140	0.085 - 0.120	80-120	0.132 - 0.162	80-160	0.195 - 0.242
15 - 50	0.025 - 0.045	15 - 50	0.049 - 0.060	15 - 60	0.060 - 0.07	15 - 70	0.062 - 0.08	15 - 80	0.080 - 0.10
15 - 50	0.025 - 0.045	15 - 50	0.048 - 0.060	15 - 60	0.060 - 0.07	15 - 70	0.062 - 0.08	15 - 80	0.080 - 0.10
15 - 50	0.020 - 0.024	15 - 50	0.05 - 0.060	15 - 50	0.055 - 0.07	15 - 60	0.052 - 0.08	15 - 75	0.076 - 0.10
15-32	0.005 - 0.009	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.009 - 0.014	15-40	0.009 - 0.018
15-32	0.004 - 0.009	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.009 - 0.014	15-40	0.009 - 0.018

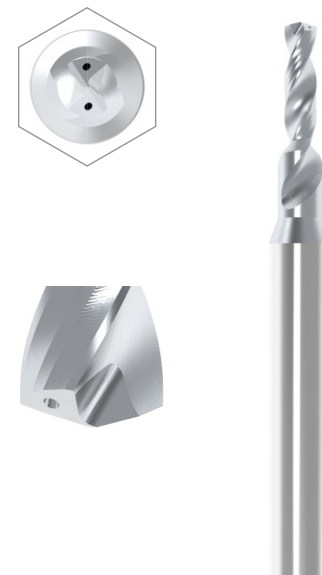
3.5xD Threaded core drill Step drill - Pilot drill



TARGETDRILL
TD.TC.100.IK.XX ← XX = α 60 or 90°
D1 m6 Internal cooling



■ α-INOXcronos coated



5 PRO's of the TARGETDRILL:

- Combination tool: centering + drilling + chamfering
- High-performance 4-margin drill
- 3.5xD core drill for all thread types up to M8
- Pilot drill (tolerance Øm6) for deep hole drilling
- Shorter process times and high process reliability



Article number	D1 m6 (mm)	D1 m6 (inch)	For thread taps	For thread formers	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	α (XX°)	GL (mm)
TD.TC.075.IK.XX	0.750	-	M1x0.25	-	1.950	3	2.625	8.00	60° / 90°	50
TD.TC.080.IK.XX	0.800	-	-	-	2.000	3	2.800	8.00	60° / 90°	50
TD.TC.085.IK.XX	0.850	-	M1.1x0.25	-	2.050	3	2.975	8.00	60° / 90°	50
TD.TC.090.IK.XX	0.900	-	-	M1	2.100	3	2.700	8.00	60° / 90°	50
TD.TC.095.IK.XX	0.950	-	M1.2x0.25	-	2.150	3	3.325	8.00	60° / 90°	50
TD.TC.100.IK.XX	1.000	-	M1.2x0.2	M1.1	2.200	3	3.500	8.20	60° / 90°	50
TD.TC.105.IK.XX	1.050	-	-	-	2.250	3	3.675	8.30	60° / 90°	50
TD.TC.110.IK.XX	1.100	-	M1.4	M1.2	2.300	3	3.850	8.50	60° / 90°	50
TD.TC.115.IK.XX	1.150	-	-	-	2.350	3	4.025	8.60	60° / 90°	50
TD.TC.120.IK.XX	1.200	-	M1.4x0.2	-	2.400	3	4.200	8.70	60° / 90°	50
TD.TC.125.IK.XX	1.250	-	M1.6/#0-80	-	2.450	4	4.375	9.70	60° / 90°	60
TD.TC.130.IK.XX	1.300	-	UNF-Nr.0 / M1.6x0.35	-	2.500	4	4.550	9.80	60° / 90°	60
TD.TC.135.IK.XX	1.350	-	M1.7	-	2.550	4	4.725	9.90	60° / 90°	60
TD.TC.140.IK.XX	1.400	-	M1.6x0.2	#0-80	2.600	4	4.900	10.00	60° / 90°	60
TD.TC.145.IK.XX	1.450	-	M1.8	-	2.650	4	5.075	10.10	60° / 90°	60
TD.TC.150.IK.XX	1.500	-	UNC-Nr.1	M1.6	2.700	4	5.250	11.10	60° / 90°	60
TD.TC.155.IK.XX	1.550	-	#1-64	-	2.750	4	5.425	11.20	60° / 90°	60
TD.TC.1587.IK.XX	1.587	1/16"	-	-	2.787	4	5.555	11.30	60° / 90°	60
TD.TC.160.IK.XX	1.600	-	UNF-Nr.1/M2/M1.8x0.2	-	2.800	4	5.600	11.30	60° / 90°	60
TD.TC.165.IK.XX	1.650	-	-	-	2.850	4	5.775	11.40	60° / 90°	60
TD.TC.170.IK.XX	1.700	-	-	#1-64/#1-72	2.900	4	5.950	11.60	60° / 90°	60
TD.TC.175.IK.XX	1.750	-	M2.2/M2x0.25	-	2.950	4	6.125	11.70	60° / 90°	60
TD.TC.180.IK.XX	1.800	-	UNC-Nr.2	-	3.000	4	6.300	12.60	60° / 90°	60
TD.TC.185.IK.XX	1.850	-	#2-56/#2-64	M2	3.050	4	6.475	12.80	60° / 90°	60
TD.TC.190.IK.XX	1.900	-	UNF-Nr.2/M2.3	-	3.100	4	6.650	12.90	60° / 90°	60
TD.TC.195.IK.XX	1.950	-	M2.2x0.25/M2.3x0.35	-	3.150	4	6.825	13.00	60° / 90°	60
TD.TC.200.IK.XX	2.000	-	-	#2-56	3.200	4	7.000	13.10	60° / 90°	60
TD.TC.203.IK.XX	2.030	-	-	M2.2	3.230	4	7.105	13.20	60° / 90°	60
TD.TC.205.IK.XX	2.050	-	M2.5/M2.3x0.25	-	3.250	4	7.175	13.20	60° / 90°	60
TD.TC.210.IK.XX	2.100	-	MJ2.5x0.45/#3-48/UNF-Nr.3	-	3.300	4	7.350	13.30	60° / 90°	60
TD.TC.215.IK.XX	2.150	-	M2.6/M2.5x0.35/#3-56	M2.3	3.350	4	7.525	13.40	60° / 90°	60
TD.TC.220.IK.XX	2.200	-	-	-	3.400	4	7.700	15.30	60° / 90°	60
TD.TC.225.IK.XX	2.250	-	M2.6x0.35	-	3.450	6	7.875	15.40	60° / 90°	70
TD.TC.230.IK.XX	2.300	-	UNC-Nr.4	#3-48	3.500	6	8.050	15.50	60° / 90°	70
TD.TC.233.IK.XX	2.330	-	-	M2.5	3.530	6	8.155	15.60	60° / 90°	70
TD.TC.235.IK.XX	2.350	-	#4-40	-	3.550	6	8.225	15.60	60° / 90°	70
TD.TC.2381.IK.XX	2.381	3/32"	-	-	3.581	6	8.334	15.70	60° / 90°	70
TD.TC.240.IK.XX	2.400	-	UNF-Nr.4/#4-48	-	3.600	6	8.400	15.70	60° / 90°	70
TD.TC.245.IK.XX	2.450	-	-	-	3.650	6	8.575	15.90	60° / 90°	70
TD.TC.250.IK.XX	2.500	-	M3	-	3.700	6	8.750	16.00	60° / 90°	70
TD.TC.255.IK.XX	2.550	-	-	#4-40	3.750	6	8.925	16.10	60° / 90°	70
TD.TC.260.IK.XX	2.600	-	UNF/UNC-Nr.5/MJ3x0.5	-	3.800	6	9.100	16.20	60° / 90°	70
TD.TC.265.IK.XX	2.650	-	M3x0.35/#5-40	-	3.850	6	9.275	17.20	60° / 90°	70
TD.TC.270.IK.XX	2.700	-	#5-44	-	3.900	6	9.450	17.30	60° / 90°	70
TD.TC.275.IK.XX	2.750	-	M3x0.25	-	3.950	6	9.625	17.40	60° / 90°	70
TD.TC.280.IK.XX	2.800	-	UNC-Nr.6	M3	4.000	6	9.800	17.50	60° / 90°	70
TD.TC.285.IK.XX	2.850	-	#6-32	-	4.050	6	9.975	17.60	60° / 90°	70
TD.TC.290.IK.XX	2.900	-	UNF-Nr.6/M3.5	#5-40	4.100	6	10.150	17.70	60° / 90°	70
TD.TC.2955.IK.XX	2.950	-	-	-	4.150	6	10.325	17.90	60° / 90°	70
TD.TC.300.IK.XX	3.000	-	-	-	4.200	6	10.500	18.70	60° / 90°	70

Article number	D1 m6 (mm)	D1 m6 (inch)	For thread taps	For thread formers	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	α (XX°)	GL (mm)
TD.TC.310.IK.XX	3.100	-	-	-	4.300	6	10.850	18.90	60°/90°	70
TD.TC.315.IK.XX	3.150	-	M3.5x0.35	-	4.350	6	11.025	19.20	60°/90°	70
TD.TC.3175.IK.XX	3.175	1/8"	-	-	4.375	6	11.113	19.20	60°/90°	70
TD.TC.320.IK.XX	3.200	-	-	-	4.400	6	11.200	19.20	60°/90°	70
TD.TC.325.IK.XX	3.250	-	-	M3.5	4.450	6	11.375	19.40	60°/90°	70
TD.TC.330.IK.XX	3.300	-	M4	M3.5x0.5	4.500	6	11.550	19.40	60°/90°	70
TD.TC.340.IK.XX	3.400	-	UNC-Nr.8	-	4.600	6	11.900	19.60	60°/90°	70
TD.TC.350.IK.XX	3.500	-	UNF-Nr.8/M4x0.5	-	4.700	6	12.250	19.80	60°/90°	70
TD.TC.360.IK.XX	3.600	-	-	-	4.800	6	12.600	20.10	60°/90°	70
TD.TC.365.IK.XX	3.650	-	M4x0.35	-	4.850	6	12.775	20.30	60°/90°	70
TD.TC.370.IK.XX	3.700	-	M4.5	M4	4.900	6	12.950	20.30	60°/90°	70
TD.TC.380.IK.XX	3.800	-	UNC-Nr.10	-	5.000	6	13.300	20.50	60°/90°	70
TD.TC.390.IK.XX	3.900	-	-	-	5.100	6	13.650	20.70	60°/90°	70
TD.TC.3968.IK.XX	3.968	5/32"	-	-	5.168	6	13.888	21.00	60°/90°	70
TD.TC.400.IK.XX	4.000	-	-	-	5.200	6	14.000	21.00	60°/90°	70
TD.TC.410.IK.XX	4.100	-	UNF-Nr.10	-	5.300	6	14.350	22.80	60°/90°	70
TD.TC.420.IK.XX	4.200	-	M5/M5x0.75	M4.5	5.400	6	14.700	22.50	60°/90°	70
TD.TC.430.IK.XX	4.300	-	-	-	5.500	8	15.050	23.10	60°/90°	85
TD.TC.440.IK.XX	4.400	-	-	-	5.600	8	15.400	23.20	60°/90°	85
TD.TC.450.IK.XX	4.500	-	UNC-Nr.12/M5x0.5	-	5.700	8	15.750	28.50	60°/90°	85
TD.TC.460.IK.XX	4.600	-	UNF-Nr.12	-	5.800	8	16.100	28.60	60°/90°	85
TD.TC.465.IK.XX	4.650	-	-	M5	5.850	8	16.275	28.80	60°/90°	85
TD.TC.470.IK.XX	4.700	-	UNEF-Nr.12	-	5.900	8	16.450	28.80	60°/90°	85
TD.TC.4762.IK.XX	4.762	3/16"	-	-	5.962	8	16.667	28.90	60°/90°	85
TD.TC.480.IK.XX	4.800	-	-	-	6.000	8	16.800	28.90	60°/90°	85
TD.TC.490.IK.XX	4.900	-	-	-	6.100	8	17.150	29.10	60°/90°	85
TD.TC.500.IK.XX	5.000	-	M6	#12-24	6.200	8	17.500	29.20	60°/90°	85
TD.TC.510.IK.XX	5.100	-	1/4"	-	6.300	8	17.850	29.400	60°/90°	85
TD.TC.520.IK.XX	5.200	-	M6x0.75	-	6.400	8	18.200	30.00	60°/90°	85
TD.TC.530.IK.XX	5.300	-	-	-	6.500	8	18.550	30.50	60°/90°	85
TD.TC.540.IK.XX	5.400	-	-	-	6.600	8	18.900	31.00	60°/90°	85
TD.TC.550.IK.XX	5.500	-	M6x0.5/UNF-1/4"	-	6.700	8	19.250	31.60	60°/90°	85
TD.TC.5556.IK.XX	5.556	7/32"	-	-	6.756	8	19.446	31.80	60°/90°	85
TD.TC.560.IK.XX	5.600	-	UNEF-1/4"/MJ6x0.5	M6	6.800	8	19.600	32.00	60°/90°	85
TD.TC.570.IK.XX	5.700	-	-	-	6.900	8	19.950	32.60	60°/90°	85
TD.TC.580.IK.XX	5.800	-	-	-	7.000	8	20.300	33.10	60°/90°	85
TD.TC.590.IK.XX	5.900	-	-	-	7.100	8	20.650	33.70	60°/90°	85
TD.TC.600.IK.XX	6.000	-	M7	-	7.200	8	21.000	34.20	60°/90°	85
TD.TC.620.IK.XX	6.200	-	M7x0.75	-	7.400	10	21.700	35.20	60°/90°	90
TD.TC.635.IK.XX	6.350	1/4"	-	-	7.550	10	22.225	36.00	60°/90°	90
TD.TC.660.IK.XX	6.600	-	5/16"-18	M7	7.800	10	23.100	37.40	60°/90°	90
TD.TC.670.IK.XX	6.700	-	1/16"	-	7.900	10	23.450	37.90	60°/90°	90
TD.TC.680.IK.XX	6.800	-	M8/G1/16	M7x0.5	8.000	10	23.800	38.40	60°/90°	90
TD.TC.690.IK.XX	6.900	-	UNF-5/16"	-	8.100	10	24.150	38.90	60°/90°	90
TD.TC.700.IK.XX	7.000	-	M8x1	-	8.200	10	24.500	39.50	60°/90°	90
TD.TC.720.IK.XX	7.200	-	UNEF-5/16"	-	8.400	10	24.500	40.50	60°/90°	90

Delivery time: 3-4 weeks

The suffix of the article number is replaced by the desired chamfer angle:

With .90 for 90° or .60 for 60°

Exemplary order:

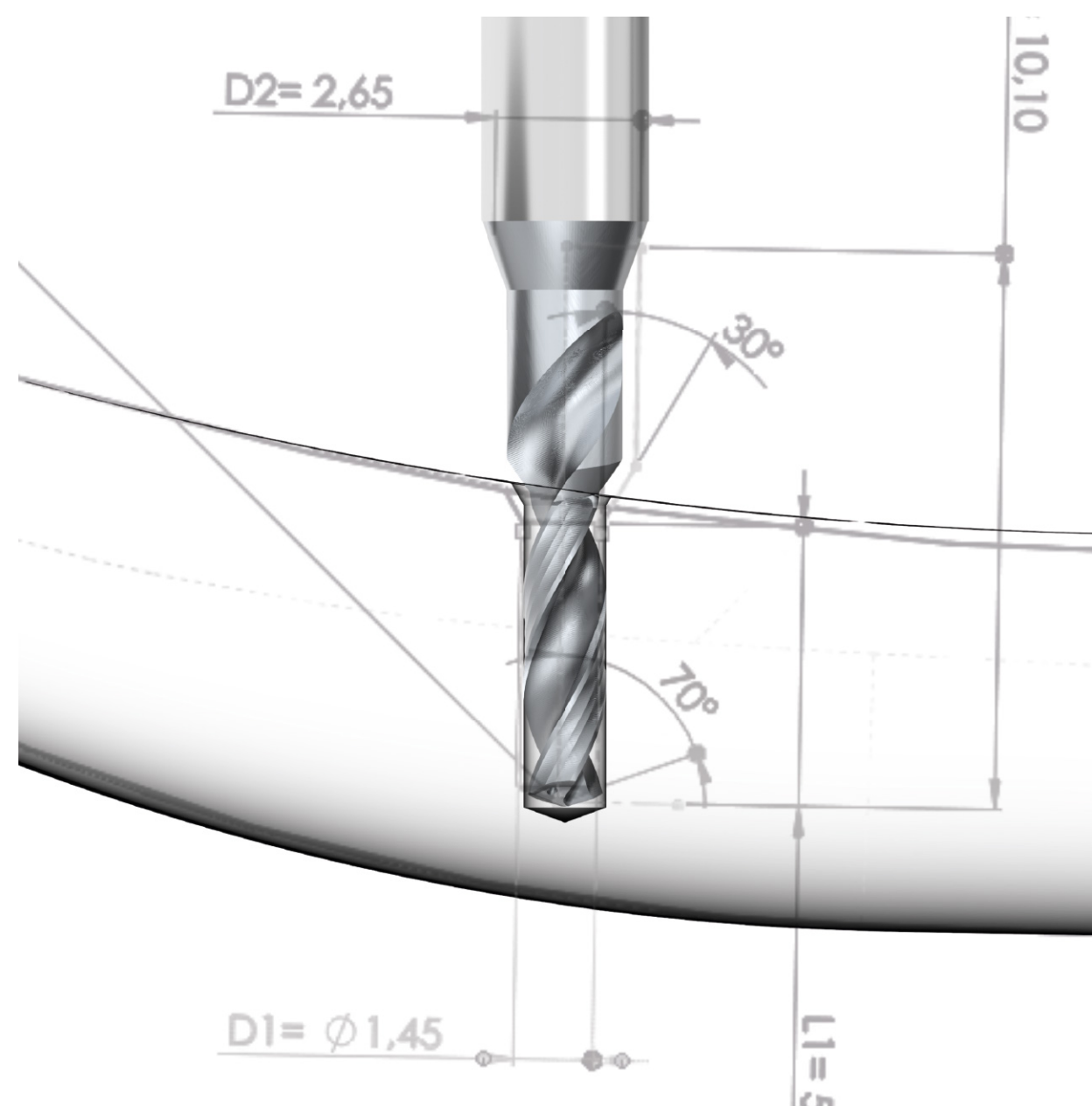
**For the thread former M1 &
Chamfer angle 90° core hole step drill**

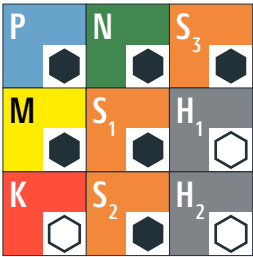
Ø0.9 = TD.TC.090.IK.90

Exemplary order:

**For the thread mill M1.8 &
Chamfer angle 60°**

Ø1.45 = TD.TC.145.IK.60



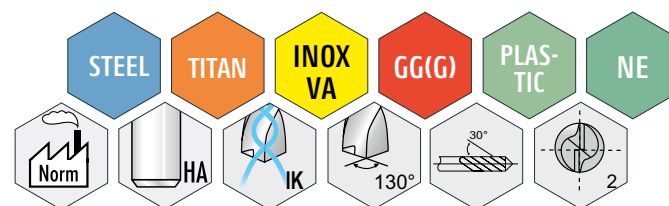


Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 60 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

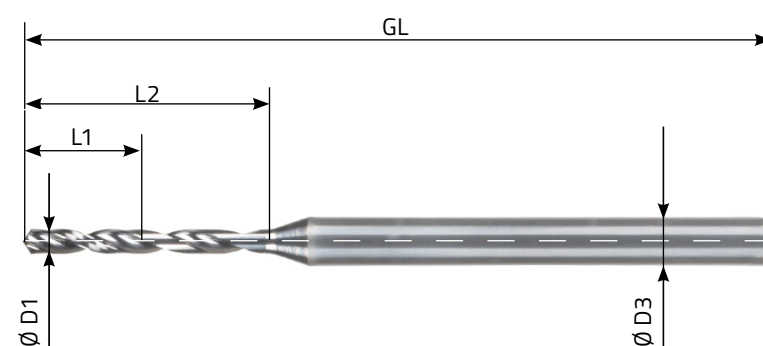
Recommended use Highly suitable Partially suitable Not recommended

Ø 0.75 mm - Ø 1.2 mm		Ø 1.2 mm - Ø 1.8 mm		Ø 1.8 mm - Ø 2.5 mm		Ø 2.5 mm - Ø 5.0 mm		Ø 5.0 mm - Ø 7.2 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
60-130	0.032 - 0.066	60-130	0.122 - 0.128	60-130	0.130 - 0.182	60-140	0.128 - 0.232	60-160	0.220 - 0.280
60-120	0.032 - 0.056	60-120	0.120 - 0.122	60-130	0.130 - 0.182	60-120	0.128 - 0.202	60-150	0.200 - 0.260
50-120	0.015 - 0.04	50-120	0.043 - 0.055	50-120	0.060 - 0.080	50-100	0.074 - 0.098	50-120	0.115 - 0.185
50-80	0.01 - 0.038	50-80	0.040 - 0.068	50-90	0.050 - 0.070	50-90	0.072 - 0.084	50-100	0.115 - 0.175
80-140	0.020 - 0.042	80-140	0.06 - 0.115	80-160	0.126 - 0.135	80-160	0.100 - 0.145	80-180	0.145 - 0.210
80-160	0.032 - 0.066	80-160	0.096 - 0.122	80-160	0.132 - 0.18	80-160	0.136 - 0.172	80-180	0.200 - 0.250
80-140	0.036 - 0.088	80-140	0.098 - 0.122	80-160	0.132 - 0.210	80-160	0.134 - 0.164	80-180	0.200 - 0.252
80-120	0.022 - 0.088	80-120	0.066 - 0.122	80-140	0.085 - 0.120	80-120	0.132 - 0.162	80-160	0.195 - 0.242
15 - 50	0.015 - 0.045	15 - 50	0.049 - 0.060	15 - 60	0.060 - 0.07	15 - 70	0.062 - 0.08	15 - 80	0.080 - 0.10
15 - 50	0.015 - 0.045	15 - 50	0.048 - 0.060	15 - 60	0.060 - 0.07	15 - 70	0.062 - 0.08	15 - 80	0.080 - 0.10
15 - 50	0.010 - 0.024	15 - 50	0.05 - 0.060	15 - 50	0.055 - 0.07	15 - 60	0.052 - 0.08	15 - 75	0.076 - 0.10
15-32	0.006 - 0.009	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.009 - 0.014	15-40	0.009 - 0.018
15-32	0.006 - 0.009	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.009 - 0.014	15-40	0.009 - 0.018

INOX-6xD cooled



TARGETDRILL
Internal cooling
TD.100.IK.6D ← 6xD drilling depth
D1: Ø 1.00 mm



■ α-INOXcronos coated



5 PRO's of the TARGETDRILL:

- Self-centering
- Perfect alignment accuracy - 6xD with 4 margins
- High cutting and feed speeds possible
- High performance & positioning accuracy
- A plus for your process reliability and quality

Article number	D1 k5 (mm)	D1 k5 (inch)	For thread taps	For thread formers	D3 h6 (mm)	L1 [4 margins] (mm)	L2 [Spiral slot] (mm)	GL (mm)
TD.075.IK.6D	Ø 0.75	-	M1x0.25	-	Ø 3.00	3.30	6.75	50.00
TD.080.IK.6D	Ø 0.80	-	-	-	Ø 3.00	3.52	7.20	50.00
TD.085.IK.6D	Ø 0.85	-	M1.1x0.25	-	Ø 3.00	3.74	7.65	50.00
TD.090.IK.6D	Ø 0.90	-	-	M1	Ø 3.00	3.96	8.10	50.00
TD.095.IK.6D	Ø 0.95	-	M1.2x0.25	-	Ø 3.00	4.18	8.55	50.00
TD.100.IK.6D	Ø 1.00	-	M1.2x0.2	M1.1	Ø 3.00	4.40	9.30	50.00
TD.105.IK.6D	Ø 1.05	-	-	-	Ø 3.00	4.65	9.80	50.00
TD.110.IK.6D	Ø 1.10	-	M1.4	M1.2	Ø 3.00	4.85	10.25	50.00
TD.115.IK.6D	Ø 1.15	-	-	-	Ø 3.00	5.10	10.70	50.00
TD.120.IK.6D	Ø 1.20	-	M1.4x0.2	-	Ø 3.00	5.30	11.20	50.00
TD.125.IK.6D	Ø 1.25	-	M1.6/#0-80	-	Ø 3.00	5.50	11.65	50.00
TD.130.IK.6D	Ø 1.30	-	UNF-Nr.0 / M1.6x0.35	-	Ø 3.00	5.75	12.10	52.00
TD.135.IK.6D	Ø 1.35	-	M1.7	-	Ø 3.00	5.95	12.60	52.00
TD.140.IK.6D	Ø 1.40	-	M1.6x0.2 #0-80	-	Ø 3.00	6.20	13.05	52.00
TD.145.IK.6D	Ø 1.45	-	M1.8	-	Ø 3.00	6.40	13.50	52.00
TD.150.IK.6D	Ø 1.50	-	UNC-Nr.1	M1.6	Ø 3.00	6.60	13.95	52.00
TD.155.IK.6D	Ø 1.55	-	#1-64	-	Ø 3.00	6.85	14.45	55.00
TD.1588.IK.6D	Ø 1.588	1/16"	-	-	Ø 3.00	7.00	14.30	55.00
TD.160.IK.6D	Ø 1.60	-	UNF-Nr.1/M2.2 / M1.8x0.2	-	Ø 3.00	7.05	14.90	55.00
TD.165.IK.6D	Ø 1.65	-	-	-	Ø 3.00	7.30	15.35	55.00
TD.170.IK.6D	Ø 1.70	-	-	#1-64 / #1-72	Ø 3.00	7.50	15.85	55.00
TD.175.IK.6D	Ø 1.75	-	M2.2/M2x0.25	-	Ø 3.00	7.70	16.30	55.00
TD.180.IK.6D	Ø 1.80	-	UNC-Nr.2	-	Ø 3.00	7.95	16.75	57.00
TD.185.IK.6D	Ø 1.85	-	#2-56/#2-64	M2	Ø 3.00	8.15	17.25	57.00
TD.190.IK.6D	Ø 1.90	-	UNF-Nr.2/M2.3	-	Ø 3.00	8.40	17.70	57.00
TD.195.IK.6D	Ø 1.95	-	M2.2x0.25 / M2.3x0.35	-	Ø 3.00	8.60	18.15	57.00
TD.200.IK.6D	Ø 2.00	-	-	#2-56	Ø 4.00	8.80	18.60	57.00
TD.203.IK.6D	Ø 2.03	-	-	M2.2	Ø 4.00	9.05	19.10	60.00
TD.205.IK.6D	Ø 2.05	-	M2.5/M2.3x0.25	-	Ø 4.00	9.05	19.10	60.00
TD.210.IK.6D	Ø 2.10	-	MJ2.5x0.45/#3-48 / UNF-Nr.3	-	Ø 4.00	9.25	19.55	60.00
TD.215.IK.6D	Ø 2.15	-	M2.6/M2.5x0.35 / #3-56	M2.3	Ø 4.00	9.50	20.00	60.00
TD.220.IK.6D	Ø 2.20	-	-	-	Ø 4.00	9.70	20.50	60.00
TD.225.IK.6D	Ø 2.25	-	M2.6x0.35	-	Ø 4.00	9.90	20.95	60.00
TD.230.IK.6D	Ø 2.30	-	UNC-Nr.4	#3-48	Ø 4.00	10.15	21.40	62.00
TD.233.IK.6D	Ø 2.33	-	-	M2.5	Ø 4.00	10.35	21.90	62.00
TD.235.IK.6D	Ø 2.35	-	#4-40	-	Ø 4.00	10.35	21.90	62.00
TD.2381.IK.6D	Ø 2.381	3/32"	-	-	Ø 4.00	10.5	21.40	62.00
TD.240.IK.6D	Ø 2.40	-	UNF-Nr.4/#4-48	-	Ø 4.00	10.60	22.35	62.00
TD.245.IK.6D	Ø 2.45	-	-	-	Ø 4.00	10.80	22.80	62.00
TD.250.IK.6D	Ø 2.50	-	M3	-	Ø 4.00	11.00	23.25	62.00
TD.255.IK.6D	Ø 2.55	-	-	#4-40	Ø 4.00	11.25	23.75	65.00
TD.260.IK.6D	Ø 2.60	-	UNF/UNC-Nr.5 / MJ3x0.5	-	Ø 4.00	11.45	24.20	65.00
TD.265.IK.6D	Ø 2.65	-	M3x0.35/#5-40	-	Ø 4.00	11.70	24.65	65.00
TD.270.IK.6D	Ø 2.70	-	#5-44	-	Ø 4.00	11.90	25.15	65.00
TD.275.IK.6D	Ø 2.75	-	M3x0.25	-	Ø 4.00	12.10	25.60	65.00
TD.280.IK.6D	Ø 2.80	-	UNC-Nr.6	M3	Ø 4.00	12.35	26.05	67.00
TD.285.IK.6D	Ø 2.85	-	#6-32	-	Ø 4.00	12.55	26.55	67.00
TD.290.IK.6D	Ø 2.90	-	UNF-Nr.6/M3.5	#5-40	Ø 4.00	12.80	27.00	67.00
TD.295.IK.6D	Ø 2.95	-	-	-	Ø 4.00	13.00	27.45	67.00
TD.300.IK.6D	Ø 3.00	-	-	-	Ø 6.00	13.20	27.90	70.00

Article number	D1 k5 (mm)	D1 k5 (inch)	For thread taps	For thread formers	D3 h6 (mm)	L1 [4 margins] (mm)	L2 [Spiral slot] (mm)	GL (mm)
TD.305.IK.6D	Ø 3.05	-	-	-	Ø 6.00	13.45	28.40	70.00
TD.310.IK.6D	Ø 3.10	-	-	-	Ø 6.00	13.65	28.85	70.00
TD.315.IK.6D	Ø 3.15	-	M3.5x0.35	-	Ø 6.00	13.90	29.30	70.00
TD.3175.IK.6D	Ø 3.175	1/8"	-	-	Ø 6.00	14.00	28.60	70.00
TD.320.IK.6D	Ø 3.20	-	-	-	Ø 6.00	14.1	29.8	70.00
TD.325.IK.6D	Ø 3.25	-	-	M3.5	Ø 6.00	14.3	30.25	70.00
TD.330.IK.6D	Ø 3.30	-	M4	M3.5x0.5	Ø 6.00	14.55	30.7	72.00
TD.335.IK.6D	Ø 3.35	-	-	-	Ø 6.00	14.75	31.2	72.00
TD.340.IK.6D	Ø 3.40	-	UNC-Nr.8	-	Ø 6.00	15	31.65	72.00
TD.345.IK.6D	Ø 3.45	-	-	-	Ø 6.00	15.2	32.1	72.00
TD.350.IK.6D	Ø 3.50	-	UNF-Nr.8/M4x0.5	-	Ø 6.00	15.4	32.55	72.00
TD.355.IK.6D	Ø 3.55	-	-	-	Ø 6.00	15.65	33.05	75.00
TD.360.IK.6D	Ø 3.60	-	-	-	Ø 6.00	15.85	33.5	75.00
TD.365.IK.6D	Ø 3.65	-	M4x0.35	-	Ø 6.00	16.1	33.95	75.00
TD.370.IK.6D	Ø 3.70	-	M4.5	M4	Ø 6.00	16.3	34.45	75.00
TD.375.IK.6D	Ø 3.75	-	-	-	Ø 6.00	16.5	34.9	75.00
TD.380.IK.6D	Ø 3.80	-	UNC-Nr.10	-	Ø 6.00	16.75	35.35	77.00
TD.385.IK.6D	Ø 3.85	-	-	-	Ø 6.00	16.95	35.85	77.00
TD.390.IK.6D	Ø 3.90	-	-	-	Ø 6.00	17.2	36.3	77.00
TD.395.IK.6D	Ø 3.95	-	-	-	Ø 6.00	17.4	36.75	77.00
TD.3969.IK.6D	Ø3.969	5/32"	-	-	Ø 6.00	17.5	35.7	80.00
TD.400.IK.6D	Ø 4.00	-	-	-	Ø 6.00	17.6	37.2	80.00
TD.410.IK.6D	Ø 4.10	-	UNF-Nr.10	-	Ø 6.00	18.05	38.15	80.00
TD.420.IK.6D	Ø 4.20	-	M5/M5x0.75	M4.5	Ø 6.00	18.5	39.1	80.00
TD.430.IK.6D	Ø 4.30	-	-	-	Ø 6.00	18.95	40	80.00
TD.440.IK.6D	Ø 4.40	-	-	-	Ø 6.00	19.4	40.95	80.00
TD.450.IK.6D	Ø 4.50	-	UNC-Nr.12/M5x0.5	-	Ø 6.00	19.8	41.85	80.00
TD.460.IK.6D	Ø 4.60	-	UNF-Nr.12	-	Ø 6.00	20.25	42.8	85.00
TD.465.IK.6D	Ø 4.65	-	-	M5	Ø 6.00	20.46	41.85	85.00
TD.470.IK.6D	Ø 4.70	-	UNEF-Nr.12	-	Ø 6.00	20.7	43.75	85.00
TD.4763.IK.6D	Ø 4.763	3/16"	-	-	Ø 6.00	21	42.9	85.00
TD.480.IK.6D	Ø 4.80	-	-	-	Ø 6.00	21.15	44.65	85.00
TD.490.IK.6D	Ø 4.90	-	-	-	Ø 6.00	21.6	45.6	85.00
TD.500.IK.6D	Ø 5.00	-	M6	#12-24	Ø 6.00	22	46.5	85.00
TD.510.IK.6D	Ø 5.10	-	1/4"	-	Ø 6.00	22.45	47.45	90.00
TD.520.IK.6D	Ø 5.20	-	M6x0.75	-	Ø 6.00	22.9	48.4	90.00
TD.530.IK.6D	Ø 5.30	-	-	-	Ø 6.00	23.35	49.3	90.00
TD.540.IK.6D	Ø 5.40	-	-	-	Ø 6.00	23.8	50.25	90.00
TD.550.IK.6D	Ø 5.50	-	M6x0.5/UNF-1/4"	-	Ø 6.00	24.2	51.15	90.00
TD.5556.IK.6D	Ø 5.556	7/32"	-	-	Ø 6.00	24.5	50	95.00
TD.560.IK.6D	Ø 5.60	-	UNEF-1/4"/MJ6x0.5	M6	Ø 6.00	24.65	52.1	95.00
TD.570.IK.6D	Ø 5.70	-	-	-	Ø 6.00	25.1	53.05	95.00
TD.580.IK.6D	Ø 5.80	-	-	-	Ø 6.00	25.55	53.95	95.00
TD.590.IK.6D	Ø 5.90	-	-	-	Ø 6.00	26	54.9	95.00
TD.600.IK.6D	Ø 6.00	-	M7	-	Ø 6.00	26.4	55.8	95.00
TD.620.IK.6D	Ø 6.20	-	M7x0.75	-	Ø 6.00	28	57.2	95.00
TD.6350.IK.6D	Ø6.350	1/4"	-	-	Ø 6.00	28	57.2	95.00
TD.660.IK.6D	Ø6.60	-	5/16"-18	M7	Ø 6.00	28	57.2	95.00
TD.670.IK.6D	Ø6.70	-	1/16"	-	Ø 6.00	28	57.2	95.00
TD.680.IK.6D	Ø6.80	-	M8/G1/16	M7x0.5	Ø 6.00	28	57.2	95.00
TD.690.IK.6D	Ø6.90	-	UNF-5/16"	-	Ø 6.00	28	57.2	95.00
TD.700.IK.6D	Ø7.00	-	M8x1	-	Ø 6.00	28	57.2	95.00
TD.720.IK.6D	Ø7.20	-	UNEF-5/16"	-	Ø 6.00	28	57.2	95.00

Available from stock

6xD

4 margins ensure perfect guidance of the twist drill.

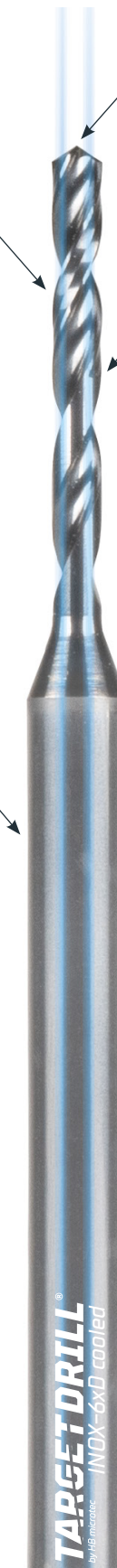
from Ø 0.75 m5 to Ø 7.2 m5

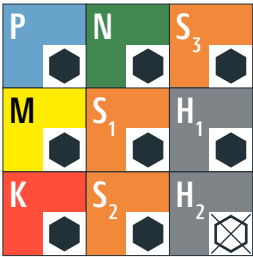
Fine-grain solid carbide (high cutting and feed rates are possible)

130°-INOX high-performance point geometry drill Ø in k5 tolerance with internal cooling (IK).

The α-INOXcronos coating ensures long tool life and prevents cutting edge build-up.

Shank according to DIN6535 HA h6 shank Ø tolerance.



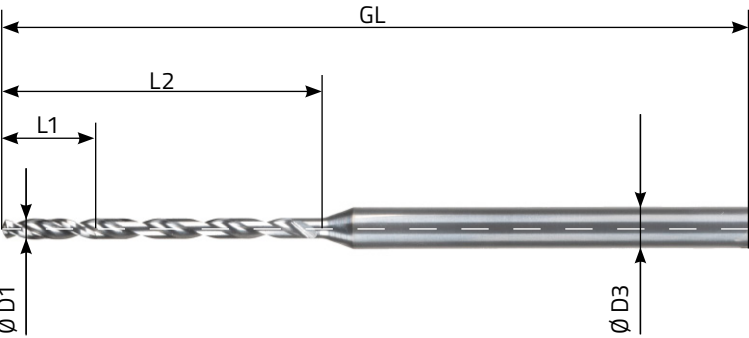
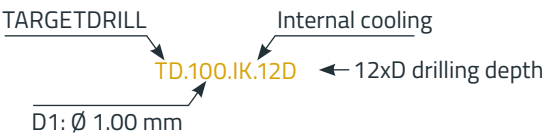
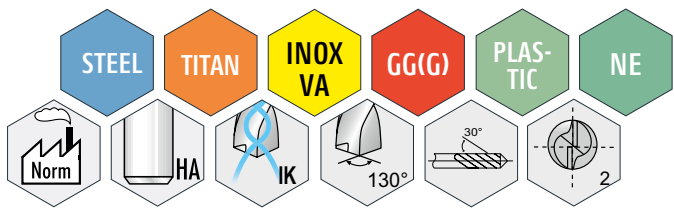


Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 60 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

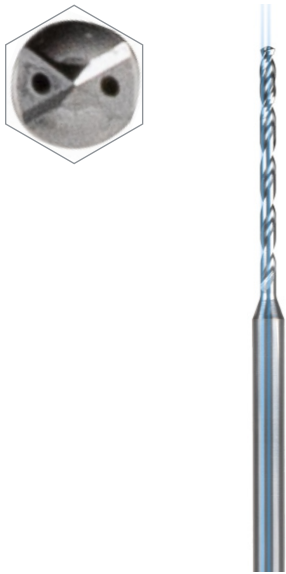
Recommended use Highly suitable Partially suitable Not recommended

Ø 0.75 - 1.2 mm		Ø 1.2 - 1.8 mm		Ø 1.8 - 2.5 mm		Ø 2.5 - 4.0 mm		Ø 4.0 - 7.2 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
60-130	0.042 - 0.066	60-130	0.122 - 0.128	60-130	0.130 - 0.182	60-140	0.128 - 0.232	60-160	0.220 - 0.280
60-120	0.042 - 0.056	60-120	0.120 - 0.122	60-130	0.130 - 0.182	60-120	0.128 - 0.202	60-150	0.200 - 0.260
50-120	0.025 - 0.04	50-120	0.043 - 0.055	50-120	0.060 - 0.080	50-100	0.074 - 0.098	50-120	0.115 - 0.185
50-80	0.02 - 0.038	50-80	0.040 - 0.068	50-90	0.050 - 0.070	50-90	0.072 - 0.084	50-100	0.115 - 0.175
80-140	0.030 - 0.042	80-140	0.06 - 0.115	80-160	0.126 - 0.135	80-160	0.100 - 0.145	80-180	0.145 - 0.210
80-160	0.042 - 0.066	80-160	0.096 - 0.122	80-160	0.132 - 0.18	80-160	0.136 - 0.172	80-180	0.200 - 0.250
80-140	0.046 - 0.088	80-140	0.098 - 0.122	80-160	0.132 - 0.210	80-160	0.134 - 0.164	80-180	0.200 - 0.252
80-120	0.032 - 0.088	80-120	0.066 - 0.122	80-140	0.085 - 0.120	80-120	0.132 - 0.162	80-160	0.195 - 0.242
15 - 50	0.025 - 0.045	15 - 50	0.049 - 0.060	15 - 60	0.060 - 0.07	15 - 70	0.062 - 0.08	15 - 80	0.080 - 0.10
15 - 50	0.025 - 0.045	15 - 50	0.048 - 0.060	15 - 60	0.060 - 0.07	15 - 70	0.062 - 0.08	15 - 80	0.080 - 0.10
15 - 50	0.020 - 0.024	15 - 50	0.05 - 0.060	15 - 50	0.055 - 0.07	15 - 60	0.052 - 0.08	15 - 75	0.076 - 0.10
15-32	0.006 - 0.009	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.009 - 0.014	15-40	0.009 - 0.018
15-32	0.006 - 0.009	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.009 - 0.014	15-40	0.009 - 0.018

INOX-12xD cooled



■ α-INOXcronos coated



5 PRO's of the TARGETDRILL:

- Helical deep hole drill with internal cooling
- Perfect alignment accuracy - 12xD with 4 margins
- High cutting and feed speeds possible
- High performance & positioning accuracy
- A plus for your process reliability and quality

Article number	D1 k5 (mm)	D1 k5 (inch)	D3 h6 (mm)	L1 [4 margins] (mm)	L2 [Spiral slot] (mm)	GL (mm)
TD.100.IK.12D	Ø 1.00	-	Ø 3.00	4.40	15.30	58.00
TD.105.IK.12D	Ø 1.05	-	Ø 3.00	4.65	16.10	58.00
TD.110.IK.12D	Ø 1.10	-	Ø 3.00	4.85	16.85	58.00
TD.115.IK.12D	Ø 1.15	-	Ø 3.00	5.10	17.60	58.00
TD.120.IK.12D	Ø 1.20	-	Ø 3.00	5.30	18.40	58.00
TD.125.IK.12D	Ø 1.25	-	Ø 3.00	5.50	19.15	58.00
TD.130.IK.12D	Ø 1.30	-	Ø 3.00	5.75	19.90	64.00
TD.135.IK.12D	Ø 1.35	-	Ø 3.00	5.95	20.70	64.00
TD.140.IK.12D	Ø 1.40	-	Ø 3.00	6.20	21.45	64.00
TD.145.IK.12D	Ø 1.45	-	Ø 3.00	6.40	22.20	64.00
TD.150.IK.12D	Ø 1.50	-	Ø 3.00	6.60	22.95	64.00
TD.155.IK.12D	Ø 1.55	-	Ø 3.00	6.85	23.75	68.00
TD.1588.IK.12D	Ø 1.588	1/16"	Ø3.00	7.00	23.80	68.00
TD.160.IK.12D	Ø 1.60	-	Ø 3.00	7.05	24.50	68.00
TD.165.IK.12D	Ø 1.65	-	Ø 3.00	7.30	25.25	68.00
TD.170.IK.12D	Ø 1.70	-	Ø 3.00	7.50	26.05	68.00
TD.175.IK.12D	Ø 1.75	-	Ø 3.00	7.70	26.80	68.00
TD.180.IK.12D	Ø 1.80	-	Ø 3.00	7.95	27.55	72.00
TD.185.IK.12D	Ø 1.85	-	Ø 3.00	8.15	28.35	72.00
TD.190.IK.12D	Ø 1.90	-	Ø 3.00	8.40	29.10	72.00
TD.195.IK.12D	Ø 1.95	-	Ø 3.00	8.60	29.85	72.00
TD.200.IK.12D	Ø 2.00	-	Ø 4.00	8.80	30.60	72.00
TD.205.IK.12D	Ø 2.05	-	Ø 4.00	9.05	31.40	76.00
TD.210.IK.12D	Ø 2.10	-	Ø 4.00	9.25	32.15	76.00
TD.215.IK.12D	Ø 2.15	-	Ø 4.00	9.50	32.90	76.00
TD.220.IK.12D	Ø 2.20	-	Ø 4.00	9.70	33.70	76.00
TD.225.IK.12D	Ø 2.25	-	Ø 4.00	9.90	34.45	76.00
TD.230.IK.12D	Ø 2.30	-	Ø 4.00	10.15	35.20	80.00
TD.235.IK.12D	Ø 2.35	-	Ø 4.00	10.35	36.00	80.00
TD.2381.IK.12D	Ø2.381	3/32"	Ø4.00	10.50	35.70	80.00
TD.240.IK.12D	Ø 2.40	-	Ø 4.00	10.60	36.75	80.00
TD.245.IK.12D	Ø 2.45	-	Ø 4.00	10.80	37.50	80.00
TD.250.IK.12D	Ø 2.50	-	Ø 4.00	11.00	38.25	80.00
TD.255.IK.12D	Ø 2.55	-	Ø 4.00	11.25	39.05	84.00
TD.260.IK.12D	Ø 2.60	-	Ø 4.00	11.45	39.80	84.00
TD.265.IK.12D	Ø 2.65	-	Ø 4.00	11.70	40.55	84.00
TD.270.IK.12D	Ø 2.70	-	Ø 4.00	11.90	41.35	84.00
TD.275.IK.12D	Ø 2.75	-	Ø 4.00	12.10	42.10	84.00
TD.280.IK.12D	Ø 2.80	-	Ø 4.00	12.35	42.85	88.00
TD.285.IK.12D	Ø 2.85	-	Ø 4.00	12.55	43.65	88.00
TD.290.IK.12D	Ø 2.90	-	Ø 4.00	12.80	44.40	88.00
TD.295.IK.12D	Ø 2.95	-	Ø 4.00	13.00	45.15	88.00
TD.300.IK.12D	Ø 3.00	-	Ø 6.00	13.20	45.90	92.00
TD.305.IK.12D	Ø 3.05	-	Ø 6.00	13.45	46.70	92.00
TD.310.IK.12D	Ø 3.10	-	Ø 6.00	13.65	47.45	92.00
TD.3175.IK.12D	Ø3.175	1/8"	Ø6.00	14.00	48.20	92.00
TD.315.IK.12D	Ø 3.15	-	Ø 6.00	13.90	47.60	92.00
TD.320.IK.12D	Ø 3.20	-	Ø 6.00	14.10	49.00	92.00

Article number	D1 k5 (mm)	D1 k5 (inch)	D3 h6 (mm)	L1 [4 margins] (mm)	L2 [Spiral slot] (mm)	GL (mm)
TD.325.IK.12D	Ø 3.25	-	Ø 6.00	14.30	49.75	92.00
TD.330.IK.12D	Ø 3.30	-	Ø 6.00	14.55	50.50	96.00
TD.335.IK.12D	Ø 3.35	-	Ø 6.00	14.75	51.30	96.00
TD.340.IK.12D	Ø 3.40	-	Ø 6.00	15.00	52.05	96.00
TD.345.IK.12D	Ø 3.45	-	Ø 6.00	15.20	52.80	96.00
TD.350.IK.12D	Ø 3.50	-	Ø 6.00	15.40	53.55	96.00
TD.355.IK.12D	Ø 3.55	-	Ø 6.00	15.65	54.35	100.00
TD.360.IK.12D	Ø 3.60	-	Ø 6.00	15.85	55.10	100.00
TD.365.IK.12D	Ø 3.65	-	Ø 6.00	16.10	55.85	100.00
TD.370.IK.12D	Ø 3.70	-	Ø 6.00	16.30	56.65	100.00
TD.375.IK.12D	Ø 3.75	-	Ø 6.00	16.50	57.40	100.00
TD.380.IK.12D	Ø 3.80	-	Ø 6.00	16.75	58.15	104.00
TD.385.IK.12D	Ø 3.85	-	Ø 6.00	16.95	58.95	104.00
TD.390.IK.12D	Ø 3.90	-	Ø 6.00	17.20	59.70	104.00
TD.395.IK.12D	Ø 3.95	-	Ø 6.00	17.40	60.45	104.00
TD.3969.IK.12D	Ø3.969	5/32"	Ø6.00	17.50	59.50	108.00
TD.400.IK.12D	Ø 4.00	-	Ø 6.00	17.60	61.20	108.00
TD.410.IK.12D	Ø 4.10	-	Ø 6.00	18.05	62.75	108.00
TD.420.IK.12D	Ø 4.20	-	Ø 6.00	18.50	64.30	108.00
TD.430.IK.12D	Ø 4.30	-	Ø 6.00	18.95	65.80	108.00
TD.440.IK.12D	Ø 4.40	-	Ø 6.00	19.40	67.35	108.00
TD.450.IK.12D	Ø 4.50	-	Ø 6.00	19.80	68.85	108.00
TD.460.IK.12D	Ø 4.60	-	Ø 6.00	20.25	70.40	115.00
TD.470.IK.12D	Ø 4.70	-	Ø 6.00	20.70	71.95	115.00
TD.4763.IK.12D	Ø4.763	3/16"	Ø6.00	21.00	71.40	115.00
TD.480.IK.12D	Ø 4.80	-	Ø 6.00	21.15	73.45	115.00
TD.490.IK.12D	Ø 4.90	-	Ø 6.00	21.60	75.00	115.00
TD.500.IK.12D	Ø 5.00	-	Ø 6.00	22.00	76.50	115.00
TD.510.IK.12D	Ø 5.10	-	Ø 6.00	22.45	78.05	122.00
TD.520.IK.12D	Ø 5.20	-	Ø 6.00	22.90	79.60	122.00
TD.530.IK.12D	Ø 5.30	-	Ø 6.00	23.35	81.10	122.00
TD.540.IK.12D	Ø 5.40	-	Ø 6.00	23.80	82.65	122.00
TD.550.IK.12D	Ø 5.50	-	Ø 6.00	24.20	84.15	122.00
TD.5556.IK.12D	Ø5.556	7/32"	Ø6.00	24.50	83.30	130.00
TD.560.IK.12D	Ø 5.60	-	Ø 6.00	24.65	85.70	130.00
TD.570.IK.12D	Ø 5.70	-	Ø 6.00	25.10	87.25	130.00
TD.580.IK.12D	Ø 5.80	-	Ø 6.00	25.55	88.75	130.00
TD.590.IK.12D	Ø 5.90	-	Ø 6.00	26.00	90.30	130.00
TD.600.IK.12D	Ø 6.00	-	Ø 6.00	26.40	91.80	130.00
TD.6350.IK.12D	Ø6.350	1/4"	Ø6.00	28.00	95.30	130.00

12xD

4 margins ensure perfect guidance of the twist drill.

Fine-grain solid carbide (high cutting and feed rates are possible)



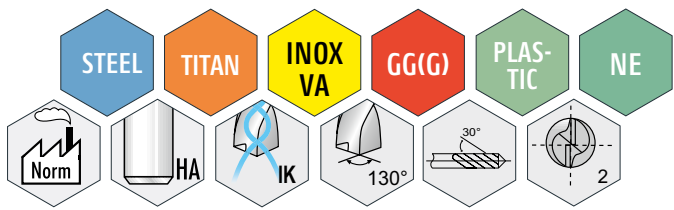
130°-INOX high-performance point geometry drill Ø in k5 tolerance with internal cooling (IK).

The α-INOXcronos coating ensures long tool life and prevents cutting edge build-up.

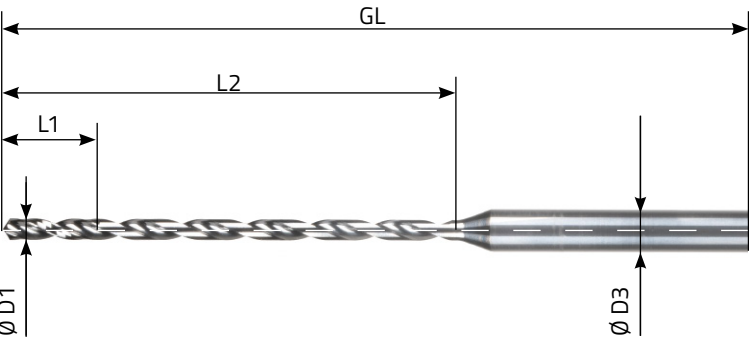
Shank according to DIN6535 HA h6 shank Ø tolerance.

Available from stock

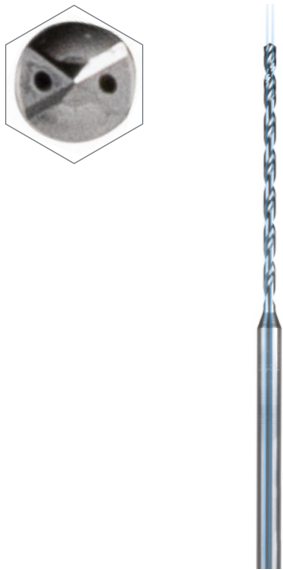
INOX-18xD cooled



TARGETDRILL
Internal cooling
TD.100.IK.18D ← 18xD drilling depth
D1: Ø 1.00 mm



■ α-INOXcronos coated



5 PRO's of the TARGETDRILL:

- Helical deep hole drill with internal cooling
- Perfect alignment accuracy - 18xD with 4 margins
- High cutting and feed speeds possible
- High performance & positioning accuracy
- A plus for your process reliability and quality

Article number	D1 k5 (mm)	D1 k5 (inch)	D3 h6 (mm)	L1 [4 margins] (mm)	L2 [Spiral slot] (mm)	GL (mm)
TD.100.IK.18D	Ø 1.00	-	Ø 3.00	4.40	21.30	64.00
TD.105.IK.18D	Ø 1.05	-	Ø 3.00	4.65	22.40	64.00
TD.110.IK.18D	Ø 1.10	-	Ø 3.00	4.85	23.45	64.00
TD.115.IK.18D	Ø 1.15	-	Ø 3.00	5.10	24.00	64.00
TD.120.IK.18D	Ø 1.20	-	Ø 3.00	5.30	25.60	64.00
TD.125.IK.18D	Ø 1.25	-	Ø 3.00	5.50	26.65	64.00
TD.130.IK.18D	Ø 1.30	-	Ø 3.00	5.75	27.70	72.00
TD.135.IK.18D	Ø 1.35	-	Ø 3.00	5.95	28.80	72.00
TD.140.IK.18D	Ø 1.40	-	Ø 3.00	6.20	29.85	72.00
TD.145.IK.18D	Ø 1.45	-	Ø 3.00	6.40	30.90	72.00
TD.150.IK.18D	Ø 1.50	-	Ø 3.00	6.60	31.95	72.00
TD.155.IK.18D	Ø 1.55	-	Ø 3.00	6.85	33.05	80.00
TD.1588.IK.18D	Ø1.588	1/16"	Ø3.00	7.00	33.30	80.00
TD.160.IK.18D	Ø 1.60	-	Ø 3.00	7.05	34.10	80.00
TD.165.IK.18D	Ø 1.65	-	Ø 3.00	7.30	35.15	80.00
TD.170.IK.18D	Ø 1.70	-	Ø 3.00	7.50	36.25	80.00
TD.175.IK.18D	Ø 1.75	-	Ø 3.00	7.70	37.30	80.00
TD.180.IK.18D	Ø 1.80	-	Ø 3.00	7.95	38.35	88.00
TD.185.IK.18D	Ø 1.85	-	Ø 3.00	8.15	39.45	88.00
TD.190.IK.18D	Ø 1.90	-	Ø 3.00	8.40	40.50	88.00
TD.195.IK.18D	Ø 1.95	-	Ø 3.00	8.60	41.55	88.00
TD.200.IK.18D	Ø 2.00	-	Ø 4.00	8.80	42.60	88.00
TD.205.IK.18D	Ø 2.05	-	Ø 4.00	9.05	43.70	94.00
TD.210.IK.18D	Ø 2.10	-	Ø 4.00	9.25	44.75	94.00
TD.215.IK.18D	Ø 2.15	-	Ø 4.00	9.50	45.80	94.00
TD.220.IK.18D	Ø 2.20	-	Ø 4.00	9.70	46.90	94.00
TD.225.IK.18D	Ø 2.25	-	Ø 4.00	9.90	47.95	94.00
TD.230.IK.18D	Ø 2.30	-	Ø 4.00	10.15	49.00	100.00
TD.235.IK.18D	Ø 2.35	-	Ø 4.00	10.35	49.35	100.00
TD.2381.IK.18D	Ø2.381	3/32"	Ø4.00	10.50	50.00	100.00
TD.240.IK.18D	Ø 2.40	-	Ø 4.00	10.60	50.40	100.00
TD.245.IK.18D	Ø 2.45	-	Ø 4.00	10.80	51.45	100.00
TD.250.IK.18D	Ø 2.50	-	Ø 4.00	11.00	52.50	100.00
TD.255.IK.18D	Ø 2.55	-	Ø 4.00	11.25	53.55	106.00
TD.260.IK.18D	Ø 2.60	-	Ø 4.00	11.45	54.60	106.00
TD.265.IK.18D	Ø 2.65	-	Ø 4.00	11.70	55.65	106.00
TD.270.IK.18D	Ø 2.70	-	Ø 4.00	11.90	56.70	106.00
TD.275.IK.18D	Ø 2.75	-	Ø 4.00	12.10	57.75	106.00
TD.280.IK.18D	Ø 2.80	-	Ø 4.00	12.35	58.80	110.00
TD.285.IK.18D	Ø 2.85	-	Ø 4.00	12.55	59.85	110.00
TD.290.IK.18D	Ø 2.90	-	Ø 4.00	12.80	60.90	110.00
TD.295.IK.18D	Ø 2.95	-	Ø 4.00	13.00	61.95	110.00
TD.300.IK.18D	Ø 3.00	-	Ø 6.00	13.20	63.00	114.00
TD.305.IK.18D	Ø 3.05	-	Ø 6.00	13.45	64.05	114.00
TD.310.IK.18D	Ø 3.10	-	Ø 6.00	13.65	65.10	114.00
TD.315.IK.18D	Ø 3.15	-	Ø 6.00	13.90	66.15	114.00
TD.3175.IK.18D	Ø3.175	1/8"	Ø6.00	14.00	66.70	114.00
TD.320.IK.18D	Ø 3.20	-	Ø 6.00	14.10	67.20	114.00

Article number	D1 k5 (mm)	D1 k5 (inch)	D3 h6 (mm)	L1 [4 margins] (mm)	L2 [Spiral slot] (mm)	GL (mm)
TD.325.IK.18D	Ø 3.25	-	Ø 6.00	14.30	68.25	114.00
TD.330.IK.18D	Ø 3.30	-	Ø 6.00	14.55	69.30	118.00
TD.335.IK.18D	Ø 3.35	-	Ø 6.00	14.75	70.35	118.00
TD.340.IK.18D	Ø 3.40	-	Ø 6.00	15.00	71.40	118.00
TD.345.IK.18D	Ø 3.45	-	Ø 6.00	15.20	72.45	118.00
TD.350.IK.18D	Ø 3.50	-	Ø 6.00	15.40	73.50	118.00
TD.355.IK.18D	Ø 3.55	-	Ø 6.00	15.65	74.55	122.00
TD.360.IK.18D	Ø 3.60	-	Ø 6.00	15.85	75.60	122.00
TD.365.IK.18D	Ø 3.65	-	Ø 6.00	16.10	76.65	122.00
TD.370.IK.18D	Ø 3.70	-	Ø 6.00	16.30	77.70	122.00
TD.375.IK.18D	Ø 3.75	-	Ø 6.00	16.50	78.75	122.00
TD.380.IK.18D	Ø 3.80	-	Ø 6.00	16.75	79.80	126.00
TD.385.IK.18D	Ø 3.85	-	Ø 6.00	16.95	80.85	126.00
TD.390.IK.18D	Ø 3.90	-	Ø 6.00	17.20	81.90	126.00
TD.395.IK.18D	Ø 3.95	-	Ø 6.00	17.40	82.95	126.00
TD.3969.IK.18D	Ø3.969	5/32"	Ø6.00	17.50	83.30	130.00
TD.400.IK.18D	Ø 4.00	-	Ø 6.00	17.60	84.00	130.00
TD.410.IK.18D	Ø 4.10	-	Ø 6.00	18.05	86.10	130.00
TD.420.IK.18D	Ø 4.20	-	Ø 6.00	18.50	88.20	130.00
TD.430.IK.18D	Ø 4.30	-	Ø 6.00	18.95	90.30	130.00
TD.440.IK.18D	Ø 4.40	-	Ø 6.00	19.40	92.40	130.00
TD.450.IK.18D	Ø 4.50	-	Ø 6.00	19.80	94.50	130.00
TD.460.IK.18D	Ø 4.60	-	Ø 6.00	20.25	96.60	142.00
TD.470.IK.18D	Ø 4.70	-	Ø 6.00	20.70	98.70	142.00
TD.4763.IK.18D	Ø4.763	3/16"	Ø6.00	21.00	100.00	142.00
TD.480.IK.18D	Ø 4.80	-	Ø 6.00	21.15	100.80	142.00
TD.490.IK.18D	Ø 4.90	-	Ø 6.00	21.60	102.90	142.00
TD.500.IK.18D	Ø 5.00	-	Ø 6.00	22.00	105.00	142.00
TD.510.IK.18D	Ø 5.10	-	Ø 6.00	22.45	107.10	153.00
TD.520.IK.18D	Ø 5.20	-	Ø 6.00	22.90	109.20	153.00
TD.530.IK.18D	Ø 5.30	-	Ø 6.00	23.35	111.30	153.00
TD.540.IK.18D	Ø 5.40	-	Ø 6.00	23.80	113.40	153.00
TD.550.IK.18D	Ø 5.50	-	Ø 6.00	24.20	115.50	153.00
TD.5556.IK.18D	Ø5.556	7/32"	Ø6.00	24.50	116.70	165.00
TD.560.IK.18D	Ø 5.60	-	Ø 6.00	24.65	117.60	165.00
TD.570.IK.18D	Ø 5.70	-	Ø 6.00	25.10	119.70	165.00
TD.580.IK.18D	Ø 5.80	-	Ø 6.00	25.55	121.80	165.00
TD.590.IK.18D	Ø 5.90	-	Ø 6.00	26.00	123.90	165.00
TD.600.IK.18D	Ø 6.00	-	Ø 6.00	26.40	126.00	165.00
TD.6350.IK.18D	Ø6.350	1/4"	Ø6.00	28.00	133.40	165.00

18xD

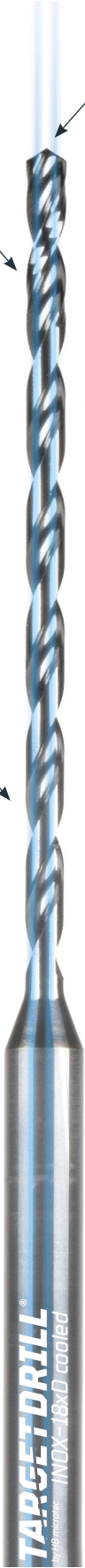
4 margins ensure perfect guidance of the twist drill.

Fine-grain solid carbide (high cutting and feed rates are possible)

130°-INOX high-performance point geometry drill Ø in k5 tolerance with internal cooling (IK).

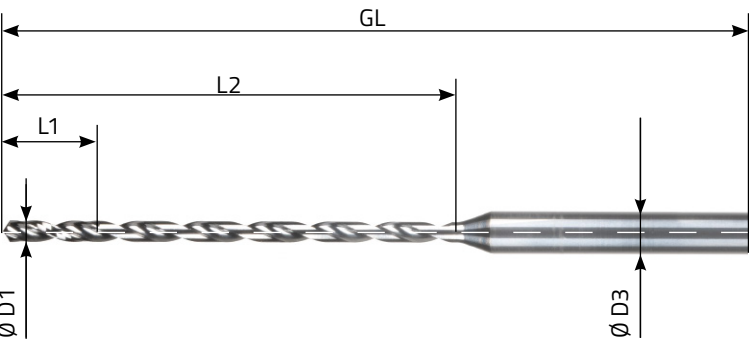
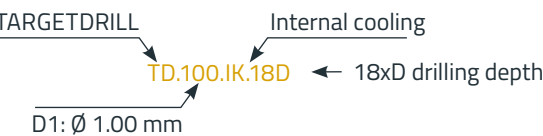
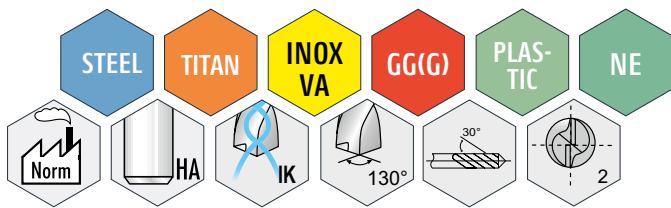
The α-INOXcronos coating ensures long tool life and prevents cutting edge build-up.

Shank according to DIN6535 HA h6 shank Ø tolerance.



Available from stock

INOX-24xD cooled



■ α-INOXcronos coated



5 PRO's of the TARGETDRILL:

- Helical deep hole drill with internal cooling
- Perfect alignment accuracy - 18xD with 4 margins
- High cutting and feed speeds possible
- High performance & positioning accuracy
- A plus for your process reliability and quality

Article number	D1 k5 (mm)	D1 k5 (inch)	D3 h6 (mm)	L1 [4 margins] (mm)	L2 [Spiral slot] (mm)	GL (mm)
TD.100.IK.24D	Ø1.00	-	Ø3.00	4.40	27.30	64.00
TD.105.IK.24D	Ø1.05	-	Ø3.00	4.65	28.70	64.00
TD.110.IK.24D	Ø1.10	-	Ø3.00	4.85	30.00	64.00
TD.115.IK.24D	Ø1.15	-	Ø3.00	5.10	31.40	64.00
TD.120.IK.24D	Ø1.20	-	Ø3.00	5.30	32.80	64.00
TD.125.IK.24D	Ø1.25	-	Ø3.00	5.50	34.20	64.00
TD.130.IK.24D	Ø1.30	-	Ø3.00	5.75	35.50	72.00
TD.135.IK.24D	Ø1.35	-	Ø3.00	5.95	36.90	72.00
TD.140.IK.24D	Ø1.40	-	Ø3.00	6.20	38.20	72.00
TD.145.IK.24D	Ø1.45	-	Ø3.00	6.40	39.60	72.00
TD.150.IK.24D	Ø1.50	-	Ø3.00	6.60	41.00	72.00
TD.155.IK.24D	Ø1.55	-	Ø3.00	6.85	42.30	80.00
TD.1588.IK.24D	Ø1.588	1/16"	Ø3.00	7.00	43.40	80.00
TD.160.IK.24D	Ø1.60	-	Ø3.00	7.05	43.70	80.00
TD.165.IK.24D	Ø1.65	-	Ø3.00	7.30	45.10	80.00
TD.170.IK.24D	Ø1.70	-	Ø3.00	7.50	46.40	80.00
TD.175.IK.24D	Ø1.75	-	Ø3.00	7.70	47.80	80.00
TD.180.IK.24D	Ø1.80	-	Ø3.00	7.95	49.20	88.00
TD.185.IK.24D	Ø1.85	-	Ø3.00	8.15	50.50	88.00
TD.190.IK.24D	Ø1.90	-	Ø3.00	8.40	51.90	88.00
TD.195.IK.24D	Ø1.95	-	Ø3.00	8.60	53.30	88.00
TD.200.IK.24D	Ø2.00	-	Ø4.00	8.80	54.60	88.00
TD.205.IK.24D	Ø2.05	-	Ø4.00	9.05	56.00	94.00
TD.210.IK.24D	Ø2.10	-	Ø4.00	9.25	57.40	94.00
TD.215.IK.24D	Ø2.15	-	Ø4.00	9.50	58.70	94.00
TD.220.IK.24D	Ø2.20	-	Ø4.00	9.70	60.10	94.00
TD.225.IK.24D	Ø2.25	-	Ø4.00	9.90	61.50	94.00
TD.230.IK.24D	Ø2.30	-	Ø4.00	10.15	63.00	100.00
TD.235.IK.24D	Ø2.35	-	Ø4.00	10.35	64.20	100.00
TD.2381.IK.24D	Ø2.381	3/32"	Ø4.00	10.50	65.00	100.00
TD.240.IK.24D	Ø2.40	-	Ø4.00	10.60	65.60	100.00
TD.245.IK.24D	Ø2.45	-	Ø4.00	10.80	66.90	100.00
TD.250.IK.24D	Ø2.50	-	Ø4.00	11.00	68.30	100.00
TD.255.IK.24D	Ø2.55	-	Ø4.00	11.25	69.60	106.00
TD.260.IK.24D	Ø2.60	-	Ø4.00	11.45	71.00	106.00
TD.265.IK.24D	Ø2.65	-	Ø4.00	11.70	72.40	106.00
TD.270.IK.24D	Ø2.70	-	Ø4.00	11.90	73.70	106.00
TD.275.IK.24D	Ø2.75	-	Ø4.00	12.10	75.10	106.00
TD.280.IK.24D	Ø2.80	-	Ø4.00	12.35	76.50	110.00
TD.285.IK.24D	Ø2.85	-	Ø4.00	12.55	77.80	110.00
TD.290.IK.24D	Ø2.90	-	Ø4.00	12.80	79.20	110.00
TD.295.IK.24D	Ø2.95	-	Ø4.00	13.00	80.60	110.00
TD.300.IK.24D	Ø3.00	-	Ø6.00	13.20	81.90	114.00
TD.305.IK.24D	Ø3.05	-	Ø6.00	13.45	83.30	114.00
TD.310.IK.24D	Ø3.10	-	Ø6.00	13.65	84.70	114.00
TD.315.IK.24D	Ø3.15	-	Ø6.00	13.90	86.00	114.00
TD.3175.IK.24D	Ø3.175	1/8"	Ø6.00	14.00	86.70	125.00
TD.320.IK.24D	Ø3.20	-	Ø6.00	14.10	87.40	125.00

Article number	D1 k5 (mm)	D1 k5 (inch)	D3 h6 (mm)	L1 [4 margins] (mm)	L2 [Spiral slot] (mm)	GL (mm)
TD.325.IK.24D	Ø3.25	-	Ø6.00	14.30	88.80	125.00
TD.330.IK.24D	Ø3.30	-	Ø6.00	14.55	90.10	125.00
TD.335.IK.24D	Ø3.35	-	Ø6.00	14.75	91.50	125.00
TD.340.IK.24D	Ø3.40	-	Ø6.00	15.00	92.90	125.00
TD.345.IK.24D	Ø3.45	-	Ø6.00	15.20	94.20	125.00
TD.350.IK.24D	Ø3.50	-	Ø6.00	15.40	95.60	125.00
TD.355.IK.24D	Ø3.55	-	Ø6.00	15.65	97.00	125.00
TD.360.IK.24D	Ø3.60	-	Ø6.00	15.85	98.30	145.00
TD.365.IK.24D	Ø3.65	-	Ø6.00	16.10	99.70	145.00
TD.370.IK.24D	Ø3.70	-	Ø6.00	16.30	101.00	145.00
TD.375.IK.24D	Ø3.75	-	Ø6.00	16.50	102.40	145.00
TD.380.IK.24D	Ø3.80	-	Ø6.00	16.75	103.80	145.00
TD.385.IK.24D	Ø3.85	-	Ø6.00	16.95	105.10	145.00
TD.390.IK.24D	Ø3.90	-	Ø6.00	17.20	106.50	145.00
TD.395.IK.24D	Ø3.95	-	Ø6.00	17.40	107.90	145.00
TD.3969.IK.24D	Ø3.969	5/32"	Ø6.00	17.50	108.40	145.00
TD.400.IK.24D	Ø4.00	-	Ø6.00	17.60	109.20	145.00
TD.410.IK.24D	Ø4.10	-	Ø6.00	18.05	112.00	145.00
TD.420.IK.24D	Ø4.20	-	Ø6.00	18.50	114.70	145.00
TD.430.IK.24D	Ø4.30	-	Ø6.00	18.95	117.40	145.00
TD.440.IK.24D	Ø4.40	-	Ø6.00	19.40	120.20	165.00
TD.450.IK.24D	Ø4.50	-	Ø6.00	19.80	122.90	165.00
TD.460.IK.24D	Ø4.60	-	Ø6.00	20.25	125.60	165.00
TD.470.IK.24D	Ø4.70	-	Ø6.00	20.70	128.40	165.00
TD.4763.IK.24D	Ø4.763	3/16"	Ø6.00	21.00	130.00	165.00
TD.480.IK.24D	Ø4.80	-	Ø6.00	21.15	131.10	165.00
TD.490.IK.24D	Ø4.90	-	Ø6.00	21.60	133.80	165.00
TD.500.IK.24D	Ø5.00	-	Ø6.00	22.00	136.50	165.00
TD.510.IK.24D	Ø5.10	-	Ø6.00	22.45	139.30	200.00
TD.520.IK.24D	Ø5.20	-	Ø6.00	22.90	142.00	200.00
TD.530.IK.24D	Ø5.30	-	Ø6.00	23.35	144.70	200.00
TD.540.IK.24D	Ø5.40	-	Ø6.00	23.80	147.50	200.00
TD.550.IK.24D	Ø5.50	-	Ø6.00	24.20	150.20	200.00
TD.5556.IK.24D	Ø5.556	7/32"	Ø6.00	24.50	151.70	200.00
TD.560.IK.24D	Ø5.60	-	Ø6.00	24.65	152.90	200.00
TD.570.IK.24D	Ø5.70	-	Ø6.00	25.10	155.60	200.00
TD.580.IK.24D	Ø5.80	-	Ø6.00	25.55	158.40	200.00
TD.590.IK.24D	Ø5.90	-	Ø6.00	26.00	161.10	200.00
TD.600.IK.24D	Ø6.00	-	Ø6.00	26.40	163.80	200.00
TD.6350.IK.24D	Ø6.350	1/4"	Ø8.00	28.00	173.40	220.00

24xD

4 margins ensure perfect guidance of the twist drill.

from Ø1.0 m5 to Ø 6.35 m5

Fine-grain solid carbide (high cutting and feed rates are possible)

130°-INOX high-performance point geometry drill Ø in k5 tolerance with internal cooling (IK).

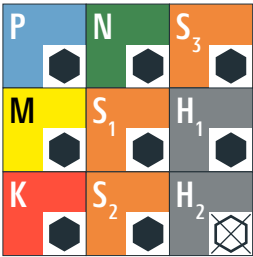
The α-INOXcronos coating ensures long tool life and prevents cutting edge build-up.

Shank according to DIN6535 HA h6 shank Ø tolerance.



Available from stock

TARGETDRILL[®]
by HB microtec
INOX-12xD cooled
INOX-18xD cooled
INOX-24xD cooled

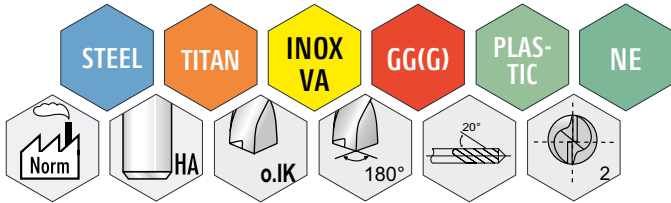


Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 60 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

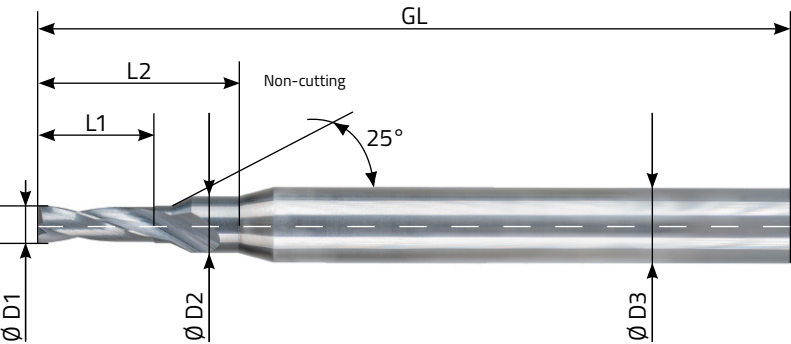
Recommended use Highly suitable Partially suitable Not recommended

Ø 1.0 mm - Ø 1.2 mm		Ø 1.2 mm - Ø 1.8 mm		Ø 1.8 mm - Ø 2.5 mm		Ø 2.5 mm - Ø 4.0 mm		Ø 4.0 mm - Ø 6.35 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
60-130	0.05- 0.066	60-130	0.122 - 0.128	60-130	0.130 - 0.182	60-140	0.128 - 0.232	60-160	0.150 - 0.280
60-120	0.05- 0.056	60-120	0.120 - 0.122	60-130	0.130 - 0.182	60-120	0.128 - 0.202	60-150	0.150 - 0.260
50-120	0.03 - 0.04	50-120	0.043 - 0.055	50-120	0.060 - 0.080	50-100	0.074 - 0.098	50-120	0.10 - 0.185
50-80	0.025 - 0.038	50-80	0.040 - 0.068	50-90	0.050 - 0.070	50-90	0.072 - 0.084	50-100	0.10 - 0.175
80-140	0.035 - 0.042	80-140	0.06 - 0.115	80-160	0.126 - 0.135	80-160	0.100 - 0.145	80-180	0.110 - 0.210
80-160	0.042 - 0.066	80-160	0.096 - 0.122	80-160	0.132 - 0.18	80-160	0.136 - 0.172	80-180	0.200 - 0.250
80-140	0.046 - 0.088	80-140	0.098 - 0.122	80-160	0.132 - 0.210	80-160	0.134 - 0.164	80-180	0.200 - 0.252
80-120	0.032 - 0.088	80-120	0.066 - 0.122	80-140	0.085 - 0.120	80-120	0.132 - 0.162	80-160	0.195 - 0.242
15 - 50	0.025 - 0.05	15 - 50	0.049 - 0.060	15 - 60	0.060 - 0.07	15 - 70	0.062 - 0.08	15 - 80	0.080 - 0.12
15 - 50	0.025 - 0.05	15 - 50	0.048 - 0.060	15 - 60	0.060 - 0.07	15 - 70	0.062 - 0.08	15 - 80	0.080 - 0.12
15 - 50	0.020 - 0.04	15 - 50	0.05 - 0.060	15 - 50	0.055 - 0.07	15 - 60	0.052 - 0.08	15 - 75	0.076 - 0.12
15-32	0.006 - 0.01	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.006 - 0.014	15-40	0.009 - 0.018
15-32	0.006 - 0.01	15-32	0.006 - 0.010	15-32	0.006 - 0.012	15-35	0.006 - 0.014	15-40	0.009 - 0.018

INOX Flatdrill 180°
3.5xD



TARGETDRILL INOX 180°
TD.I180.080.2800 ← L1: 2.80 mm
D1: Ø 0.80 mm



■ α-INOXcronos coated



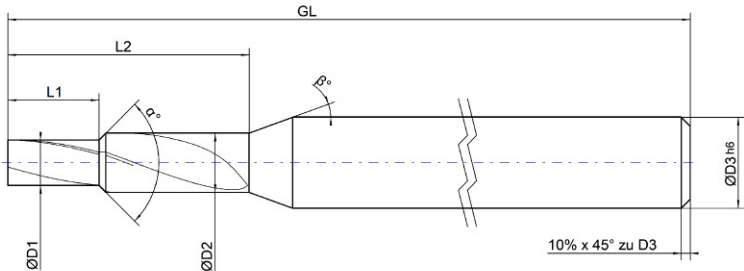
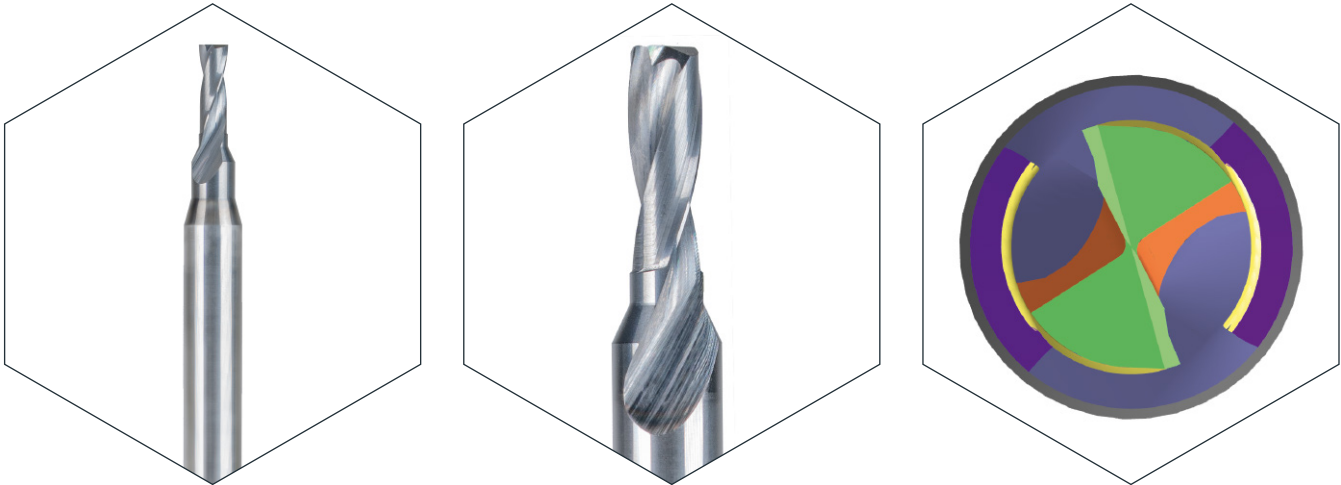
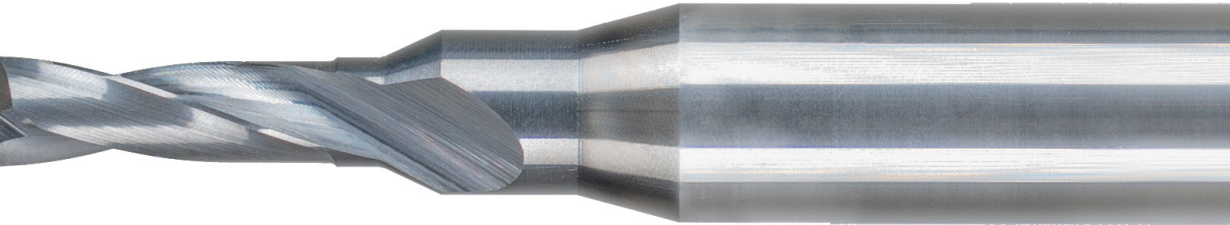
5 PRO's of the TARGETDRILL:

- High positioning accuracy
- Excellent price-performance ratio
- Can be used as short drill or pilot drill
- Drill on inclined, round or curved surfaces
- Spot facing is no longer necessary

Article number	D1 m5 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.I180.080.2800	Ø 0.80	Ø 1.70	Ø 4.00	2.80	6.00	40.00
TD.I180.085.3000	Ø 0.85	Ø 1.70	Ø 4.00	3.00	6.00	40.00
TD.I180.090.3200	Ø 0.90	Ø 1.80	Ø 4.00	3.20	6.30	40.00
TD.I180.095.3300	Ø 0.95	Ø 1.90	Ø 4.00	3.30	6.70	40.00
TD.I180.100.3500	Ø 1.00	Ø 2.00	Ø 4.00	3.50	7.00	40.00
TD.I180.105.3700	Ø 1.05	Ø 2.10	Ø 4.00	3.70	7.40	40.00
TD.I180.110.3900	Ø 1.10	Ø 2.20	Ø 4.00	3.90	7.70	40.00
TD.I180.115.4000	Ø 1.15	Ø 2.30	Ø 4.00	4.00	8.10	40.00
TD.I180.120.4200	Ø 1.20	Ø 2.40	Ø 4.00	4.20	8.40	40.00
TD.I180.125.4400	Ø 1.25	Ø 2.50	Ø 4.00	4.40	8.80	40.00
TD.I180.130.4600	Ø 1.30	Ø 2.60	Ø 4.00	4.60	9.10	40.00
TD.I180.135.4700	Ø 1.35	Ø 2.70	Ø 4.00	4.70	9.50	40.00
TD.I180.140.4900	Ø 1.40	Ø 2.80	Ø 4.00	4.90	9.80	40.00
TD.I180.145.5100	Ø 1.45	Ø 2.90	Ø 4.00	5.10	10.20	40.00
TD.I180.150.5300	Ø 1.50	Ø 3.00	Ø 4.00	5.30	10.50	40.00
TD.I180.155.5400	Ø 1.55	Ø 3.05	Ø 4.00	5.40	10.70	40.00
TD.I180.160.5600	Ø 1.60	Ø 3.10	Ø 4.00	5.60	10.90	40.00
TD.I180.165.5800	Ø 1.65	Ø 3.15	Ø 4.00	5.80	11.00	40.00
TD.I180.170.6000	Ø 1.70	Ø 3.20	Ø 4.00	6.00	11.20	40.00
TD.I180.175.6100	Ø 1.75	Ø 3.25	Ø 4.00	6.10	11.40	40.00
TD.I180.180.6300	Ø 1.80	Ø 3.30	Ø 4.00	6.30	11.60	40.00
TD.I180.185.6500	Ø 1.85	Ø 3.35	Ø 4.00	6.50	11.70	40.00
TD.I180.190.6700	Ø 1.90	Ø 3.40	Ø 4.00	6.70	11.90	40.00
TD.I180.195.6800	Ø 1.95	Ø 3.45	Ø 4.00	6.80	12.10	40.00
TD.I180.200.7000	Ø 2.00	Ø 3.50	Ø 6.00	7.00	12.30	50.00
TD.I180.205.7200	Ø 2.05	Ø 3.55	Ø 6.00	7.20	12.40	50.00
TD.I180.210.7400	Ø 2.10	Ø 3.60	Ø 6.00	7.40	12.60	50.00
TD.I180.215.7500	Ø 2.15	Ø 3.65	Ø 6.00	7.50	12.80	50.00
TD.I180.220.7700	Ø 2.20	Ø 3.70	Ø 6.00	7.70	13.00	50.00
TD.I180.225.7900	Ø 2.25	Ø 3.75	Ø 6.00	7.90	13.10	50.00
TD.I180.230.8100	Ø 2.30	Ø 3.80	Ø 6.00	8.10	13.30	50.00
TD.I180.235.8200	Ø 2.35	Ø 3.85	Ø 6.00	8.20	13.50	50.00
TD.I180.240.8400	Ø 2.40	Ø 3.90	Ø 6.00	8.40	13.70	50.00
TD.I180.245.8600	Ø 2.45	Ø 3.95	Ø 6.00	8.60	13.80	50.00
TD.I180.250.8800	Ø 2.50	Ø 4.00	Ø 6.00	8.80	14.00	50.00
TD.I180.255.8900	Ø 2.55	Ø 4.05	Ø 6.00	8.90	14.20	50.00
TD.I180.260.9100	Ø 2.60	Ø 4.10	Ø 6.00	9.10	14.40	50.00
TD.I180.265.9300	Ø 2.65	Ø 4.15	Ø 6.00	9.30	14.50	50.00
TD.I180.270.9400	Ø 2.70	Ø 4.20	Ø 6.00	9.40	14.70	50.00
TD.I180.275.9600	Ø 2.75	Ø 4.25	Ø 6.00	9.60	14.90	50.00
TD.I180.280.9800	Ø 2.80	Ø 4.30	Ø 6.00	9.80	15.10	50.00
TD.I180.285.10000	Ø 2.85	Ø 4.35	Ø 6.00	10.00	15.20	50.00
TD.I180.290.10100	Ø 2.90	Ø 4.40	Ø 6.00	10.10	15.40	50.00
TD.I180.295.10300	Ø 2.95	Ø 4.45	Ø 6.00	10.30	15.60	50.00

Article number	D1 m5 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	GL (mm)
TD.I180.300.10500	Ø 3.00	Ø 4.50	Ø 6.00	10.50	15.80	60.00
TD.I180.310.10900	Ø 3.10	Ø 4.60	Ø 6.00	10.90	16.10	60.00
TD.I180.320.11200	Ø 3.20	Ø 4.70	Ø 6.00	11.20	16.50	60.00
TD.I180.330.11600	Ø 3.30	Ø 4.80	Ø 6.00	11.60	16.80	60.00
TD.I180.340.11900	Ø 3.40	Ø 4.90	Ø 6.00	11.90	17.20	60.00
TD.I180.350.12300	Ø 3.50	Ø 5.00	Ø 6.00	12.30	17.50	60.00
TD.I180.360.12600	Ø 3.60	Ø 6.00	Ø 6.00	12.60	-	60.00
TD.I180.370.13000	Ø 3.70	Ø 6.00	Ø 6.00	13.00	-	60.00
TD.I180.380.13300	Ø 3.80	Ø 6.00	Ø 6.00	13.30	-	60.00
TD.I180.390.13700	Ø 3.90	Ø 6.00	Ø 6.00	13.70	-	60.00
TD.I180.400.14000	Ø 4.00	Ø 6.00	Ø 6.00	14.00	-	60.00
TD.I180.410.14400	Ø 4.10	Ø 6.00	Ø 6.00	14.40	-	60.00
TD.I180.420.14700	Ø 4.20	Ø 6.00	Ø 6.00	14.70	-	60.00
TD.I180.430.15100	Ø 4.30	Ø 6.00	Ø 6.00	15.10	-	60.00
TD.I180.440.15400	Ø 4.40	Ø 6.00	Ø 6.00	15.40	-	60.00
TD.I180.450.15800	Ø 4.50	Ø 6.00	Ø 6.00	15.80	-	60.00
TD.I180.460.16100	Ø 4.60	Ø 6.00	Ø 6.00	16.10	-	60.00
TD.I180.470.16500	Ø 4.70	Ø 6.00	Ø 6.00	16.50	-	60.00
TD.I180.480.16800	Ø 4.80	Ø 6.00	Ø 6.00	16.80	-	60.00
TD.I180.490.17200	Ø 4.90	Ø 6.00	Ø 6.00	17.20	-	60.00
TD.I180.500.17500	Ø 5.00	Ø 6.00	Ø 6.00	17.50	-	60.00
TD.I180.510.17900	Ø 5.10	Ø 8.00	Ø 8.00	17.90	-	70.00
TD.I180.520.18200	Ø 5.20	Ø 8.00	Ø 8.00	18.20	-	70.00
TD.I180.530.18600	Ø 5.30	Ø 8.00	Ø 8.00	18.60	-	70.00
TD.I180.540.18900	Ø 5.40	Ø 8.00	Ø 8.00	18.90	-	70.00
TD.I180.550.19300	Ø 5.50	Ø 8.00	Ø 8.00	19.30	-	70.00
TD.I180.560.19600	Ø 5.60	Ø 8.00	Ø 8.00	19.60	-	70.00
TD.I180.570.20000	Ø 5.70	Ø 8.00	Ø 8.00	20.00	-	70.00
TD.I180.580.20300	Ø 5.80	Ø 8.00	Ø 8.00	20.30	-	70.00
TD.I180.590.20700	Ø 5.90	Ø 8.00	Ø 8.00	20.70	-	70.00
TD.I180.600.21000	Ø 6.00	Ø 8.00	Ø 8.00	21.00	-	70.00

Available from stock



☐ Inquiry

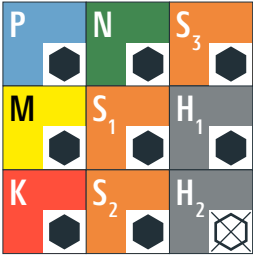
☐ Order

Order number: _____

Other: _____

Dimensions: D ₁ : _____ GL: _____ α: _____ D ₂ : _____ L ₁ : _____ β: _____ D ₃ : _____ L ₂ : _____ Z: _____	Coating: ☐ Coated*: _____ ☐ Uncoated	With cooling channels? ☐ Yes ☐ No Cutting direction: ☐ Left ☐ Right
Material to be machined: _____	Shank shape: _____	Quantity: _____
Date, signature & company stamp: _____		Contact person: _____

* Without further information, the most suitable coating will be used.

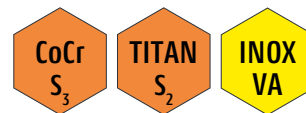


Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 60 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

Recommended use Highly suitable Partially suitable Not recommended

Ø 0.8 mm - Ø 1.0 mm		Ø 1.0 mm - Ø 1.5 mm		Ø 1.5 mm - Ø 2.0 mm		Ø 2.0 mm - Ø 3.0 mm		Ø 3.0 mm - Ø 4.0 mm		Ø 4.0 mm - Ø 6.0 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
80	0.008 - 0.012	80	0.013 - 0.015	80	0.022 - 0.028	80	0.030 - 0.032	100	0.028 - 0.032	100	0.040 - 0.08
60	0.008 - 0.012	60	0.012 - 0.014	60	0.020 - 0.022	70	0.028 - 0.030	70	0.028 - 0.042	70	0.03 - 0.040
50	0.007 - 0.010	50	0.013 - 0.015	50	0.013 - 0.015	60	0.010 - 0.020	60	0.014 - 0.018	60	0.035 - 0.045
50	0.004 - 0.006	50	0.010 - 0.012	50	0.010 - 0.012	50	0.010 - 0.020	50	0.012 - 0.014	50	0.035 - 0.045
80	0.007 - 0.01	80	0.01 - 0.015	80	0.01 - 0.015	80	0.026 - 0.030	80	0.03 - 0.045	80	0.045 - 0.06
120	0.010 - 0.018	120	0.015 - 0.02	120	0.016 - 0.022	140	0.032 - 0.04	140	0.036 - 0.042	140	0.036 - 0.05
80	0.012 - 0.018	80	0.018 - 0.020	80	0.018 - 0.022	80	0.032 - 0.04	80	0.034 - 0.044	80	0.036 - 0.05
80	0.010 - 0.016	80	0.016 - 0.02	80	0.016 - 0.022	80	0.032 - 0.04	80	0.032 - 0.042	80	0.036 - 0.05
40	0.006 - 0.008	40	0.007 - 0.01	40	0.009 - 0.010	40	0.010 - 0.012	40	0.012 - 0.016	40	0.014 - 0.018
40	0.006 - 0.008	40	0.007 - 0.01	40	0.018 - 0.020	40	0.010 - 0.012	40	0.012 - 0.018	40	0.014 - 0.018
20	0.002 - 0.004	20	0.007 - 0.01	20	0.009 - 0.010	20	0.010 - 0.012	25	0.012 - 0.018	25	0.014 - 0.018
20	0.002 - 0.004	20	0.003 - 0.004	20	0.003 - 0.005	20	0.003 - 0.007	20	0.009 - 0.014	20	0.004 - 0.018
no data available											

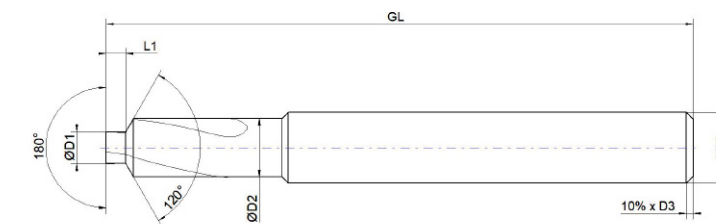
Torx® pilot drill dimensions according to ISO 10664



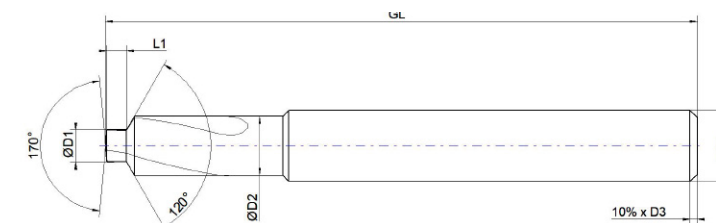
Internal Torx® pilot drill 180° or 170° or 140°							Point angle please tick		
Article number	Torx® Type	D1 0/- 0.008 [mm]	D2 (mm)	D3 h6 [mm]	L1 (mm)	GL (mm)	140°	170°	180°
AD.IT.4.090.056.XXX	T4	Ø 0.90	Ø 1.70	Ø 3.00	0.56	40.00	☐	☐	☐
AD.IT.5.100.072.XXX	T5	Ø 1.00	Ø 2.00	Ø 3.00	0.72	40.00	☐	☐	☐
AD.IT.5.100.059.XXX	T5	Ø 1.00	Ø 2.00	Ø 3.00	0.59	40.00	☐	☐	☐
AD.IT.6.120.088.XXX	T6	Ø 1.20	Ø 2.20	Ø 3.00	0.88	40.00	☐	☐	☐
AD.IT.6.120.067.XXX	T6	Ø 1.20	Ø 2.20	Ø 3.00	0.67	40.00	☐	☐	☐
AD.IT.7.140.083.XXX	T7	Ø 1.40	Ø 3.00	Ø 3.00	0.83	40.00	☐	☐	☐
AD.IT.7.140.079.XXX	T7	Ø 1.40	Ø 3.00	Ø 3.00	0.79	40.00	☐	☐	☐
AD.IT.8.160.115.XXX	T8	Ø 1.60	Ø 3.00	Ø 3.00	1.15	40.00	☐	☐	☐
AD.IT.8.160.081.XXX	T8	Ø 1.60	Ø 3.00	Ø 3.00	0.81	40.00	☐	☐	☐
AD.IT.10.190.113.XXX	T10	Ø 1.90	Ø 4.00	Ø 4.00	1.13	50.00	☐	☐	☐
AD.IT.15.230.142.XXX	T15	Ø 2.30	Ø 4.00	Ø 4.00	1.42	50.00	☐	☐	☐
AD.IT.20.270.170.XXX	T20	Ø 2.70	Ø 5.00	Ø 6.00	1.7	50.00	☐	☐	☐
AD.IT.25.310.236.XXX	T25	Ø 3.10	Ø 6.00	Ø 6.00	2.36	50.00	☐	☐	☐
AD.IT.30.380.293.XXX	T30	Ø 3.80	Ø 6.00	Ø 6.00	2.93	50.00	☐	☐	☐
AD.IT.30.380.245.XXX	T30	Ø 3.80	Ø 6.00	Ø 6.00	2.45	50.00	☐	☐	☐

Available in 2-4 weeks.

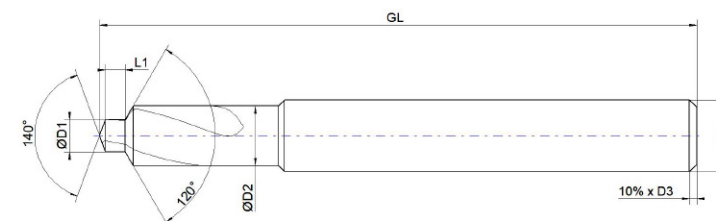
01 α-INOX coated for stainless steels ferritic, martensitic, austenitic & heat-resistant steels, titanium alloys, CrCo (M & S)



Drill point angle 180°

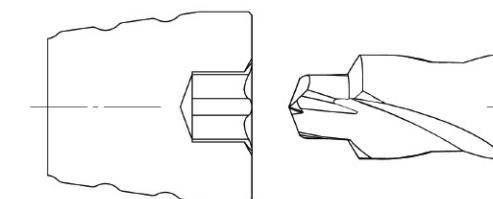


Drill point angle 170°

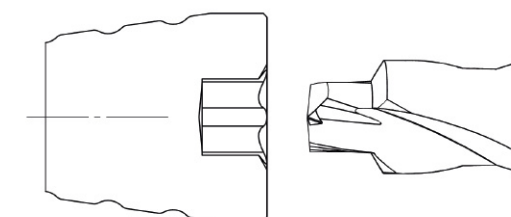


Drill bit point angle 140°

Pre-drilling the Torx® with 120° chamfer angle

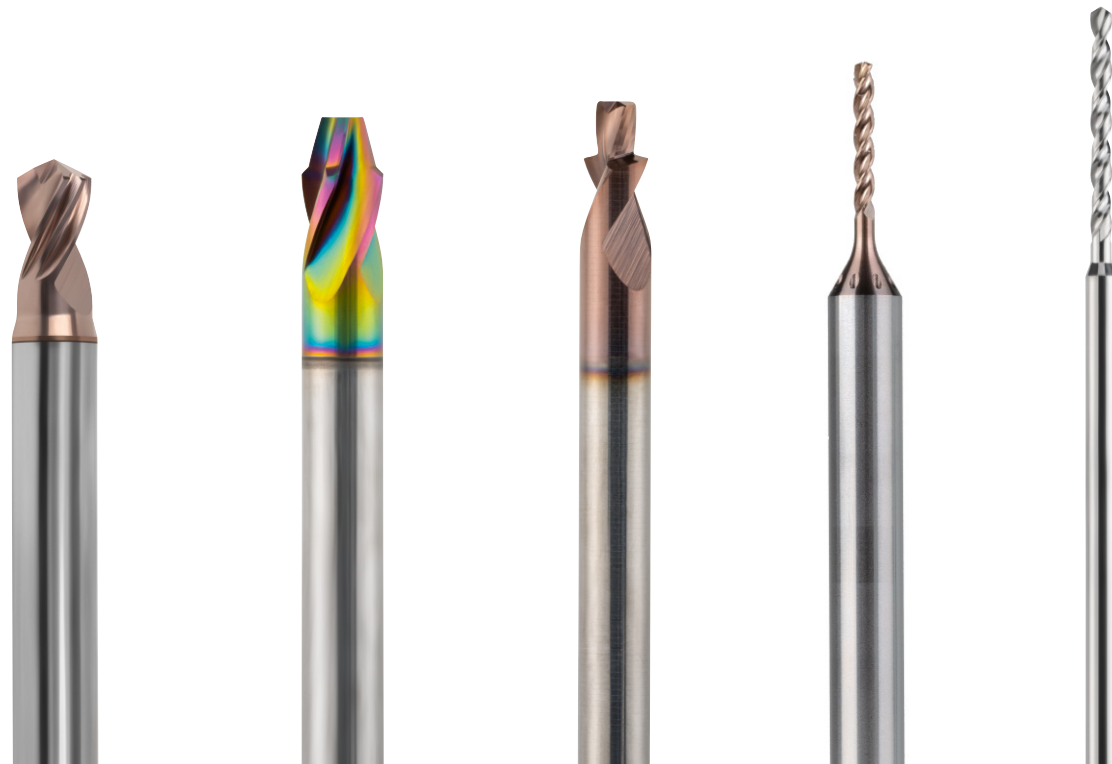


Point angle 140°



Point angle 180° or 170°

A 170° point angle allows up to 4x faster feed than a 180° point angle, if geometrically compatible.



Special tools

In addition to standard products, we work with our customers to realize special tool solutions for demanding processes and machining tasks.

Our customers benefit from our many years of machining experience and the lean structures of a medium-sized company. We are extremely flexible and can produce and deliver even individually developed tools within a very short time. Of course, we also optimize special tools already in use to customer specifications.

Our customers benefit from shorter machining and lead times, greater flexibility and reduced costs. Special tools help to produce complex geometries in a single machining step while optimizing accuracy on the component. With such tool concepts, we make a decisive contribution to helping our customers produce more economically and competitively. After all, it is not the cost of a tool but the cost per component that largely determines the total costs.

Our ability to develop trend-setting innovations is based on our competent and motivated specialists. They each take responsibility for developing a product and a machining process that leads to success. Our experts are very familiar with all conceivable machining technology processes. In cooperation with research and competence centers such as the Competence Center for Machining Production (KSF) in Tuttlingen, we continuously develop our know-how.

In cooperation with leading machine tool manufacturers, our specialists turn this into solutions for everyday production. We also continuously invest in state-of-the-art production technologies in order to manufacture future-oriented tools of the highest quality.

Manufacturing companies in numerous industries benefit from our high-performance tools, such as:

Automotive, watch and jewelry industry, aerospace, medical and dental technology, mechanical and apparatus engineering, tool and mold making, transport and conveyor technology, electrical and electronics, writing instruments, food industry, petrochemicals, valves and fittings, hydraulics and pneumatics, household appliances.



Contract manufacturing

As a specialist for cutting tools, we grind all types of cutting edges on instruments according to individual specifications as a contract manufacturer for medical technology. Our customers supply the hardened blanks and we grind them according to customer drawings and specifications.

Typical tools we grind

- Twist drills from Ø 1 mm to Ø 15 mm
- HSS drills from Ø 0.6 mm
- Medullary drills and medullary mills
- Trephine drills and trephine mills
- Saw teeth for e.g. knee saw blades and hip saw blades or saw blades for veterinary medicine
- Acetabular reamers
- Punch serrations
- Taps and thread cutters

- Oval and Round Burr Shaver
- Reamers for tibial surgery and endoscopic applications
- Rasps for the metacarpal area
- (Bi-)cortical screws

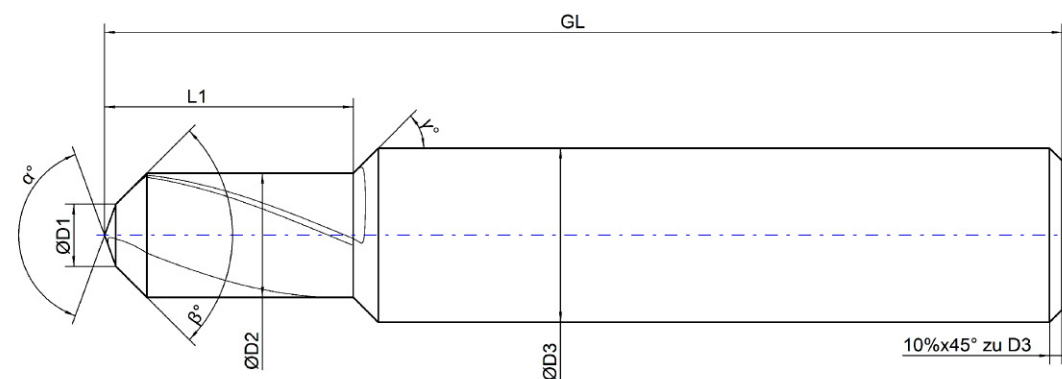
Contact our tool grinding shop directly:

Tel. +49 (0) 7461 1657280
Fax +49 (0) 7461 1657281
kontakt@hb-microtec.de

Special center drill

Centering with drill angle + chamfer

e.g., with 142° drill angle + 90° chamfer + internal cooling



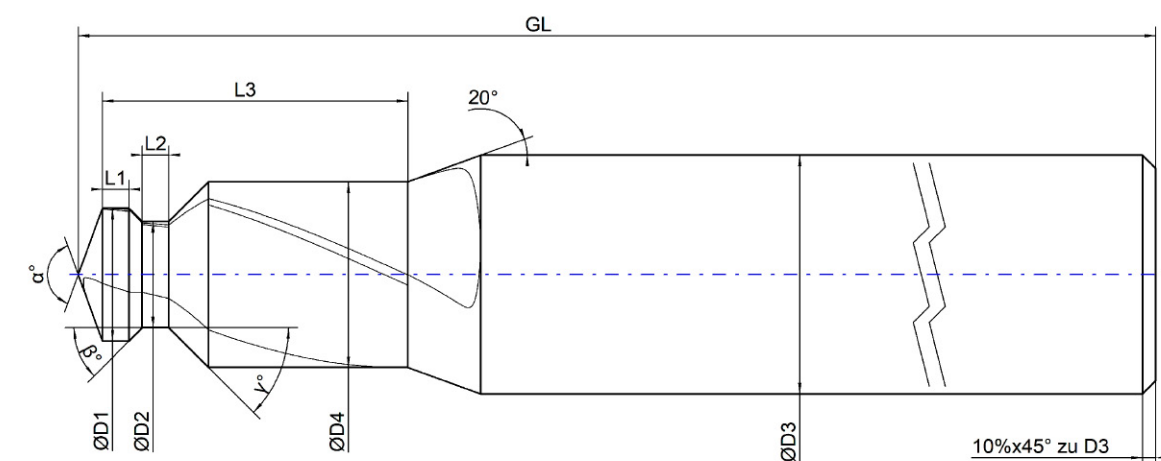
☐ Order Order number: _____ ☐ Inquiry

Dimensions: D ₁ : _____ GL: _____ α: _____ D ₂ : _____ L ₁ : _____ β: _____ D ₃ : _____ γ: _____ Z: _____	Coating: ☐ Coated*: _____ ☐ Uncoated	With cooling channels? ☐ Yes ☐ No Cutting direction: ☐ Left ☐ Right
Material to be machined: _____	Shank shape: _____	Quantity: _____
Date, signature & company stamp: _____		Contact person: _____

* Without further information, the most suitable coating will be used.

Special deburring drill

Centering + Drilling + Chamfering + Back chamfering



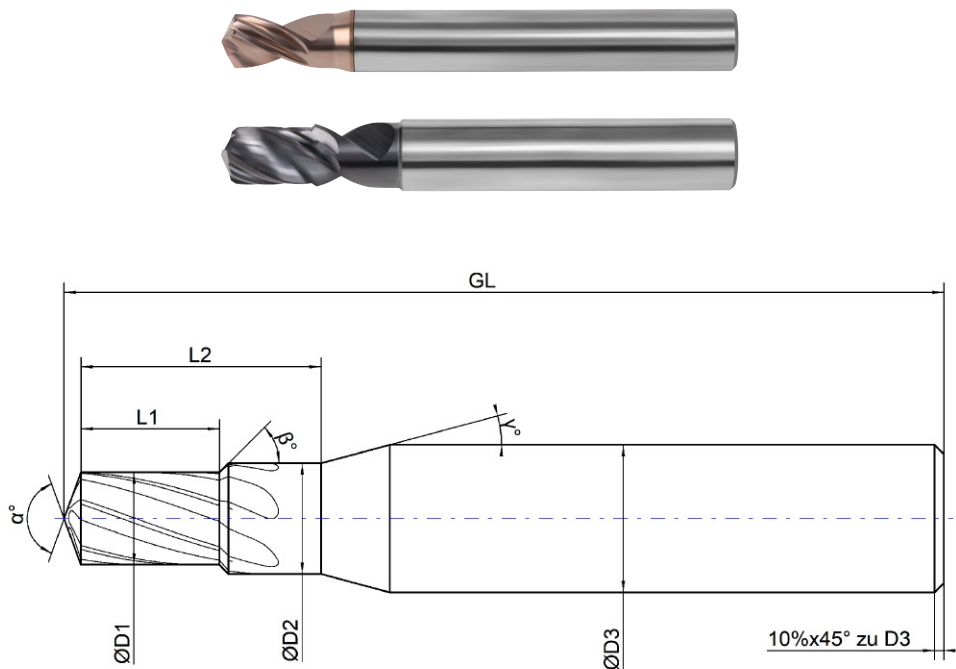
☐ Order Order number: _____ ☐ Inquiry

Dimensions: D ₁ : _____ GL: _____ α: _____ D ₂ : _____ L ₁ : _____ β: _____ D ₃ : _____ L ₂ : _____ γ: _____ D ₄ : _____ L ₃ : _____ Z: _____	Coating: ☐ Coated*: _____ ☐ Uncoated	With cooling channels? ☐ Yes ☐ No Cutting direction: ☐ Left ☐ Right
Material to be machined: _____	Shank shape: _____	Quantity: _____
Date, signature & company stamp: _____		Contact person: _____

* Without further information, the most suitable coating will be used.

Drill reamers

Centering + drilling + reaming + countersinking with one tool
*Possible from a drill diameter of just 2.0 mm!



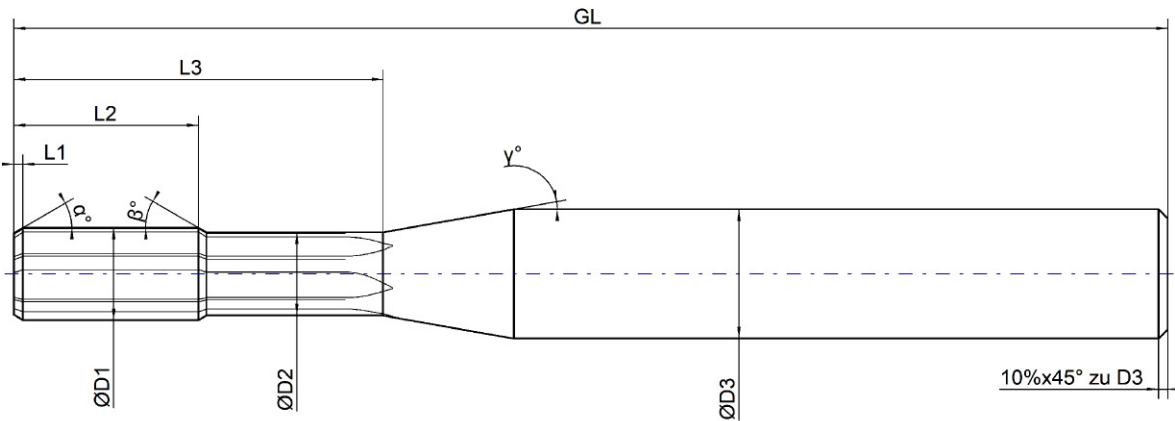
☐ Order Order number: _____ ☐ Inquiry

Dimensions: D ₁ : _____ GL: _____ α: _____ D ₂ : _____ L ₁ : _____ β: _____ D ₃ : _____ L ₂ : _____ γ: _____ Z: _____	Coating: ☐ Coated*: _____ ☐ Uncoated	With cooling channels? ☐ Yes ☐ No Cutting direction: ☐ Left ☐ Right
Material to be machined: _____	Shank shape: _____	Quantity: _____
Date, signature & company stamp: _____		Contact person: _____

* Without further information, the most suitable coating will be used.

Custom-ground special reamers

Individually designed reamers for perfect surfaces
and tolerances



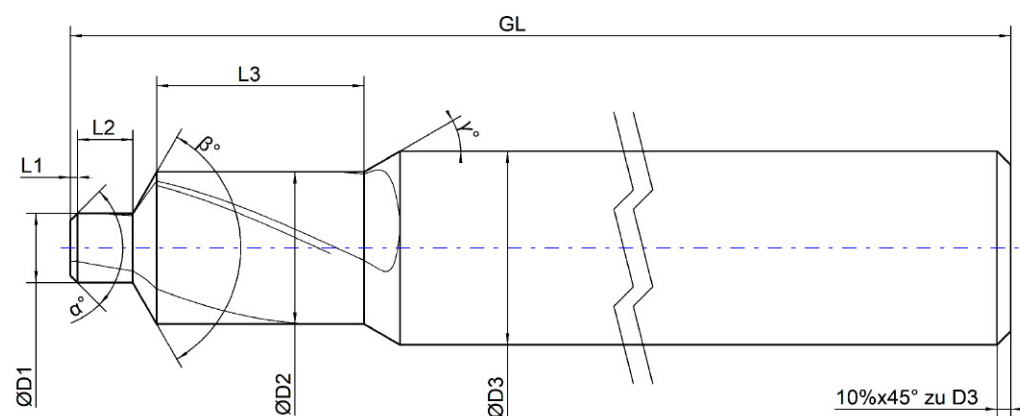
☐ Order Order number: _____ ☐ Inquiry

Dimensions: D ₁ : _____ GL: _____ α: _____ D ₂ : _____ L ₁ : _____ β: _____ D ₃ : _____ L ₂ : _____ γ: _____ L ₃ : _____ Z: _____	Coating: ☐ Coated*: _____ ☐ Uncoated	With cooling channels? ☐ Yes ☐ No Cutting direction: ☐ Left ☐ Right
Material to be machined: _____	Shank shape: _____	Quantity: _____
Date, signature & company stamp: _____		Contact person: _____

* Without further information, the most suitable coating will be used.

Piloted counterbore

Individually designed countersinks for optimal
„hole-chamfer-alignment“



☐ Order Order number: _____ ☐ Inquiry

Dimensions: D ₁ : _____ GL: _____ α: _____ D ₂ : _____ L ₁ : _____ β: _____ D ₃ : _____ L ₂ : _____ γ: _____ L ₃ : _____ Z: _____	Coating: ☐ Coated*: _____ ☐ Uncoated	With cooling channels? ☐ Yes ☐ No Cutting direction: ☐ Left ☐ Right
Material to be machined: _____	Shank shape: _____ Material: ☐ HM ☐ HSS	Quantity: _____
Date, signature & company stamp: _____		Contact person: _____

* Without further information, the most suitable coating will be used.

Setting gauges

with magnetic holder and adjustable



Application

The gauges are used to set the clamping lengths on CNC machines during tool change or setup with repeat accuracy. The gauge can be used both for drills and indexable insert holders.

With the help of the magnetic base, the gauge holds on the tool carrier and the operator has both hands free to align the holder or the union nut of the holder and to tighten it.

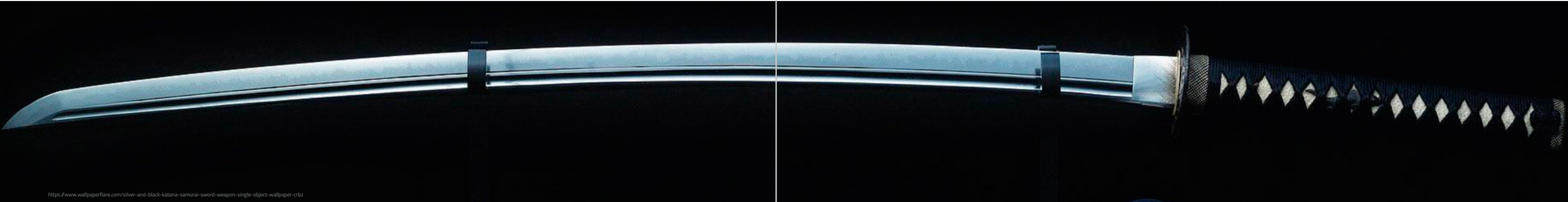


Description	Dimension	Color	Price
			€ / pc.
HM-(setting gauge-050)	25-45 mm	violet	53.14 €
HM-(setting gauge-070)	45-65 mm	blue	55.27 €
HM-(setting gauge-110)	55-95 mm	green	61.66 €
HM-(setting gauge-140)	95-135 mm	red	65.92 €
HM (setting gauge set)	25-135mm		211.94 €
Individual laser marking			5.33 €

■ Material: Aluminum, 3.2315

On request, the clamping gauges can be laser-marked individually according to your specifications.

Your used precision tool is in the best hands with us.



High-quality tools such as drills, countersinks, centering drills and reamers only perform perfectly if the cutting edges are always optimally sharpened. Where regrinding is possible, the price drops significantly for the second and third use of the cutting tools. No new raw material is required; only the cutting edges are resharpened and refined. With the HB microtec regrinding service, we ensure that cost efficiency is achieved through high-quality reconditioning of worn tool cutting edges.

We carry out precise regrinding on state-of-the-art CNC grinding machines. We increase the service life of our tools with a specially developed cutting edge preparation. All our standardized and special tools are reconditioned using the same machines, the same processes and the same coatings. We can offer this service for all our own and related (e.g. our partner manufacturers') cutting tools.

Our customers receive a transport-safe plastic box for shipping the tools to be reground, in which you can collect your worn tools. Then simply send us your tools for resharpening, or we will collect them from you by arrangement.

HB microtec expertise at a glance:

- Tool reconditioning to perfection
- Competent customer care and advice
- Everything from a single source: grinding, edge treatment and coating
- Original regrinding with the original geometry and coating of our own products
- Highest quality: 99% of the original HB microtec or partner tool
- Inspection report service for special tools
- Check for regrindability
- Short delivery time
- Best price guarantee - transparent pricing
- Pick-up and delivery service

Advantages that will convince you!

Would you like to learn more about our regrinding service for your tools?

Our experts will be happy to advise you.
Call +49 7461 1657280 or
Write to us at kontakt@hb-microtec.de



NEW SHARPNESS IN JUST 4 STEPS



CONTACT

Contact us if you have tools for regrinding.



RECEIVE BOX

You will receive your personal regrinding box for shuttle shipping.



PACK TOOLS

Pack the tools properly and send them to us.



TRANSPORT

We regrind your tools and send them back to you

ACTIONDRILL regrinding
99% like new!



Consulting and Service

We provide practical advice to our customers on the entire manufacturing process. In addition to selecting suitable drilling, turning, milling and deburring tools, this also covers machining strategies and programming.

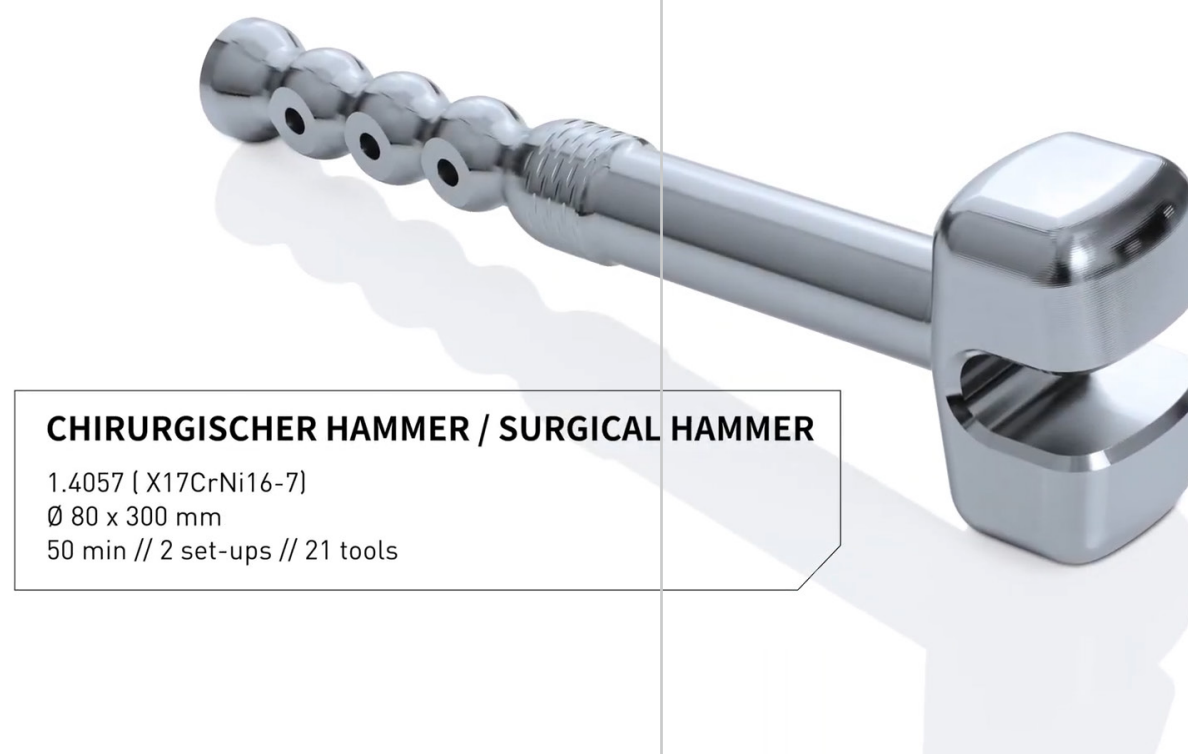
With our process-oriented and holistic solutions and our complete machining service, we are your ideal partner.

Our comprehensive services also make us a convincing OEM partner for machine tools.

Core competencies

- Comprehensive engineering
- Design of machining processes and cutting tools
- Concepts, project planning, design and manufacture of special tools
- Optimization of processes and machining strategies with the aim of process reliability, shorter run times and accuracy
- CNC and CAM programming (Solid CAM)
- Specialist seminars in turning, milling, drilling
- Fundamental technological tests for drilling, milling or turning
- Practical feasibility studies and tests
- Contract grinding and prototype manufacturing of medical technology tools

We support you with sound technical advice and assistance. Make use of our extensive know-how. We master every challenge with passion and find the right solution for every machining task!



CHIRURGISCHER HAMMER / SURGICAL HAMMER

1.4057 (X17CrNi16-7)
Ø 80 x 300 mm
50 min // 2 set-ups // 21 tools

Technical advice included in the price!

With our ACTIONTOOLS® and TARGETTOOLS®, you get more than just a "micro" tool catalog from us. Expert advice is in demand – and this is precisely where the tool specialists at HB microtec shine.

We have very broad machining knowledge and sound training in the use of your "ACTION" & "TARGET" tools on a wide variety of machine tool types. Whether CNC machining centers, single- or multi-spindle automatic lathes, short- and long-turning machines or transfer machines – we work with you to define the necessary requirements in order to create the best conditions for an optimal result.

For us, customer satisfaction means that the customer has not only received a good tool, but that everything is right in the end.

This includes not only a good price-performance ratio, but also competent technical advice when buying tools and on-site support when setting up and programming the machine.

Our advice starts with questions such as:

- Which material do you machine?
- Which coolant do you use?
- What is the maximum speed of your machine?
- Which machine tool types do you use?
- What are the kinematic conditions in the overall process? (Vibrations, strategy)
- Which programming system do you use? (Control? CAM?)
- Which clamping devices are used? (For the tool and the workpiece)
- Which tolerance range must the hole be in?
- Which batch size is to be machined?

Problem	Cause	Possible solutions
Bore is too large	■ Feed rate too high	■ Reduce feed rate
	■ Chip jam	■ Use suitable drill type
	■ Runout error of the drill used	■ Reduce runout error as far as possible
	■ Point grind is not correct	■ Check point grind for correctness
Bore is too small	■ Cutting speed too high	■ Reduce cutting speed
	■ Incorrect drill with too small diameter	■ Use suitable drill type
Burr at bore exit	■ Feed rate too high	■ Reduce feed rate
	■ Wear mark width exceeded	■ Replace or resharpen tools in good time
Cutting corner chipping	■ Vibrations, interrupted cuts, build-up cuts, carbide grade not tough enough	■ Use carbide grade with higher toughness
	■ Wrong drill	■ Use suitable drill type
	■ Unstable workpiece clamping	■ Check workpiece clamping
	■ Wear mark width exceeded	■ Replace or resharpen tools in good time
	■ Feed rate too high	■ Reduce feed rate
	■ Too much relief grinding	■ Check resharpening quality
Crack in the core	■ Impact on the chisel edge	■ Avoid impact on the chisel edge
	■ Point thinning too strong	■ Use suitable drill type
	■ Feed rate too high	■ Reduce feed rate
	■ Too little relief grinding	■ Check resharpening quality
Chisel edge wear	■ Cutting speed too low	■ Correct cutting speed
	■ Insufficient cooling lubricant supply	■ Ensure good cooling lubricant supply and pressure
	■ Incorrect cooling lubricant composition	■ Ensure correct cooling lubricant composition
	■ Feed rate too high	■ Reduce feed rate
Formation of built-up edges	■ Insufficient cooling lubricant supply	■ Ensure good cooling lubricant supply and pressure
	■ Incorrect cooling lubricant composition	■ Ensure correct cooling lubricant composition
	■ Cutting speed too low	■ Increase cutting speed
	■ Uncoated tool	■ Use coated tool
Poor surface quality of the hole	■ Built-up edge on the drill, margin wear	■ Increase feed rate
	■ Runout errors	■ Align drilling tools
Vibrations	■ Cutting speed too high	■ Reduce cutting speed
	■ Feed rate too low	■ Increase feed rate
	■ Unstable workpiece clamping	■ Ensure stable workpiece clamping
	■ Drill runout error too high	■ Align drilling tools
Flank wear	■ Cutting speed too high	■ Reduce cutting speed
	■ Feed rate too low	■ Increase feed rate
	■ Clearance angle too small	■ Increase clearance angle, Use suitable drill type
Corner wear	■ Cutting speed and feed rate do not match	■ Reduce speed to optimum
	■ Incorrect centering angle	■ Select a 2° -4° larger center point angle
Margin wear	■ Cutting speed too high	■ Reduce cutting speed
	■ Drill runout error too high	■ Align drilling tools
	■ Taper on the tool too small	■ Use suitable drill type
	■ Insufficient cooling lubricant supply	■ Ensure good cooling lubricant supply and pressure
	■ Incorrect cooling lubricant composition	■ Ensure correct cooling lubricant composition
Breakage of the flute outlet	■ Poor chip removal	■ Use suitable drill type
	■ Drill not stable in the chuck	■ Make sure the drill is seated in the chuck
Tool life too short	■ Incorrect cutting data	■ Ensure correct cutting data
	■ Unstable workpiece clamping	■ Ensure stable workpiece clamping
	■ Insufficient cooling lubricant supply	■ Ensure good cooling lubricant supply and pressure
	■ Incorrect cooling lubricant composition	■ Ensure correct cooling lubricant composition

Problem	Cause	Possible solutions
Diameter is too large	■ Cutting speed too high	■ Reduce cutting speed
	■ Feed rate too high	■ Reduce feed rate
	■ Insufficient cooling lubricant supply	■ Ensure good cooling lubricant supply and pressure
	■ Incorrect cooling lubricant composition	■ Ensure correct cooling lubricant composition
Diameter is too small	■ Cut too short or very uneven	■ Lengthen the lead or reduce the lead angle
	■ Tool or machine spindle runout not correct	■ Clamp or guide reamers centrally. Use floating holders
	■ Due to low density or flexible structure the material	■ Reduce reamer diameter
	■ Cutting speed too low	■ Increase cutting speed
	■ Feed rate too low	■ Increase feed rate
	■ Insufficient chip removal	■ Increase machining allowance
Heavy wear	■ Lead too long	■ Select a shorter lead
	■ Reamer with too small an allowance,	■ Use a suitable drill diameter
	■ Material has a high density or rigid structure	■ Increase reamer diameter
	■ Reaming allowance too small	■ Pre-drill smaller
Out-of-round or tapered bore	■ Excessive heat generation during reaming, hole contracts again	■ Use internally cooled tools
	■ Tool diameter too small	■ Use suitable reamer type
	■ Too little allowance	■ Use a larger pilot drill
	■ No correct fit in the machine spindle	■ Check spindle and correct fit
Bad surface quality	■ Misalignment between tool and bore	■ Align tools
	■ Asymmetrical lead angle	■ Use suitable lead angle
	■ Clearance angle too large	■ Reduce clearance angle when regrinding
	■ Out-of-round lead	■ Grind lead evenly sharp and round
	■ Insufficient guidance	■ Guide more precisely or use guide reamers
	■ Worn tool	■ Replace or resharpen tool in good time
Tool jams and breaks	■ Cutting speed too low	■ Increase cutting speed
	■ Feed rate too low	■ Increase feed rate
	■ Workpiece tends to stick (built-up edge)	■ Increase clearance angle and rake angle, use low-viscosity
	■ Cutting edge outlet is sharp-edged	■ Round off and smooth cutting edge run-out
	■ Insufficient cooling lubricant supply	■ Ensure good cooling lubricant supply and pressure
	■ Incorrect cooling lubricant composition	■ Ensure correct cooling lubricant composition
	■ Cutting edges are unevenly engaged	■ Align tools
	■ Pre-bore too narrow	■ Pre-bore larger
Chatter marks in the hole	■ Chamfer width too large	■ Use suitable reamer type
	■ Neck length is too short	■ Check tool, replace if necessary
	■ Worn tool	■ Replace or regrind tool in good time
	■ Cutting speed too high	■ Reduce cutting speed
	■ Feed rate too low	■ Increase feed rate
	■ Chip removal too low or uneven	■ Pre-bore larger
	■ Concentricity not correct	■ Align tools
Chatter marks in the hole	■ Insufficient guidance	■ Use guide reamers or pendulum holders
	■ Tool or workpiece clamping not stable	■ Clamp firmly, ensure sufficient stability
	■ Clearance angle too large	■ Reduce the clearance angle at the lead

Description	Formula	Legend
Speed	$n = \frac{V_c \cdot 1000}{D \cdot n}$ [1/min]	D = Cutting diameter f = Feed per revolution fz= Feed per flute n = Speed Vc = Cutting speed vf = Feed rate z = Number of flutes T = Main machining time for maximum drilling depth [sec] L = Effective drilling depth Q = Metal removal rate
Cutting speed	$V_c = \frac{D \cdot n \cdot n}{1000}$ [m/min]	
Feed per flute	$f_z = \frac{f}{z} = \frac{V_f}{z \cdot n}$ [mm/U]	
Feed per revolution	$f = f_z \cdot n$ [mm/U]	
Feed rate	$V_f = f_z \cdot z \cdot n$ [mm/min]	
Main machining time	$T = \frac{L}{V_f} \cdot 60$ [sec]	
Metal removal rate	$Q = \frac{D^2 \cdot n \cdot V_f}{4 \cdot 1000}$ [cm³ / min]	

Description	Formula	Legend
ONLY FOR DRILLING WITHOUT PILOTING		D = Outside diameter Fc = Cutting force Fcz= Cutting force per tooth Md = Torque Pa = Drive power Pc = Cutting power ap = Cutting depth b = Chip width d = Inside diameter D1max = maximum Outer diameter f = Feed rate fz = Feed per flute fB = Drilling process factor [1] fSE = Countersinking process factor [1] h = Chip thickness kc = Specific cutting force [1.2] vc = Cutting speed z = Number of flutes
Cutting force per tooth	$F_{cz} = \frac{D}{2} * f_z * k_c * f_B$ [N]	
Cutting power	$P_c = \frac{F_{cz} * V_c}{60000}$ [kg*m² / s³]	
Torque	$M_d = \frac{F_{cz} * z * \frac{D}{4}}{1000}$ [N*m]	
ONLY FOR DRILLING WITH PILOT HOLE AND COUNTERBORING		
Cutting force per tooth	$F_{cz} = \frac{(D-d)}{2} * f_z * k_c * f_B$ [N]	
Cutting power	$P_c = \frac{F_{cz} * V_c * (1 + \frac{d}{D})}{60000}$ [kg*m² / s³]	
Torque	$M_d = \frac{F_{cz} * z * (D+d)}{4000}$ [kg*m² / s²]	

Description	Formula	Legend
Speed	$n = \frac{V_c \cdot 1000}{D \cdot n}$ [1/min]	D =Mill diameter
Cutting speed	$V_c = \frac{D \cdot n \cdot n}{1000}$ [m/min]	Dc=Cutting diameter
Feed per flute	$f_z = \frac{f}{z} = \frac{V_f}{z \cdot n}$ [mm/U]	ae=Radial cutting width
Feed per revolution	$f = f_z \cdot n$ [mm/U]	ap=Axial cutting depth
Feed rate	$V_f = f_z \cdot z \cdot n$ [mm/min]	fz=Feed per flute
Chip removal rate	$Q = \frac{a_p \cdot a_e \cdot V_f}{1000} \frac{[cm^3]}{[min]}$	z =Number of teeth
Mean chip thickness (face & shoulder milling) wenn 1)	$h_m = f_z \sqrt{\frac{a_e}{D_c}} = mm$	n =Revolutions per min.
Drive power	$Pa = \frac{a_p \cdot a_e \cdot V_f \cdot k_c}{60 \cdot 10^6 \cdot \eta_{mt}} = KW$	De=Effective cutting diameter
Mean chip thickness (wenn .1)	$h_m = \frac{\sin k_r \cdot 180 \cdot a_e \cdot f_z}{\pi \cdot D_c \cdot \arcsin(\frac{a_e}{D_c})} = mm$	Vc=Cutting speed
Machining time	$T_c = \frac{l}{V_f} = min$	Q=Metal removal rate
Conversions between systems	1 [mm]= .0394 [inch] 1 [m/min]= 3.28 [SFM]	l=Working length
		Vf=Feed speed
		hm=Mean chip thickness
		kr=Approach angle
		Pa=Cutting speed
		kc= Specific cutting force
		ηmt= Efficiency
		Tc= Machining time

Application notes for the deep hole drilling process

HB microtec recommends the following drilling strategy:

Steps	Sketch	Description
Pilot drill (2-3xD)		
1		- Pilot hole = 2xD or 3xD - For example: ACTIONDRILL® INOX-Pilot or INOX170-Pilot
Deep hole drill (e.g. 18xD)		
2		- The pilot hole must be free of chips before the deep hole drill enters! - Insert the deep hole drill into the hole at max. 500 1/min and vf=1000 mm/min - Without coolant up to approx. 1 mm before the bottom of the pilot hole
Deep hole drill (e.g. 18xD)		
3		- The coolant can be switched on - Start drilling with reduced speed and feed rate to approx. 5xD - To do this, reduce the cutting and feed rates to 40% of the cutting data recommended by HB microtec
Deep hole drill (e.g. 18xD)		
4		- The speed and feed rate can now be increased to the recommended cutting data - Drilling without feed interruption down to the desired drilling depth (e.g. 18xD) - The drill must stay engaged – drill without “retracting” or “steps”!
Deep hole drill (e.g. 18xD)		
5		- Reverse the deep hole drill with the following parameters: - vf = 1000 mm/min - up to approx. 2xD before the hole exit (position as in step 2)
Deep hole drill (e.g. 18xD)		
6		- Switch off the coolant - Reduce the speed to max. 300 1/min - Move the deep hole drill out of the hole

SAFETY NOTE

Deep hole drills from 12xD may only rotate outside the hole at a maximum speed of 500 1/min.

ATTENTION!

Higher speeds can cause the deep hole drills to vibrate and lead to tool breakage.

e.g. pilot drill INOX-3xD-Pilot cooled Ø 2.0 k6; 142° point angle

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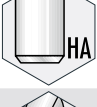
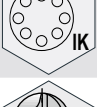
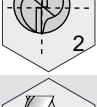
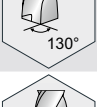
e.g. deep hole drill INOX-18xD cooled Ø 2.0 k5; 130° point angle

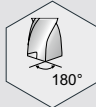
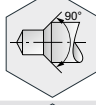
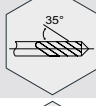
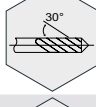
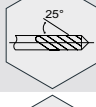
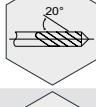
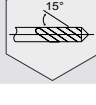
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Rm [N/mm²]	HV 10	HB	HRC
240	75	71	-
255	80	76	-
270	85	81	-
285	90	86	-
305	95	90	-
320	100	95	-
335	105	100	-
350	110	105	-
370	115	109	-
385	120	114	-
400	125	119	-
415	130	124	-
430	135	128	-
450	140	133	-
465	145	138	-
480	150	143	-
495	155	147	-
510	160	152	-
530	165	157	-
545	170	162	-
560	175	166	-
575	180	171	-
595	185	176	-
610	190	181	-
625	195	185	-
640	200	190	-
660	205	195	-
675	210	199	-
690	215	204	-
705	220	209	-
720	225	214	-
740	230	219	-
755	235	223	-
770	240	228	-
785	245	233	-
800	250	238	22
820	255	242	23
835	260	247	24
860	268	255	25
870	272	258	26
900	280	266	27

Rm [N/mm²]	HV 10	HB	HRC
920	287	273	28
940	293	278	29
970	302	287	30
995	310	295	31
1020	317	301	32
1050	327	311	33
1080	336	319	34
1110	345	328	35
1140	355	337	36
1170	364	346	37
1200	373	354	38
1230	382	363	39
1260	392	372	40
1300	403	383	41
1330	413	393	42
1360	423	402	43
1400	434	413	44
1440	446	424	45
1480	458	435	46
1530	473	449	47
1570	484	460	48
1620	497	472	49
1680	514	488	50
1730	527	501	51
1790	544	517	52
1845	560	532	53
1910	578	549	54
1980	596	567	55
2050	615	584	56
2140	639	607	57
-	655	622	58
-	675	-	59
-	698	-	60
-	720	-	61
-	745	-	62
-	773	-	63
-	800	-	64
-	829	-	65
-	864	-	66
-	900	-	67
-	940	-	68

Number	Icon	Description
1		Material: Steel
2		Material: Titanium
3		Material: INOX
4		Material: Cast iron
5		Material: Plastic
6		Non-ferrous metals Non-ferrous metal
7		Design according to HB microtec factory standard Works standard HB microtec
8		Shank form HA Shank design HA
9		Without internal cooling Without internal cooling
10		With internal cooling With internal cooling
11		Integrated cooling With integrated cooling
12		Flutes 2 (number of cutting edges) Cutting edges 2
13		Point angle 130° Point angle 130°
14		Point angle 140° Point angle 140°

Number	Icon	Description
15		Point angle 180° (flat drill) Point angle 180° (Flatdrill)
16		Point angle 170° Point angle 170°
17		Point angle 118° Point angle 118°
18		Step angle 90° Step angle 90°
19		Helix angle 35° Helix angle 35°
20		Helix angle 30° Helix angle 30°
21		Helix angle 25° Helix angle 25°
22		Helix angle 20° Helix angle 20°
23		Helix angle 15° Helix angle 15°

Why HB microtec?

"Install and ACTION!"

Because this is exactly what the worry-free cutting tools of the ACTIONDRILL[®] range make possible! Or tools from the TARGETDRILL[®] range that hit the target precisely!

High performance down to the last µm!

This way, the cost-benefit factor is perfectly tailored to you. Demanding and innovative high-performance drills of the highest quality require continuity not only in production, but from the entire HB microtec Team!

Repeatable!

This covers the entire process chain, from geometry development and design to the pre-treatment of the cutting edges, coating and finishing of the surfaces right through to the quality assurance of our ACTIONDRILL[®] and TARGETDRILL[®], as well as ACTIONMILL[®] and TARGETMILL[®] tools.



What to expect from the entire HB microtec team:

- Innovative specialists in "micro" machining
- State-of-the-art manufacturing equipment and measuring instruments, enabling production in the micron range
- Motivation and passion for challenges
- Repeated precision in the µm range
- Practical service: the HB microtec team accompanies and supports you in all phases and throughout the entire life cycle of your product
- High tool performance and high service competence
- Ideas for customer-specific solutions, e.g. combination tools that often replace a number of individual tools and shorten machining time
- The highest possible standards of product quality
- Securing your series tools and traceability (ISO 9001 certified)



We love challenges!

Put us to the test and send us your requirements today!
At HB microtec, we love challenges – and the more special they are, the clearer it becomes that we can deliver the unique features you are looking for.

Call +49 7461 1657280 or
Write to us at kontakt@hb-microtec.de

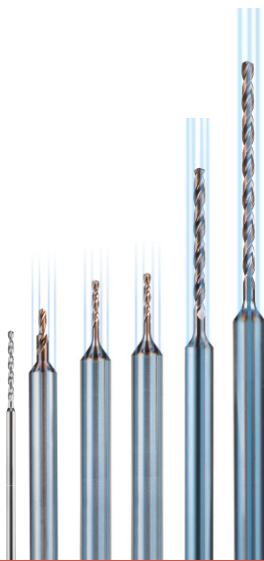


ACTIONDRILL[®]
by HB microtec

TARGETDRILL[®]
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ACTIONTOOLS®
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TARGETTOOLS®
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HB microtec®
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