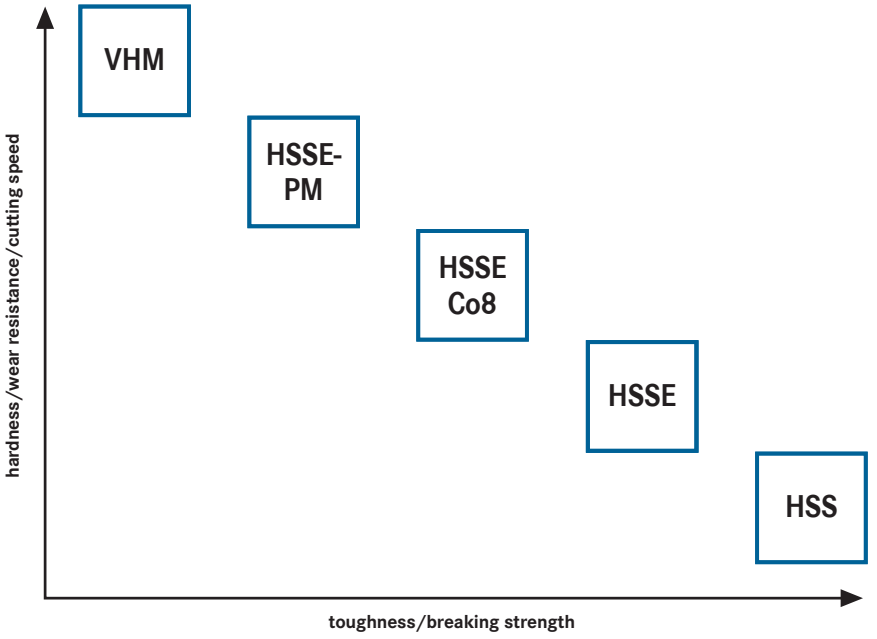
drilling tools cutting materials



Solid carbide
- Very high hardness
- Cutting material for application up to 65 HRC
- Very high cutting speed
- High precision

HSSE-PM high-speed steel powder metal
- Cutting material for applications up to 1300 N/mm^2
- Medium to high cutting speeds
- Highly elastic

HSSE Co8 high-speed steel
- Cutting material for applications up to 1300 N/mm^2
- Medium to high cutting speeds
- approx. 8% cobalt content
- Extremely high elasticity

HSSE high-speed steel
- Cutting material for applications up to 1300 N/mm^2
- Low to medium cutting speeds
- Approx. 5% cobalt content
- Extremely high elasticity

HSS high-speed steel
- Cutting material for applications up to 1000 N/mm^2
- Low cutting speeds
- Low alloy content
- Extremely high elasticity

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

drilling tools coatings

titanium nitride

TiN

- universal layer for machining ferrous metals and steel materials
- very high cutting speed, high level of precision
- high level of hardness and adhesion
- good resistance to chemicals
- low edge rounding
- good temperature resistance in air
- relatively low thermal conductivity
- titanium nitride has a low level of reactivity toward ferrous metals. tool wear through galling is therefore significantly reduced.

technical data:

- Vickers hardness: 2200-2300 HV
- friction coefficient: 0.5
- temperature resistance: 500-600°
- colour: gold
- coating process: PVD

titanium aluminium nitride

TiAlN

- universal layer for high-performance machining with high cutting speed
- marked thermal and chemical stability
- dry machining
- very high hardness
- very good heat resistance
- relatively low thermal conductivity

technical data:

- Vickers hardness: 3200 HV
- friction coefficient of steel: 0.55
- temperature resistance: 900-1000°
- colour: dark blue-grey
- coating process: PVD

TiNAlOX

TiNAlOX

- universal layer for high-performance machining with high cutting speed
- can be classed as a multi-range coating as it can be used in a wide range of applications from steel machining, to machining of stainless steels right through to cast iron machining with a high level of success
- extremely smooth
- thermally and chemically very stable
- very high hardness
- very good heat resistance
- relatively low thermal conductivity

technical data:

- Vickers hardness: 3500 HV
- friction coefficient of steel: 0.5
- temperature resistance: 1000–1100°
- colour: violet-blue
- coating process: PVD

TiAlN Plus

TiAlN plus

- universal layer for high-performance machining of steels and cast iron
- wear-resistant multi-layer coating
- extremely smooth
- marked thermal and chemical stability
- very high hardness
- good heat resistance

technical data:

- Vickers hardness: 3300 HV
- friction coefficient of steel: 0.6
- temperature resistance: 800°
- colour: grey-violet
- coating process: PVD

ULTRA M

ULTRA M

- special layer for high-performance machining of stainless steel and steel
- wear-resistant multi-layer material
- extremely smooth
- marked thermal and chemical stability
- very high hardness
- very good heat resistance

technical data:

- Vickers hardness: 3400 HV
- friction coefficient of steel: 0.55
- temperature resistance: 900°
- colour: grey-violet
- coating process: PVD

CC

CC

- special coating for high-performance machining of non-ferrous metals
- thanks to the low affinity for non-ferrous metals, built-up edges are a thing of the past
- high level of hardness makes CC extremely resistant to abrasion
- sharp cutting
- low affinity to non-ferrous metals
- extremely smooth
- thermally and chemically very stable
- very high hardness
- very good heat resistance

technical data:

- Vickers hardness: 4000 HV
- friction coefficient of steel: 0.55
- temperature resistance: 900°
- colour: silver
- coating process: PVD

drilling tools geometries

HPC UNI

grinding/geometry:
- tip angle 140°
- 2-surface grinding
- spiral angle 30°
- 2 drill heels on 3xD and 5xD
- 4 drill heels on 8xD and 12xD
- dia. tolerance h7 or m7

advantages:
- these geometries are specially developed for universal use
- the various coatings with cutting edge preparation prevents micro-breakouts on the blades, thereby increasing their service life

---

HPC VA

grinding/geometry:
- tip angle 140°
- for HPC drilling in the material groups stainless steel, titanium, nickel and special alloys
- 2-surface grinding
- spiral angle 30°
- 2 drill heels
- dia. tolerance h7

advantages:
- specially developed geometry for machining stainless steel, titanium, nickel alloys and special alloys
- Ultra M coating with cutting edge preparation prevents micro-breakouts on the blades, thereby increasing the service life

---

HPC ALU

grinding/geometry:
- for HPC drilling in non-ferrous metals
- tip angle 135°
- spiral angle 15°
- 6 drill heels
- dia. tolerance h7

advantages:
- specialised use with long service life in non-ferrous metals such as aluminium, brass, bronze and cast iron
- 6 drill heels ensure even at very high cutting speeds for a drilling accuracy
- latest ALU-CC coating technology with superior form-fitting properties of the blade ensures sharp cutting edges and excellent sliding behaviour as well as optimum chip removal even at high cutting speeds

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Typ U4

grinding/geometry:
- tip angle: 118°
- spiral angle: 38°
- precision-ground 4-surface grinding
- optimised point thinning similar to cross grinding
- straight main cutter

cutting material:
- HSSE: HSS steel with 5% cobalt alloy with greater hot hardness for increased loads

advantages:
- suitable for a wide range of applications thanks to the universal geometry design
- high level of process reliability through precision grinding
- extremely good centring properties thanks to the 4-surface grinding with point thinning results similar to cross-grinding (no centring required)
- low process forces (feeding force and torque) through optimised flute profile
- extremely precise, dimensionally accurate drilling in terms of the diameter and the roundness through smooth geometry design

---

Typ **N**

grinding/geometry:

- tip angle: 118°
- spiral angle 30°
- cone polished section

cutting material:

- Universal HSS steel cutting material, for alloyed and unalloyed steels up to 1000 N/mm², steel casting, cast iron and iron alloys

Benefits:

- Suitable for a wide range of applications thanks to the universal geometry design
- Minimises tool costs
- Can be put to flexible use on both conventional and CNC machines, even in unstable conditions
- Low hardness, resulting in a high breaking strength

Typ **TLP**

Grinding/geometry:

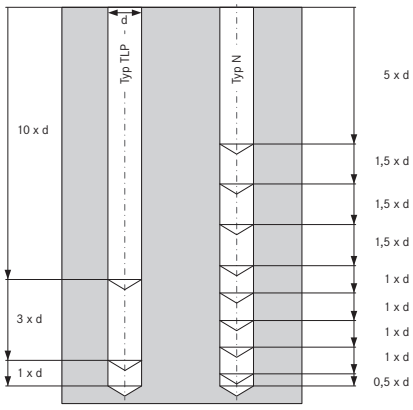
- cone polished section 130°
- spiral angle 38°
- point thinning type A

cutting material:

- Universal HSS steel cutting material, for alloyed and unalloyed steels up to 1000 N/mm², steel casting, cast iron and iron alloys
- HSSE: HSS steel with 5% cobalt alloy with greater hot hardness for increased loads up to 1300 N/mm²

Benefits:

- optimised flute profile for drilling deep holes in unfavourable conditions, such as insufficient cooling and poor chip removal
- depths of up to 25XD can be achieved
- special geometry for drilling long-chipping materials
- deep hole profile for optimising chip removal at greater drilling depths without the need for venting
- extremely good chip removal thanks to the size of the chipping space



Typ **NV**

grinding/geometry:

- spiral angle: 20°
- cross grinding: 135°
- point thinning ≥ 1.0 mm

cutting material:

- HSSE Co8%-alloyed steel for increased hot hardness

advantages:

- robust drill geometry for high alloy, high-strength materials from 700 N/mm²
- reinforced core
- for use on conventional and CNC machines

Typ VA

grinding/geometry:

- cone polished section 130°
- spiral angle 35°
- point thinning type C
- increased core diameter

cutting material:

- HSSE: HSS steel with 5% cobalt alloy with greater hot hardness for increased loads up to 1300 N/mm²

advantages:

- positive geometry specially developed for use in stainless steel and special alloys
- special geometry with aggressive cutter design and free geometry for very smooth cutting

---

Typ X

grinding/geometry:

- tip angle 130°
- precision-ground cone polished section + combination of point thinning types A/B
- cutting angle adjustment through type B point thinning element, ensuring a strong, stable cutting edge
- straight main cutter

cutting material:

- HSSE-PM steel offers highest level of wear resistance through powder-metallurgical steel
- extremely dense, homogeneous structure
- increased hardness and heat resistance
- high level of wear resistance and cutting edge stability

advantages:

- highest level of wear resistance and heat resistance through HSSE-PM cutting material and TiN coating
- economic drill that closes the gap between a standard HSS drill and a VHM drill for medium-strength materials and moderate batch sizes
- high cutting edge stability and robust drill design thanks to cone polished section with type A/B point thinning and optimised parabolic flute profile
- high process reliability thanks to the homogeneous structure of the HSSE-PM steel

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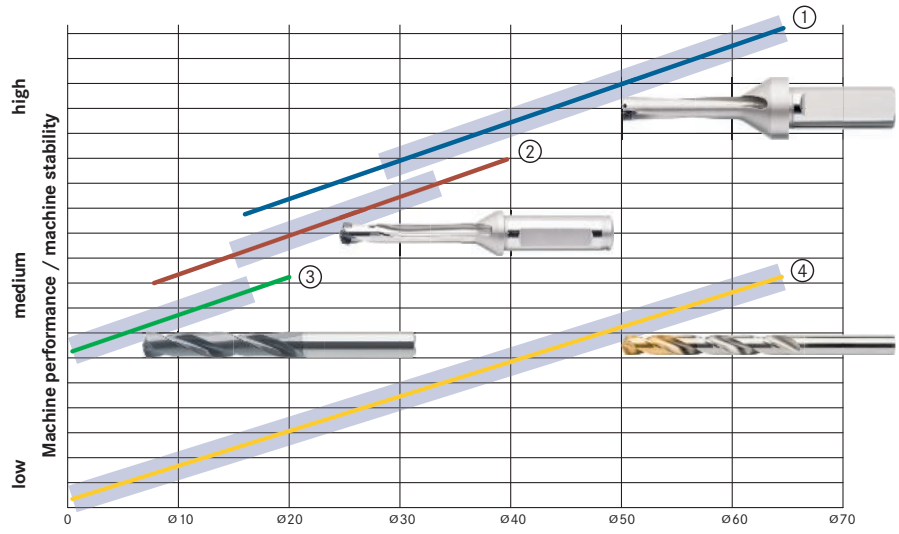
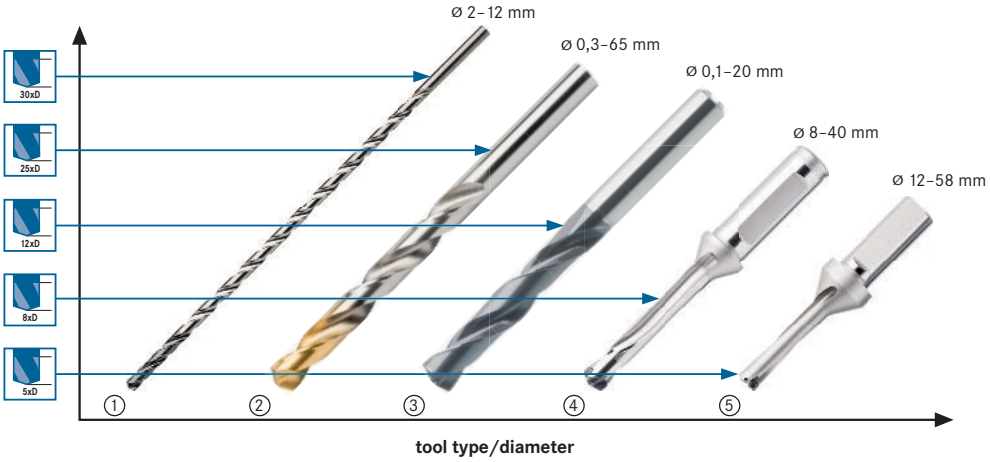
economical range of different drill technologies



① indexable insert drill
② indexable insert drill
③ SC HPC drill
④ HSS/HSSE drill

= efficiency range depending on the diameter

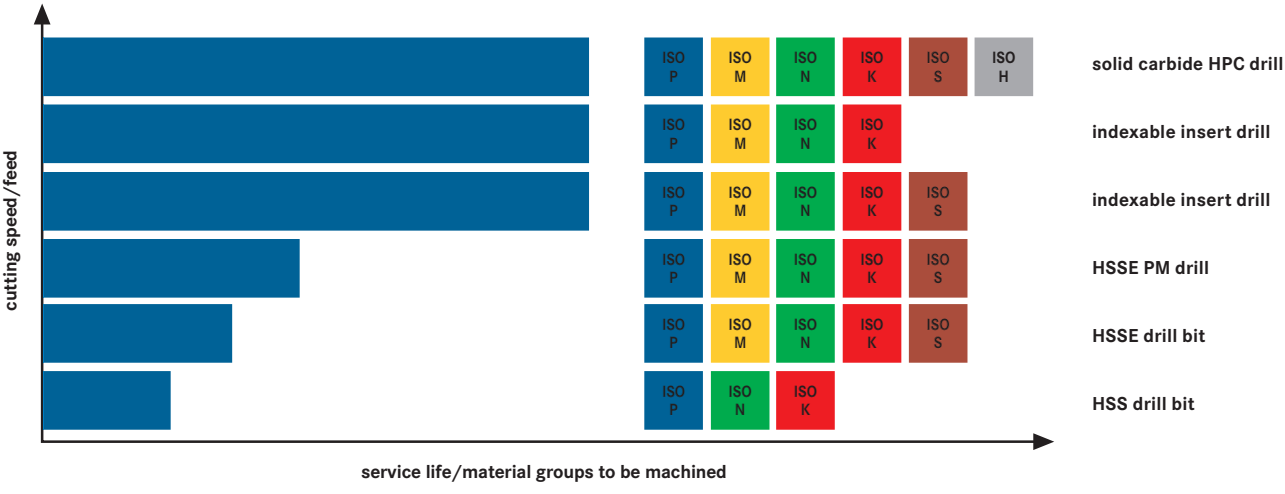
tool type selection according to length and diameter



selection of small to medium-sized drill bit diameters
four different drill technologies are available for selection according to diameter and borehole depth.

① SC HPC deep hole drill
② HSS/HSSE drill
③ SC HPC drill
④ indexable insert drill
⑤ indexable insert drill

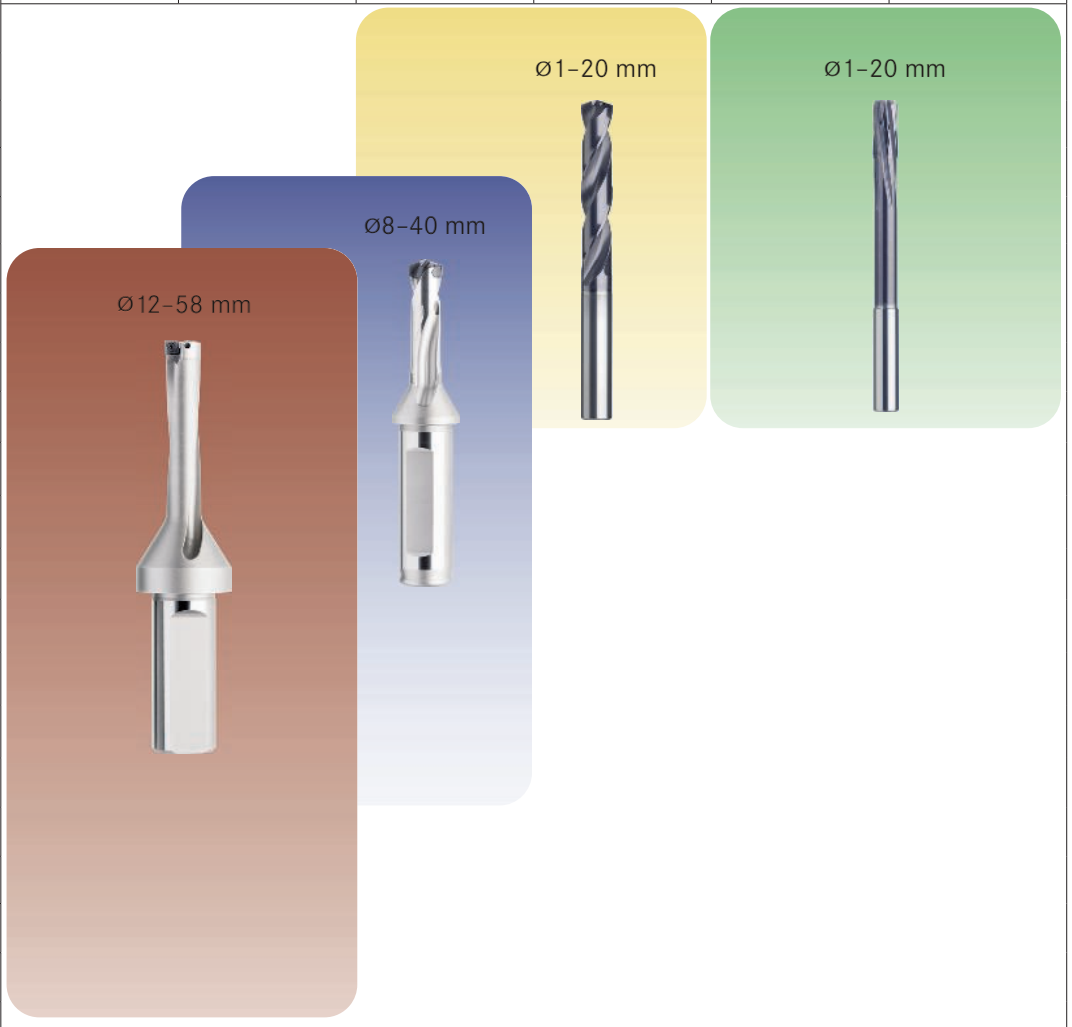
cutting speed/service life/material group diagram



Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

bore types and surfaces

	machining type	rough machining		medium finishing		smoothing	
	hole quality	IT11	IT10	IT9	IT8	IT7	IT6
solid drilling/reaming	bore ø						
	1 mm						
	3 mm						
	6 mm						
	9 mm						
	12 mm						
	15 mm						
	18 mm						
	21 mm						
	24 mm						
	27 mm						
	30 mm						
	33 mm						
	36 mm						
	39 mm						
	42 mm						
	45 mm						
	48 mm						
	51 mm						
	54 mm						
	57 mm						
	60 mm						
	63 mm						
	66 mm						
	69 mm						



Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Clamping device recommendation for SC drills

	Standard collet chucks	precision collet chuck	Shrink-fit chucks	Hydro-expansion chucks	Surface chuck
					
Holding torques	◎	◎	◎	◎	●
concentricity	◎	◎	●	●	○
Vibration-reducing	◎	◎	○	●	○
Speed/balancing quality	◎	●	●	●	○
internal cooling	Yes	Yes	Yes	Yes	Yes
Overall rating	**Well-suited**	**Highly suitable**	**Highly suitable**	**Highly suitable**	**limited suitability**

● = very well suited ◎ = suitable ○ = limited suitability

Clamp method recommendation for HSS/HSSE/HSSE-PM drill

	Standard collet chucks	Precision collet chucks	Drill chucks
			
Holding torques	◎	◎	◎
Concentricity	◎	●	◎
Vibration-reducing	●	●	○
Speed/balancing quality	●	●	◎
Overall rating	**Well suited**	**Very well suited**	**Well suited**

● = Very well suited ◎ = Suited ○ = Limited suitability

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

high-performance drill solid carbide TiAlN Plus range
for universal use up to 1300 N/mm²

application:
for HPC bore machining up to a strength of 1300 N/mm²

advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly-developed geometry combined with a drilling-specific multi-layer coating ensures a significantly longer service life
- cutting edge finishing reduces micro-fractures and increases the service life
- very extensive range from Ø1.00 mm – Ø20.00 mm in 3xD–12xD
- core hole dimensions available for thread tapping and thread forming
- 3xD + 5xD with and without internal coolant supply




TiAlN plus

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11102010-212	1.0-20.0 mm	Internal	HA parallel shank	3xD	●	●	●	○	●	○			22-23
11102204-400	3.0-20.0 mm	Internal	HB parallel shank	3xD	●	●	●	○	●	○			22-23
11104010-212	1.0-20.0 mm	External	HA parallel shank	3xD	●	●	●	○	●	○			23-24
11104230-400	3.0-20.0 mm	External	HB parallel shank	3xD	●	●	●	○	●	○			23-24
11105010-218	1.0-20.0 mm	Internal	HA parallel shank	5xD	●	●	●	○	●	○			24-25
11105230-400	3.0-20.0 mm	Internal	HB parallel shank	5xD	●	●	●	○	●	○			24-25
11108030-200	3.0-20.0 mm	Internal	HA parallel shank	8xD	●	●	●	○	●	○			26
11110030-200	3.0-20.0 mm	Internal	HA parallel shank	12xD	●	●	●	○	●	○			27

high-performance solid carbide TiNAlOX drills
For universal use up to a hardness of 63 HRC

Application:
For HPC boring up to 63 HRC.
advantage:
- Universal application up to a hardness of 63 HRC
- Latest coating technology: Unique, extremely hard, low-friction, temperature-resistant and form-fitting TiNAlOX coating ensures extra service life and added process stability.
- Cutting edge preparation minimises micro-fractures on the cutter




TiNAlOX

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11183	3.0-20.0 mm	External	HB parallel shank	3xD	●	●	●	○	●	○	●		29-30
11184	3.0-20.0 mm	Internal	HB parallel shank	3xD	●	●	●	○	●	○	●		28-29
11188	3.0-20.0 mm	Internal	HB parallel shank	5xD	●	●	●	○	●	○	●		30-31

Solid carbide TiAlN high-performance drill range

Application:
For HPC boring up to a strength of 1300 N/mm².
advantage:

- universal high-performance tool with excellent price-performance ratio
- wide range of 3xD to 12xD
- 3xD + 5xD with and without internal coolant supply




TiAlN

HPC UNI

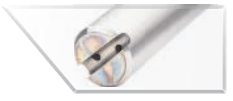
	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11173	3.0-20.0 mm	External	HB parallel shank	3xD	●	●	○	○	●	○			32-33
11174	3.0-20.0 mm	Internal	HB parallel shank	3xD	●	●	○	○	●	○			31-32
11176230-403	3.0-20.0 mm	External	HB parallel shank	5xD	●	●	○	○	●	○			34-35
11177	1.0-20.0 mm	Internal	HA parallel shank	5xD	●	●	○	○	●	○			33-34
11177	1.0-20.0 mm	Internal	HB parallel shank	5xD	●	●	○	○	●	○			33-34
11178	3.0-16.0 mm	Internal	HB parallel shank	8xD	●	●	○	○	●	○			35-36
11179230-360	3.0-16.0 mm	Internal	HB parallel shank	12xD	●	●	○	○	●	○			36

Ultra M solid carbide high-performance drill range

Application:
For HPC boring in the stainless steel, titanium, nickel and special alloy material groups.
advantage:

- special HPC cutter geometry: innovative cutter geometry with extremely smooth cutting blade and very high service life
- latest coating technology: newly developed form-fitting ULTRA M coating for extra service life and added process stability
- cutting edge preparation minimises micro-fractures on the cutter



ULTRA M

HPC VA

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11142030-601	3.0-20.0 mm	Internal	HA parallel shank	3xD			●			●			37-38
11142204-603	3.0-20.0 mm	Internal	HB parallel shank	3xD			●			●			37-38
11147030-203	3.0-20.0 mm	Internal	HA parallel shank	5xD			●			●			38-39
11147204-400	3.0-20.0 mm	Internal	HB parallel shank	5xD			●			●			38-39

Solid carbide ALU CC high-performance drill range

Application:
For HPC boring in the non-ferrous metals and cast iron material groups in series production.
advantage:

- innovative cutting geometry with 15° twist angle ensures optimum chip removal
- 6 drill heels ensure drilling accuracy even at high cutting speeds
- latest ALU-CC coating technology with superior form-fitting properties of the blade ensures sharp cutting edges and excellent good sliding behaviour as well as optimal chip removal




CC

HPC ALU

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11158	2.5-20.0 mm	Internal	HA parallel shank	5xD				○	●				39-40
11159	2.5-20.0 mm	Internal	HA parallel shank	8xD				○	●				40

high-performance drill, solid carbide TiAlSiN HPC 3xD
for hard machining up to 65 HRC

application:

for HPC boring up to 65HRC

advantage:

- high centring accuracy
- special coating for drilling hardened steels up to 65 HRC
- extremely hard, low-friction and temperature-resistant TiASiN coating for longer service life
- reinforced core with special tip and cutting chisel edge



TiAlSiN

HPC HART

high-performance deep-hole drill range – 16-30XD

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².
advantage:

- angle and diameter are co-ordinated across the whole range
- very good all-round properties and precise cutting behaviour with high cutting rates
- very good chip removal and chip control through by polished chipping space
- state-of-the-art coating technology ensures a long service life in the series
- high boring precision thanks to newly developed drill heels
- cutting edge preparation minimises micro-fractures on the cutter
- available in 40xD and 50xD on request




TiAlN

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11181202-442	2.02-12.02 mm	Internal	HA parallel shank	5xD	●	●	○	○	●	○			41-42
11179430-520	3.0-12.0 mm	Internal	HA parallel shank	16xD	●	●	●	○	●	○			42
11181020-120	2.0-12.0 mm	Internal	HA parallel shank	20xD	●	●	●	○	●	○			43
11189230-320	3.0-12.0 mm	Internal	HA parallel shank	25xD	●	●	○	○	●	○			43-44
11182	2.0-12.0 mm	Internal	HA parallel shank	30xD	●	●	○	○	●	○			44

high-performance solid carbide micro drill

Application:
For HPC micro boring up to a strength of 1300 N/mm².

advantage:
- extremely hard, low-friction, temperature resistant and conforming coating ensures an increased service life
- high-quality solid carbide cutting material and cutting edge preparation minimise breakouts on the blade
- diameter of 0.10 mm to 3.00 mm
- uncoated variant for non-ferrous metals




TiAlN

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11137010-300	0.1-3.0 mm	External	HA parallel shank	5xD	●	●	●	○	●	●			45
11137310-600	0.1-3.0 mm	External	HA parallel shank	5xD	○	○	○	●	○	○			45

high-performance drill 180° solid carbide TiAlN

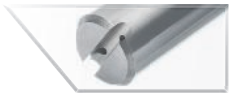





applications:
for producing drill holes with 180° base of bore hole.

advantages:
- spot drilling on inclined surfaces
- spot drilling on convex surfaces
- spot drilling despite centre waste
- spot drilling in existing drill holes
- drilling through cross holes



TiAlN

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11168201-400	3.0-20.0 mm	Internal	HA parallel shank	5xD	●	●		○	●			46

Solid carbide TiAlN high-performance drill reamer range

Application:

For producing clearance bore holes up to a strength of 1300 N/mm².

advantage:
- drilling and reaming in one work step, ensures high profitability
- innovative cutting geometry with 6 drill heels ensures high bore hole quality
- long service life owing to high-quality cutting material and coating




H7

TiAlN

HPC

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	K		page
11175380-446	3.98-20.0 mm	Internal	HA parallel shank	5xD	●	●	●		47

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Solid carbide TiNALOX high-performance clearance drill

Application:

HPC special geometry for producing clearance bore holes in H7 quality.

advantage:

- high boring precision owing to 4 drill heels even at high cutting speeds
- innovative coating technology ensures increased service life



H7 | TiNAlOX | HPC UNI

	Ø	Kühlung	Schaft	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11176	3.0-20.0 mm	Internal	HA parallel shank	5xD	●	●	●	○	●	○		-

solid carbide drill 3-blade

Application:
for precise position and shape drilling into the main body.
advantage:

- special geometry with 3 cutting edges: innovative cutting geometry for precise position and shape drilling into the main body without centring
- universal application: wide range of cemented carbide qualities and geometries for wide-ranging applications, therefore longer service life and high process stability



TiN | Z 3

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11164	3.0-10.2 mm	External	HA parallel shank	5xD	○	○	○	○	○			47-48
11166	3.0-10.2 mm	External	HA parallel shank	5xD	○	○			○			47-48
11167	3.0-10.2 mm	External	HA parallel shank	5xD	○	○	○	○	○			47-48

Twist drill, solid carbide, TYPE N range

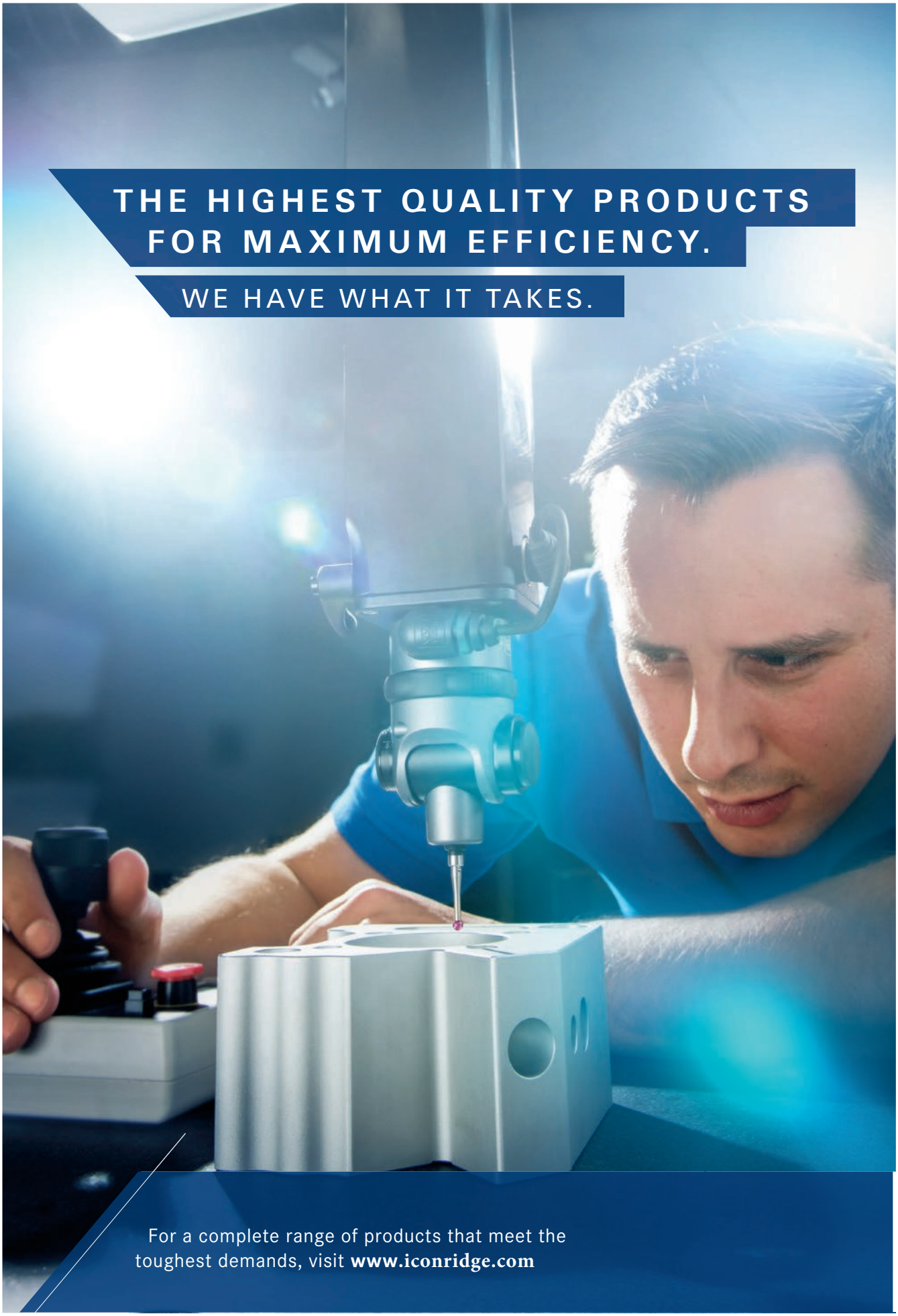
Application:
Standard geometry for use up to a strength of 1300 N/mm².
advantage:

- excellent all-round properties and precise cutting behaviour in a wide range of materials
- universal application: minimises tool costs and improves flexibility
- high-quality cutting material and cutting edge preparation minimise micro-fractures on the cutter



Typ N | TiAlN

	Ø	Max. drilling depth (D)	Coolant supply	Tool holding device	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11150	0.5-16.0 mm	3xD	External	HA parallel shank	●	●	○	●	●	○		48-49
11153	0.5-16.0 mm	3xD	External	HA parallel shank	●	●	○	●	●	○		48-49
11155	1.0-13.0 mm	5xD	External	HA parallel shank	●	●	○	●	●	○		49-50
11157	1.0-13.0 mm	5xD	External	HA parallel shank	●	●	○	●	●	○		49-50



Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

high-performance drill solid carbide TiAlN Plus range
for universal use up to 1300 N/mm²

application:
for HPC bore machining up to a strength of 1300 N/mm²

advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly-developed geometry combined with a drilling-specific multi-layer coating ensures a significantly longer service life
- cutting edge finishing reduces micro-fractures and increases the service life
- very extensive range from Ø1.00 mm – Ø20.00 mm in 3xD–12xD
- core hole dimensions available for thread tapping and thread forming
- 3xD + 5xD with and without internal coolant supply




TiAlN plus | HPC UNI

ATORN® high-performance drill, solid carbide TiAlN plus HPC 3xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 3xD | HPC UNI | 140° | IK | HA | HB

HIGHLIGHT

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill

Advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life


Ident. No. 010–203, 207–211


Ident. No. 204–206, 230–400

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11102010-212	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		
11102204-400	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11102... Ident. No.		11102... Ident. No.	
1.0	4	7	45	0.025	010	●	-	-
1.1	4	7	45	0.025	011	●	-	-
1.2	4	7	45	0.025	012	●	-	-
1.3	4	7	45	0.025	013	●	-	-
1.4	4	7	45	0.025	014	●	-	-
1.5	4	14	55	0.033	015	●	-	-
1.6	4	14	55	0.033	016	●	-	-
1.7	4	14	55	0.033	017	●	-	-
1.8	4	14	55	0.033	018	●	-	-
1.9	4	14	55	0.033	019	●	-	-
2.0	4	20	55	0.045	020	●	-	-
2.1	4	20	55	0.045	021	●	-	-
2.2	4	20	55	0.045	022	●	-	-
2.3	4	20	55	0.045	023	●	-	-
2.4	4	20	55	0.045	024	●	-	-
2.5	4	20	55	0.045	025	●	-	-
2.6	4	20	55	0.045	026	●	-	-
2.7	4	20	55	0.045	027	●	-	-
2.8	4	20	55	0.045	028	●	-	-
2.9	4	20	55	0.045	029	●	-	-
3.0	6	20	62	0.16	030	●	230	●
3.1	6	20	62	0.16	031	●	231	●
3.2	6	20	62	0.16	032	●	232	●
3.25	6	20	62	0.16	201	●	204	●
3.3	6	20	62	0.16	033	●	233	●
3.4	6	20	62	0.16	034	●	234	●
3.5	6	20	62	0.16	035	●	235	●
3.6	6	20	62	0.16	036	●	236	●
3.7	6	20	62	0.16	037	●	237	●
3.8	6	24	66	0.16	038	●	238	●
3.9	6	24	66	0.16	039	●	239	●
4.0	6	24	66	0.16	040	●	240	●
4.1	6	24	66	0.16	041	●	241	●
4.2	6	24	66	0.16	042	●	242	●
4.3	6	24	66	0.16	043	●	243	●
4.4	6	24	66	0.16	044	●	244	●
4.5	6	24	66	0.16	045	●	245	●
4.6	6	24	66	0.16	046	●	246	●
4.65	6	24	66	0.16	202	●	205	●
4.7	6	24	66	0.16	047	●	247	●
4.8	6	28	66	0.16	048	●	248	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11102... Ident. No.		11102... Ident. No.	
4.9	6	28	66	0.16	049	●	249	●
5.0	6	28	66	0.16	050	●	250	●
5.1	6	28	66	0.16	051	●	251	●
5.2	6	28	66	0.16	052	●	252	●
5.3	6	28	66	0.16	053	●	253	●
5.4	6	28	66	0.16	054	●	254	●
5.5	6	28	66	0.16	055	●	255	●
5.55	6	28	66	0.16	203	●	206	●
5.6	6	28	66	0.16	056	●	256	●
5.65	6	28	66	0.16	207	●	-	-
5.7	6	28	66	0.16	057	●	257	●
5.8	6	28	66	0.16	058	●	258	●
5.9	6	28	66	0.21	059	●	259	●
6.0	6	28	66	0.21	060	●	260	●
6.1	8	34	79	0.21	061	●	261	●
6.2	8	34	79	0.21	062	●	262	●
6.3	8	34	79	0.21	063	●	263	●
6.4	8	34	79	0.21	064	●	264	●
6.5	8	34	79	0.21	065	●	265	●
6.6	8	34	79	0.21	066	●	266	●
6.7	8	34	79	0.21	067	●	267	●
6.8	8	34	79	0.21	068	●	268	●
6.9	8	34	79	0.21	069	●	269	●
7.0	8	34	79	0.21	070	●	270	●
7.1	8	41	79	0.21	071	●	271	●
7.2	8	41	79	0.21	072	●	272	●
7.3	8	41	79	0.21	073	●	273	●
7.4	8	41	79	0.21	074	●	274	●
7.5	8	41	79	0.21	075	●	275	●
7.55	8	41	79	0.21	209	●	-	-
7.6	8	41	79	0.21	076	●	276	●
7.65	8	41	79	0.21	211	●	-	-
7.7	8	41	79	0.21	077	●	277	●
7.8	8	41	79	0.21	078	●	278	●
7.9	8	41	79	0.21	079	●	279	●
8.0	8	41	79	0.21	080	●	280	●
8.1	10	47	89	0.21	081	●	281	●
8.2	10	47	89	0.21	082	●	282	●
8.3	10	47	89	0.21	083	●	283	●
8.4	10	47	89	0.21	084	●	284	●
8.5	10	47	89	0.21	085	●	285	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11102... Ident. No.		11102... Ident. No.	
8.6	10	47	89	0.21	086	●	286	●
8.7	10	47	89	0.21	087	●	287	●
8.8	10	47	89	0.21	088	●	288	●
8.9	10	47	89	0.21	089	●	289	●
9.0	10	47	89	0.21	090	●	290	●
9.1	10	47	89	0.21	091	●	291	●
9.2	10	47	89	0.21	092	●	292	●
9.3	10	47	89	0.21	093	●	293	●
9.4	10	47	89	0.21	094	●	294	●
9.5	10	47	89	0.21	095	●	295	●
9.6	10	47	89	0.21	096	●	296	●
9.7	10	47	89	0.21	097	●	297	●
9.8	10	47	89	0.21	098	●	298	●
9.9	10	47	89	0.21	099	●	299	●
10.0	10	47	89	0.28	100	●	300	●
10.1	12	55	102	0.28	101	●	301	●
10.2	12	55	102	0.28	102	●	302	●
10.3	12	55	102	0.28	103	●	303	●
10.4	12	55	102	0.28	104	●	304	●
10.5	12	55	102	0.28	105	●	305	●
10.6	12	55	102	0.28	106	●	306	●
10.7	12	55	102	0.28	107	●	307	●
10.8	12	55	102	0.28	108	●	308	●
10.9	12	55	102	0.28	109	●	309	●
11.0	12	55	102	0.28	110	●	310	●
11.1	12	55	102	0.28	111	●	311	●
11.2	12	55	102	0.28	112	●	312	●
11.3	12	55	102	0.28	113	●	313	●
11.4	12	55	102	0.28	114	●	314	●
11.5	12	55	102	0.28	115	●	315	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11102... Ident. No.		11102... Ident. No.	
11.6	12	55	102	0.28	116	●	316	●
11.7	12	55	102	0.28	117	●	317	●
11.8	12	55	102	0.28	118	●	318	●
11.9	12	55	102	0.28	119	●	319	●
12.0	12	55	102	0.33	120	●	320	●
12.2	14	60	107	0.33	-	-	322	●
12.5	14	60	107	0.33	125	●	325	●
12.8	14	60	107	0.33	128	●	328	●
13.0	14	60	107	0.33	130	●	330	●
13.5	14	60	107	0.33	135	●	335	●
13.8	14	60	107	0.33	138	●	338	●
14.0	14	60	107	0.33	140	●	340	●
14.2	16	65	115	0.33	142	●	342	●
14.5	16	65	115	0.33	145	●	345	●
14.8	16	65	115	0.33	148	●	348	●
15.0	16	65	115	0.33	150	●	350	●
15.1	16	65	115	0.33	151	●	351	●
15.2	16	65	115	0.33	-	-	352	●
15.5	16	65	115	0.33	155	●	355	●
15.8	16	65	115	0.33	158	●	358	●
16.0	16	65	115	0.33	160	●	360	●
16.5	18	73	123	0.33	165	●	365	●
17.0	18	73	123	0.36	170	●	370	●
17.5	18	73	123	0.36	175	●	375	●
18.0	18	73	123	0.36	180	●	380	●
18.5	20	79	131	0.36	185	●	385	●
19.0	20	79	131	0.39	190	●	390	●
19.5	20	79	131	0.39	195	●	395	●
20.0	20	79	131	0.40	200	●	400	●

Prod. Gr. 1AB

ATORN® high-performance drill, solid carbide TiAlN plus HPC 3xD without internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 3xD | HPC UNI | 140° | HA | HB

HIGHLIGHT

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill

Advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life

Ident. No. 010–203, 207–211

Ident. No. 204–206, 230–400

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11104010-212	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		
11104230-400	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					External		External	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11104... Ident. No.		11104... Ident. No.	
1.0	4	7	45	0.025	010	●	-	-
1.1	4	7	45	0.025	011	●	-	-
1.2	4	7	45	0.025	012	●	-	-
1.3	4	7	45	0.025	013	●	-	-
1.4	4	7	45	0.025	014	●	-	-
1.5	4	14	55	0.033	015	●	-	-
1.6	4	14	55	0.033	016	●	-	-
1.7	4	14	55	0.033	017	●	-	-
1.8	4	14	55	0.033	018	●	-	-
1.9	4	14	55	0.033	019	●	-	-
2.0	4	20	55	0.045	020	●	-	-
2.1	4	20	55	0.045	021	●	-	-
2.2	4	20	55	0.045	022	●	-	-
2.3	4	20	55	0.045	023	●	-	-
2.4	4	20	55	0.045	024	●	-	-
2.5	4	20	55	0.045	025	●	-	-
2.6	4	20	55	0.045	026	●	-	-
2.7	4	20	55	0.045	027	●	-	-
2.8	4	20	55	0.045	028	●	-	-
2.9	4	20	55	0.045	029	●	-	-
3.0	6	20	62	0.10	030	●	230	●
3.1	6	20	62	0.10	031	●	231	●
3.2	6	20	62	0.10	032	●	232	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					External		External	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11104... Ident. No.		11104... Ident. No.	
3.25	6	20	62	0.10	201	●	204	●
3.3	6	20	62	0.10	033	●	233	●
3.4	6	20	62	0.10	034	●	234	●
3.5	6	20	62	0.10	035	●	235	●
3.6	6	20	62	0.10	036	●	236	●
3.7	6	20	62	0.10	037	●	237	●
3.8	6	24	66	0.10	038	●	238	●
3.9	6	24	66	0.10	039	●	239	●
4.0	6	24	66	0.10	040	●	240	●
4.1	6	24	66	0.10	041	●	241	●
4.2	6	24	66	0.10	042	●	242	●
4.3	6	24	66	0.10	043	●	243	●
4.4	6	24	66	0.10	044	●	244	●
4.5	6	24	66	0.10	045	●	245	●
4.6	6	24	66	0.10	046	●	246	●
4.65	6	24	66	0.10	202	●	205	●
4.7	6	24	66	0.10	047	●	247	●
4.8	6	28	66	0.10	048	●	248	●
4.9	6	28	66	0.10	049	●	249	●
5.0	6	28	66	0.10	050	●	250	●
5.1	6	28	66	0.10	051	●	251	●
5.2	6	28	66	0.10	052	●	252	●
5.3	6	28	66	0.10	053	●	253	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					External		External	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11104... Ident. No.		11104... Ident. No.	
5.4	6	28	66	0.10	054	●	254	●
5.5	6	28	66	0.10	055	●	255	●
5.55	6	28	66	0.10	203	●	206	●
5.6	6	28	66	0.10	056	●	256	●
5.65	6	28	66	0.10	207	●	-	-
5.7	6	28	66	0.10	057	●	257	●
5.8	6	28	66	0.10	058	●	258	●
5.9	6	28	66	0.10	059	●	259	●
6.0	6	28	66	0.15	060	●	260	●
6.1	8	34	79	0.15	061	●	261	●
6.2	8	34	79	0.15	062	●	262	●
6.3	8	34	79	0.15	063	●	263	●
6.4	8	34	79	0.15	064	●	264	●
6.5	8	34	79	0.15	065	●	265	●
6.6	8	34	79	0.15	066	●	266	●
6.7	8	34	79	0.15	067	●	267	●
6.8	8	34	79	0.15	068	●	268	●
6.9	8	34	79	0.15	069	●	269	●
7.0	8	34	79	0.15	070	●	270	●
7.1	8	41	79	0.15	071	●	271	●
7.2	8	41	79	0.15	072	●	272	●
7.3	8	41	79	0.15	073	●	273	●
7.4	8	41	79	0.15	074	●	274	●
7.5	8	41	79	0.15	075	●	275	●
7.55	8	41	79	0.15	209	●	-	-
7.6	8	41	79	0.15	076	●	276	●
7.65	8	41	79	0.15	211	●	-	-
7.7	8	41	79	0.15	077	●	277	●
7.8	8	41	79	0.15	078	●	278	●
7.9	8	41	79	0.15	079	●	279	●
8.0	8	41	79	0.15	080	●	280	●
8.1	10	47	89	0.15	081	●	281	●
8.2	10	47	89	0.15	082	●	282	●
8.3	10	47	89	0.15	083	●	283	●
8.4	10	47	89	0.15	084	●	284	●
8.5	10	47	89	0.15	085	●	285	●
8.6	10	47	89	0.15	086	●	286	●
8.7	10	47	89	0.15	087	●	287	●
8.8	10	47	89	0.15	088	●	288	●
8.9	10	47	89	0.15	089	●	289	●
9.0	10	47	89	0.15	090	●	290	●
9.1	10	47	89	0.15	091	●	291	●
9.2	10	47	89	0.15	092	●	292	●
9.3	10	47	89	0.15	093	●	293	●
9.4	10	47	89	0.15	094	●	294	●
9.5	10	47	89	0.15	095	●	295	●
9.6	10	47	89	0.15	096	●	296	●
9.7	10	47	89	0.15	097	●	297	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					External		External	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11104... Ident. No.		11104... Ident. No.	
9.8	10	47	89	0.15	098	●	298	●
9.9	10	47	89	0.15	099	●	299	●
10.0	10	47	89	0.15	100	●	300	●
10.1	12	55	102	0.15	101	●	301	●
10.2	12	55	102	0.15	102	●	302	●
10.3	12	55	102	0.15	103	●	303	●
10.4	12	55	102	0.15	104	●	304	●
10.5	12	55	102	0.15	105	●	305	●
10.6	12	55	102	0.15	106	●	306	●
10.7	12	55	102	0.15	107	●	307	●
10.8	12	55	102	0.15	108	●	308	●
10.9	12	55	102	0.15	109	●	309	●
11.0	12	55	102	0.15	110	●	310	●
11.1	12	55	102	0.15	111	●	311	●
11.2	12	55	102	0.15	112	●	312	●
11.3	12	55	102	0.15	113	●	313	●
11.4	12	55	102	0.15	114	●	314	●
11.5	12	55	102	0.15	115	●	315	●
11.6	12	55	102	0.15	116	●	316	●
11.7	12	55	102	0.15	117	●	317	●
11.8	12	55	102	0.15	118	●	318	●
11.9	12	55	102	0.15	119	●	319	●
12.0	12	55	102	0.15	120	●	320	●
12.2	14	60	107	0.20	-	-	322	●
12.5	14	60	107	0.20	125	●	325	●
12.8	14	60	107	0.20	128	●	328	●
13.0	14	60	107	0.20	130	●	330	●
13.1	14	60	107	0.20	-	-	331	●
13.5	14	60	107	0.20	135	●	335	●
13.8	14	60	107	0.20	138	●	338	●
14.0	14	60	107	0.20	140	●	340	●
14.2	16	65	115	0.20	142	●	342	●
14.5	16	65	115	0.20	145	●	345	●
14.8	16	65	115	0.20	148	●	348	●
15.0	16	65	115	0.20	150	●	350	●
15.1	16	65	115	0.20	151	●	351	●
15.2	16	65	115	0.20	-	-	352	●
15.5	16	65	115	0.20	155	●	355	●
15.8	16	65	115	0.20	158	●	358	●
16.0	16	65	115	0.28	160	●	360	●
16.5	18	73	123	0.28	165	●	365	●
17.0	18	73	123	0.28	170	●	370	●
17.5	18	73	123	0.28	175	●	375	●
18.0	18	73	123	0.28	180	●	380	●
18.5	20	79	131	0.28	185	●	385	●
19.0	20	79	131	0.28	190	●	390	●
19.5	20	79	131	0.28	195	●	395	●
20.0	20	79	131	0.30	200	●	400	●

Prod. Gr. 1AB

ATORN® high-performance drill, solid carbide TiAlN plus HPC 5xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 5xD | HPC UNI | 140° | IK | HA | HB

HIGHLIGHT

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill

Advantage:
- Cutting edge finishing reduces micro-fractures and increases the service life
- **Ident. No. 010–203, 211:**
  - Economic drilling in a wide variety of materials with high cutting values
  - Newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- **Ident. No. 204–206, 230–400:**
  - economic drilling in a wide variety of materials with high cutting values
  - newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives

Ident. No. 010–203, 211

Ident. No. 204–206, 230–400

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Application No.	Steel (N/mm²) <700	<1000	<1300	Stainless steel marten.	austen.	Alu short	long	Brass short	long	Bronze short	long	Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat. <55 HRC	<65 HRC
11105010-218	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		
11105230-400	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11105... Ident. No.		11105... Ident. No.	
1.0	4	8	55	0.025	010	●	-	-
1.1	4	12	55	0.025	011	●	-	-

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11105... Ident. No.		11105... Ident. No.	
1.2	4	12	55	0.025	012	●	-	-
1.3	4	12	55	0.025	013	●	-	-

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11105... Ident. No.		11105... Ident. No.	
1.4	4	12	55	0.025	014	●	-	-
1.5	4	12	55	0.033	015	●	-	-
1.6	4	16	55	0.033	016	●	-	-
1.7	4	16	55	0.033	017	●	-	-
1.8	4	16	55	0.033	018	●	-	-
1.9	4	16	55	0.033	019	●	-	-
2.0	4	21	57	0.045	020	●	-	-
2.1	4	21	57	0.045	021	●	-	-
2.2	4	21	57	0.045	022	●	-	-
2.3	4	21	57	0.045	023	●	-	-
2.4	4	21	57	0.045	024	●	-	-
2.5	4	21	57	0.045	025	●	-	-
2.6	4	21	57	0.045	026	●	-	-
2.7	4	21	57	0.045	027	●	-	-
2.8	4	21	57	0.045	028	●	-	-
2.9	4	21	57	0.045	029	●	-	-
3.0	6	28	66	0.16	030	●	230	●
3.1	6	28	66	0.16	031	●	231	●
3.2	6	28	66	0.16	032	●	232	●
3.25	6	28	66	0.16	201	●	204	●
3.3	6	28	66	0.16	033	●	233	●
3.4	6	28	66	0.16	034	●	234	●
3.5	6	28	66	0.16	035	●	235	●
3.6	6	28	66	0.16	036	●	236	●
3.7	6	28	66	0.16	037	●	237	●
3.8	6	36	74	0.16	038	●	238	●
3.9	6	36	74	0.16	039	●	239	●
4.0	6	36	74	0.16	040	●	240	●
4.1	6	36	74	0.16	041	●	241	●
4.2	6	36	74	0.16	042	●	242	●
4.3	6	36	74	0.16	043	●	243	●
4.4	6	36	74	0.16	044	●	244	●
4.5	6	36	74	0.16	045	●	245	●
4.6	6	36	74	0.16	046	●	246	●
4.65	6	36	74	0.16	202	●	205	●
4.7	6	36	74	0.16	047	●	247	●
4.8	6	44	82	0.16	048	●	248	●
4.9	6	44	82	0.16	049	●	249	●
5.0	6	44	82	0.16	050	●	250	●
5.1	6	44	82	0.16	051	●	251	●
5.2	6	44	82	0.16	052	●	252	●
5.3	6	44	82	0.16	053	●	253	●
5.4	6	44	82	0.16	054	●	254	●
5.5	6	44	82	0.16	055	●	255	●
5.55	6	44	82	0.16	203	●	206	●
5.6	6	44	82	0.16	056	●	256	●
5.7	6	44	82	0.16	057	●	257	●
5.8	6	44	82	0.16	058	●	258	●
5.9	6	44	82	0.21	059	●	259	●
6.0	6	44	82	0.21	060	●	260	●
6.1	8	53	91	0.21	061	●	261	●
6.2	8	53	91	0.21	062	●	262	●
6.3	8	53	91	0.21	063	●	263	●
6.4	8	53	91	0.21	064	●	264	●
6.5	8	53	91	0.21	065	●	265	●
6.6	8	53	91	0.21	066	●	266	●
6.7	8	53	91	0.21	067	●	267	●
6.8	8	53	91	0.21	068	●	268	●
6.9	8	53	91	0.21	069	●	269	●
7.0	8	53	91	0.21	070	●	270	●
7.1	8	53	91	0.21	071	●	271	●
7.2	8	53	91	0.21	072	●	272	●
7.3	8	53	91	0.21	073	●	273	●
7.4	8	53	91	0.21	074	●	274	●
7.5	8	53	91	0.21	075	●	275	●
7.6	8	53	91	0.21	076	●	276	●
7.65	8	53	91	0.21	211	●	-	-
7.7	8	53	91	0.21	077	●	277	●
7.8	8	53	91	0.21	078	●	278	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11105... Ident. No.		11105... Ident. No.	
7.9	8	53	91	0.21	079	●	279	●
8.0	8	53	91	0.21	080	●	280	●
8.1	10	61	103	0.21	081	●	281	●
8.2	10	61	103	0.21	082	●	282	●
8.3	10	61	103	0.21	083	●	283	●
8.4	10	61	103	0.21	084	●	284	●
8.5	10	61	103	0.21	085	●	285	●
8.6	10	61	103	0.21	086	●	286	●
8.7	10	61	103	0.21	087	●	287	●
8.8	10	61	103	0.21	088	●	288	●
8.9	10	61	103	0.21	089	●	289	●
9.0	10	61	103	0.21	090	●	290	●
9.1	10	61	103	0.21	091	●	291	●
9.2	10	61	103	0.21	092	●	292	●
9.3	10	61	103	0.21	093	●	293	●
9.4	10	61	103	0.21	094	●	294	●
9.5	10	61	103	0.21	095	●	295	●
9.6	10	61	103	0.21	096	●	296	●
9.7	10	61	103	0.21	097	●	297	●
9.8	10	61	103	0.21	098	●	298	●
9.9	10	61	103	0.21	099	●	299	●
10.0	10	61	103	0.28	100	●	300	●
10.1	12	71	118	0.28	101	●	301	●
10.2	12	71	118	0.28	102	●	302	●
10.3	12	71	118	0.28	103	●	303	●
10.4	12	71	118	0.28	104	●	304	●
10.5	12	71	118	0.28	105	●	305	●
10.6	12	71	118	0.28	106	●	306	●
10.7	12	71	118	0.28	107	●	307	●
10.8	12	71	118	0.28	108	●	308	●
10.9	12	71	118	0.28	109	●	309	●
11.0	12	71	118	0.28	110	●	310	●
11.1	12	71	118	0.28	111	●	311	●
11.2	12	71	118	0.28	112	●	312	●
11.3	12	71	118	0.28	113	●	313	●
11.4	12	71	118	0.28	114	●	314	●
11.5	12	71	118	0.28	115	●	315	●
11.6	12	71	118	0.28	116	●	316	●
11.7	12	71	118	0.28	117	●	317	●
11.8	12	71	118	0.28	118	●	318	●
11.9	12	71	118	0.28	119	●	319	●
12.0	12	71	118	0.33	120	●	320	●
12.1	14	77	124	0.33	121	●	-	-
12.2	14	77	124	0.33	-	-	322	●
12.5	14	77	124	0.33	125	●	325	●
12.8	14	77	124	0.33	128	●	328	●
13.0	14	77	124	0.33	130	●	330	●
13.1	14	77	124	0.33	-	-	331	●
13.5	14	77	124	0.33	135	●	335	●
13.8	14	77	124	0.33	138	●	338	●
14.0	14	77	124	0.33	140	●	340	●
14.2	16	83	133	0.33	142	●	342	●
14.5	16	83	133	0.33	145	●	345	●
14.8	16	83	133	0.33	148	●	348	●
15.0	16	83	133	0.33	150	●	350	●
15.1	16	83	133	0.33	151	●	351	●
15.2	16	83	133	0.33	-	-	352	●
15.5	16	83	133	0.33	155	●	355	●
15.8	16	83	133	0.33	158	●	358	●
16.0	16	83	133	0.33	160	●	360	●
16.5	18	93	143	0.33	165	●	365	●
17.0	18	93	143	0.36	170	●	370	●
17.5	18	93	143	0.36	175	●	375	●
18.0	18	93	143	0.36	180	●	380	●
18.5	20	101	153	0.36	185	●	385	●
19.0	20	101	153	0.39	190	●	390	●
19.5	20	101	153	0.39	195	●	395	●
20.0	20	101	153	0.40	200	●	400	●

Prod. Gr. 1AB

ATORN® high-performance drill, solid carbide TiAlN plus HPC 8xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 8xD | HPC UNI | 140° | IK | HA

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill

Advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life
- very high alignment accuracy thanks to 4 drill heels
- high process reliability even at extreme depths

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HIGHLIGHT

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11108030-200	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

Tool holding device: HA parallel shank
Surface: TiAlN plus
Coolant supply: Internal
Tolerance of cutting edge Ø: h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11108... Ident. No.	
3.0	6	34	72	0.11	030	●
3.1	6	34	72	0.11	031	●
3.2	6	34	72	0.11	032	●
3.3	6	34	72	0.11	033	●
3.4	6	34	72	0.11	034	●
3.5	6	34	72	0.11	035	●
3.6	6	34	72	0.11	036	●
3.7	6	34	72	0.11	037	●
3.8	6	43	81	0.11	038	●
3.9	6	43	81	0.11	039	●
4.0	6	43	81	0.11	040	●
4.1	6	43	81	0.11	041	●
4.2	6	43	81	0.11	042	●
4.3	6	43	81	0.11	043	●
4.4	6	43	81	0.11	044	●
4.5	6	43	81	0.11	045	●
4.6	6	43	81	0.11	046	●
4.7	6	43	81	0.11	047	●
4.8	6	57	95	0.11	048	●
4.9	6	57	95	0.11	049	●
5.0	6	57	95	0.11	050	●
5.1	6	57	95	0.11	051	●
5.2	6	57	95	0.11	052	●
5.3	6	57	95	0.11	053	●
5.4	6	57	95	0.11	054	●
5.5	6	57	95	0.11	055	●
5.6	6	57	95	0.11	056	●
5.7	6	57	95	0.11	057	●
5.8	6	57	95	0.11	058	●
5.9	6	57	95	0.11	059	●
6.0	6	57	95	0.16	060	●
6.1	8	76	114	0.16	061	●
6.2	8	76	114	0.16	062	●
6.3	8	76	114	0.16	063	●
6.4	8	76	114	0.16	064	●
6.5	8	76	114	0.16	065	●
6.6	8	76	114	0.16	066	●
6.7	8	76	114	0.16	067	●
6.8	8	76	114	0.16	068	●
6.9	8	76	114	0.16	069	●
7.0	8	76	114	0.16	070	●
7.1	8	76	114	0.16	071	●
7.2	8	76	114	0.16	072	●
7.3	8	76	114	0.16	073	●
7.4	8	76	114	0.16	074	●
7.5	8	76	114	0.16	075	●
7.6	8	76	114	0.16	076	●
7.7	8	76	114	0.16	077	●

Tool holding device: HA parallel shank
Surface: TiAlN plus
Coolant supply: Internal
Tolerance of cutting edge Ø: h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11108... Ident. No.	
7.8	8	76	114	0.16	078	●
7.9	8	76	114	0.16	079	●
8.0	8	76	114	0.16	080	●
8.1	10	95	142	0.16	081	●
8.2	10	95	142	0.16	082	●
8.3	10	95	142	0.16	083	●
8.4	10	95	142	0.16	084	●
8.5	10	95	142	0.16	085	●
8.6	10	95	142	0.16	086	●
8.7	10	95	142	0.16	087	●
8.8	10	95	142	0.16	088	●
8.9	10	95	142	0.16	089	●
9.0	10	95	142	0.21	090	●
9.1	10	95	142	0.21	091	●
9.2	10	95	142	0.21	092	●
9.3	10	95	142	0.21	093	●
9.4	10	95	142	0.21	094	●
9.5	10	95	142	0.21	095	●
9.6	10	95	142	0.21	096	●
9.7	10	95	142	0.21	097	●
9.8	10	95	142	0.21	098	●
9.9	10	95	142	0.21	099	●
10.0	10	95	142	0.21	100	●
10.2	12	114	162	0.21	102	●
10.5	12	114	162	0.21	105	●
10.8	12	114	162	0.21	108	●
11.0	12	114	162	0.21	110	●
11.5	12	114	162	0.21	115	●
11.8	12	114	162	0.21	118	●
12.0	12	114	162	0.27	120	●
12.2	14	131	178	0.27	122	●
12.5	14	131	178	0.27	125	●
13.0	14	131	178	0.27	130	●
13.5	14	131	178	0.27	135	●
14.0	14	131	178	0.27	140	●
14.5	16	152	203	0.27	145	●
15.0	16	152	203	0.27	150	●
15.5	16	152	203	0.27	155	●
16.0	16	152	203	0.31	160	●
16.5	18	171	222	0.31	165	●
17.0	18	171	222	0.31	170	●
17.5	18	171	222	0.31	175	●
18.0	18	171	222	0.31	180	●
18.5	20	190	243	0.31	185	●
19.0	20	190	243	0.33	190	●
19.5	20	190	243	0.33	195	●
20.0	20	190	243	0.33	200	●

Prod. Gr. 1AB

ATORN® high-performance drill, solid carbide TiAlN plus HPC 12xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 12xD | HPC UNI | 140° | IK | HA

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill

Advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life
- very high alignment accuracy thanks to 4 drill heels
- high process reliability even at extreme depths

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HIGHLIGHT

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11110030-200	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

Tool holding device	HA parallel shank
Surface	TiAlN plus
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11110... Ident. No.	
3.0	6	54	92	0.10	030	●
3.1	6	54	92	0.10	031	●
3.2	6	54	92	0.10	032	●
3.3	6	54	92	0.10	033	●
3.4	6	54	92	0.10	034	●
3.5	6	54	92	0.10	035	●
3.6	6	54	92	0.10	036	●
3.7	6	54	92	0.10	037	●
3.8	6	64	102	0.10	038	●
3.9	6	64	102	0.10	039	●
4.0	6	64	102	0.10	040	●
4.1	6	64	102	0.10	041	●
4.2	6	64	102	0.10	042	●
4.3	6	64	102	0.10	043	●
4.4	6	64	102	0.10	044	●
4.5	6	64	102	0.10	045	●
4.6	6	64	102	0.10	046	●
4.7	6	64	102	0.10	047	●
4.8	6	78	116	0.10	048	●
4.9	6	78	116	0.10	049	●
5.0	6	78	116	0.10	050	●
5.1	6	78	116	0.10	051	●
5.2	6	78	116	0.10	052	●
5.3	6	78	116	0.10	053	●
5.4	6	78	116	0.10	054	●
5.5	6	78	116	0.10	055	●
5.6	6	78	116	0.10	056	●
5.7	6	78	116	0.10	057	●
5.8	6	78	116	0.10	058	●
5.9	6	78	116	0.10	059	●
6.0	6	78	116	0.15	060	●
6.1	8	108	146	0.15	061	●
6.2	8	108	146	0.15	062	●
6.3	8	108	146	0.15	063	●
6.4	8	108	146	0.15	064	●
6.5	8	108	146	0.15	065	●
6.6	8	108	146	0.15	066	●
6.7	8	108	146	0.15	067	●
6.8	8	108	146	0.15	068	●
6.9	8	108	146	0.15	069	●
7.0	8	108	146	0.15	070	●
7.1	8	108	146	0.15	071	●
7.2	8	108	146	0.15	072	●
7.3	8	108	146	0.15	073	●
7.4	8	108	146	0.15	074	●
7.5	8	108	146	0.15	075	●
7.6	8	108	146	0.15	076	●

Tool holding device	HA parallel shank
Surface	TiAlN plus
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11110... Ident. No.	
7.7	8	108	146	0.15	077	●
7.8	8	108	146	0.15	078	●
7.9	8	108	146	0.15	079	●
8.0	8	108	146	0.15	080	●
8.1	10	120	162	0.15	081	●
8.2	10	120	162	0.15	082	●
8.3	10	120	162	0.15	083	●
8.4	10	120	162	0.15	084	●
8.5	10	120	162	0.15	085	●
8.6	10	120	162	0.15	086	●
8.7	10	120	162	0.15	087	●
8.8	10	120	162	0.15	088	●
8.9	10	120	162	0.15	089	●
9.0	10	120	162	0.20	090	●
9.1	10	120	162	0.20	091	●
9.2	10	120	162	0.20	092	●
9.3	10	120	162	0.20	093	●
9.4	10	120	162	0.20	094	●
9.5	10	120	162	0.20	095	●
9.6	10	120	162	0.20	096	●
9.7	10	120	162	0.20	097	●
9.8	10	120	162	0.20	098	●
9.9	10	120	162	0.20	099	●
10.0	10	120	162	0.20	100	●
10.2	12	156	204	0.20	102	●
10.5	12	156	204	0.20	105	●
10.8	12	156	204	0.20	108	●
11.0	12	156	204	0.20	110	●
11.5	12	156	204	0.20	115	●
11.8	12	156	204	0.20	118	●
12.0	12	156	204	0.26	120	●
12.5	14	182	230	0.26	125	●
12.7	14	182	230	0.26	127	●
12.8	14	182	230	0.26	128	●
13.0	14	182	230	0.26	130	●
13.5	14	182	230	0.26	135	●
14.0	14	182	230	0.26	140	●
14.5	16	208	260	0.26	145	●
14.8	16	208	260	0.26	148	●
15.0	16	208	260	0.26	150	●
15.5	16	208	260	0.26	155	●
16.0	16	208	260	0.30	160	●
16.5	18	234	285	0.30	165	●
17.0	18	234	285	0.30	170	●
18.0	18	234	285	0.30	180	●
19.0	20	258	310	0.32	190	●
20.0	20	258	310	0.32	200	●

Prod. Gr. 1AB

high-performance solid carbide TiNAlOX drills
For universal use up to a hardness of 63 HRC

Application:
For HPC boring up to 63 HRC.

advantage:

- Universal application up to a hardness of 63 HRC
- Latest coating technology: Unique, extremely hard, low-friction, temperature-resistant and form-fitting TiNAlOX coating ensures extra service life and added process stability.
- Cutting edge preparation minimises micro-fractures on the cutter




TiNAlOX

HPC UNI

ORION®

high-performance drill bit, solid carbide TiNAlOX HPC 3xD with internal cooling (DIN 6537)

For universal use up to 63 HRC

VHM | TiNAlOX | 3xD | HPC UNI | 140° | IK | HB

Application:
For HPC boring up to 63HRC.

Execution:

- Solid carbide TiNAlOX high-performance drill

Advantage:

- universal application ensures maximum flexibility
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAlOX coating ensures greater service life
- Cutting edge preparation minimises micro-fractures on the cutter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11184	135	110	90	35	30	230	280	230	180	160	130	60		110	40	35	30	25	20

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11184... Ident. No.	
3	6	20	62	0.09	030	●
3.1	6	20	62	0.09	031	●
3.2	6	20	62	0.09	032	●
3.25	6	20	62	0.09	325	●
3.3	6	20	62	0.09	033	●
3.4	6	20	62	0.09	034	●
3.5	6	20	62	0.09	035	●
3.6	6	20	62	0.09	036	●
3.7	6	20	62	0.09	037	●
3.8	6	24	66	0.09	038	●
3.9	6	24	66	0.09	039	●
4	6	24	66	0.09	040	●
4.1	6	24	66	0.09	041	●
4.2	6	24	66	0.09	042	●
4.3	6	24	66	0.09	043	●
4.4	6	24	66	0.09	044	●
4.5	6	24	66	0.09	045	●
4.6	6	24	66	0.09	046	●
4.65	6	24	66	0.09	465	●
4.7	6	24	66	0.09	047	●
4.8	6	28	66	0.09	048	●
4.9	6	28	66	0.09	049	●
5	6	28	66	0.09	050	●
5.1	6	28	66	0.09	051	●
5.2	6	28	66	0.09	052	●
5.3	6	28	66	0.09	053	●
5.4	6	28	66	0.09	054	●
5.5	6	28	66	0.1	055	●
5.55	6	28	66	0.1	555	●
5.6	6	28	66	0.1	056	●
5.7	6	28	66	0.1	057	●
5.8	6	28	66	0.1	058	●
5.9	6	28	66	0.1	059	●
6	6	28	66	0.1	060	●
6.1	8	34	79	0.1	061	●
6.2	8	34	79	0.1	062	●
6.3	8	34	79	0.1	063	●
6.4	8	34	79	0.1	064	●
6.5	8	34	79	0.11	065	●
6.6	8	34	79	0.11	066	●
6.7	8	34	79	0.11	067	●
6.8	8	34	79	0.11	068	●
6.9	8	34	79	0.11	069	●
7	8	34	79	0.11	070	●
7.1	8	41	79	0.11	071	●
7.2	8	41	79	0.11	072	●

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11184... Ident. No.	
7.3	8	41	79	0.11	073	●
7.4	8	41	79	0.11	074	●
7.5	8	41	79	0.12	075	●
7.6	8	41	79	0.12	076	●
7.7	8	41	79	0.12	077	●
7.8	8	41	79	0.12	078	●
7.9	8	41	79	0.12	079	●
8	8	41	79	0.12	080	●
8.1	10	47	89	0.12	081	●
8.2	10	47	89	0.12	082	●
8.3	10	47	89	0.12	083	●
8.4	10	47	89	0.13	084	●
8.5	10	47	89	0.13	085	●
8.6	10	47	89	0.13	086	●
8.7	10	47	89	0.13	087	●
8.8	10	47	89	0.13	088	●
8.9	10	47	89	0.13	089	●
9	10	47	89	0.13	090	●
9.1	10	47	89	0.13	091	●
9.2	10	47	89	0.14	092	●
9.3	10	47	89	0.14	093	●
9.4	10	47	89	0.14	094	●
9.5	10	47	89	0.14	095	●
9.6	10	47	89	0.14	096	●
9.7	10	47	89	0.14	097	●
9.8	10	47	89	0.14	098	●
9.9	10	47	89	0.14	099	●
10	10	47	89	0.15	100	●
10.2	12	55	102	0.15	102	●
10.5	12	55	102	0.15	105	●
10.8	12	55	102	0.16	108	●
11	12	55	102	0.16	110	●
11.2	12	55	102	0.16	112	●
11.5	12	55	102	0.16	115	●
11.8	12	55	102	0.17	118	●
12	12	55	102	0.17	120	●
12.2	14	60	107	0.17	122	●
12.5	14	60	107	0.17	125	●
12.8	14	60	107	0.18	128	●
13	14	60	107	0.18	130	●
13.1	14	60	107	0.18	131	●
13.5	14	60	107	0.18	135	●
13.8	14	60	107	0.18	138	●
14	14	60	107	0.19	140	●
14.2	16	65	115	0.19	142	●
14.5	16	65	115	0.19	145	●

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11184... Ident. No.	
14.8	16	65	115	0.19	148	●
15	16	65	115	0.19	150	●
15.1	16	65	115	0.19	151	●
15.2	16	65	115	0.19	152	●
15.5	16	65	115	0.2	155	●
15.8	16	65	115	0.2	158	●
16	16	65	115	0.2	160	●
16.5	18	73	123	0.22	165	●

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11184... Ident. No.	
17	18	73	123	0.24	170	●
17.5	18	73	123	0.26	175	●
18	18	73	123	0.28	180	●
18.5	20	79	131	0.29	185	●
19	20	79	131	0.31	190	●
19.5	20	79	131	0.33	195	●
20	20	79	131	0.35	200	●

Prod. Gr. 1AS

ORION® High-performance drill, solid carbide TiNAIOX HPC 3xD without internal cooling (DIN 6537)

For universal use up to 63 HRC

VHM | TiNAIOX | 3xD | HPC UNI | 140° | HB

Application:
For HPC boring up to 63HRC.

Execution:
- High-performance drill, solid carbide TiNAIOX without internal cooling

Advantage:
- universal application ensures maximum flexibility
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAIOX coating ensures greater service life
- Cutting edge preparation minimises micro-fractures on the cutter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11183	135	110	90	35	30	230	280	230	180	160	130	60		110	40	35	30	25	20

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	External
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11183... Ident. No.	
3	6	20	62	0.09	030	●
3.1	6	20	62	0.09	031	●
3.2	6	20	62	0.09	032	●
3.25	6	20	62	0.09	325	●
3.3	6	20	62	0.09	033	●
3.4	6	20	62	0.09	034	●
3.5	6	20	62	0.09	035	●
3.6	6	20	62	0.09	036	●
3.7	6	20	62	0.09	037	●
3.8	6	24	66	0.09	038	●
3.9	6	24	66	0.09	039	●
4	6	24	66	0.09	040	●
4.1	6	24	66	0.09	041	●
4.2	6	24	66	0.09	042	●
4.3	6	24	66	0.09	043	●
4.4	6	24	66	0.09	044	●
4.5	6	24	66	0.09	045	●
4.6	6	24	66	0.09	046	●
4.65	6	24	66	0.09	465	●
4.7	6	24	66	0.09	047	●
4.8	6	28	66	0.09	048	●
4.9	6	28	66	0.09	049	●
5	6	28	66	0.09	050	●
5.1	6	28	66	0.09	051	●
5.2	6	28	66	0.09	052	●
5.3	6	28	66	0.09	053	●
5.4	6	28	66	0.09	054	●
5.5	6	28	66	0.1	055	●
5.55	6	28	66	0.1	555	●
5.6	6	28	66	0.1	056	●
5.7	6	28	66	0.1	057	●
5.8	6	28	66	0.1	058	●
5.9	6	28	66	0.1	059	●
6	6	28	66	0.1	060	●
6.1	8	34	79	0.1	061	●
6.2	8	34	79	0.1	062	●
6.3	8	34	79	0.1	063	●
6.4	8	34	79	0.1	064	●
6.5	8	34	79	0.11	065	●
6.6	8	34	79	0.11	066	●
6.7	8	34	79	0.11	067	●
6.8	8	34	79	0.11	068	●
6.9	8	34	79	0.11	069	●
7	8	34	79	0.11	070	●
7.1	8	41	79	0.11	071	●
7.2	8	41	79	0.11	072	●
7.3	8	41	79	0.11	073	●

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	External
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11183... Ident. No.	
7.4	8	41	79	0.11	074	●
7.5	8	41	79	0.12	075	●
7.6	8	41	79	0.12	076	●
7.7	8	41	79	0.12	077	●
7.8	8	41	79	0.12	078	●
7.9	8	41	79	0.12	079	●
8	8	41	79	0.12	080	●
8.1	10	47	89	0.12	081	●
8.2	10	47	89	0.12	082	●
8.3	10	47	89	0.12	083	●
8.4	10	47	89	0.13	084	●
8.5	10	47	89	0.13	085	●
8.6	10	47	89	0.13	086	●
8.7	10	47	89	0.13	087	●
8.8	10	47	89	0.13	088	●
8.9	10	47	89	0.13	089	●
9	10	47	89	0.13	090	●
9.1	10	47	89	0.13	091	●
9.2	10	47	89	0.14	092	●
9.3	10	47	89	0.14	093	●
9.4	10	47	89	0.14	094	●
9.5	10	47	89	0.14	095	●
9.6	10	47	89	0.14	096	●
9.7	10	47	89	0.14	097	●
9.8	10	47	89	0.14	098	●
9.9	10	47	89	0.14	099	●
10	10	47	89	0.15	100	●
10.2	12	55	102	0.15	102	●
10.5	12	55	102	0.15	105	●
10.8	12	55	102	0.16	108	●
11	12	55	102	0.16	110	●
11.2	12	55	102	0.16	112	●
11.5	12	55	102	0.16	115	●
11.8	12	55	102	0.17	118	●
12	12	55	102	0.17	120	●
12.2	14	60	107	0.17	122	●
12.5	14	60	107	0.17	125	●
12.8	14	60	107	0.18	128	●
13	14	60	107	0.18	130	●
13.1	14	60	107	0.18	131	●
13.5	14	60	107	0.18	135	●
13.8	14	60	107	0.18	138	●
14	14	60	107	0.19	140	●
14.2	16	65	115	0.19	142	●
14.5	16	65	115	0.19	145	●
14.8	16	65	115	0.19	148	●
15	16	65	115	0.19	150	●

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11183... Ident. No.	
15.1	16	65	115	0.19	151	●
15.2	16	65	115	0.19	152	●
15.5	16	65	115	0.2	155	●
15.8	16	65	115	0.2	158	●
16	16	65	115	0.2	160	●
16.5	18	73	123	0.22	165	●
17	18	73	123	0.24	170	●

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11183... Ident. No.	
17.5	18	73	123	0.26	175	●
18	18	73	123	0.28	180	●
18.5	20	79	131	0.29	185	●
19	20	79	131	0.31	190	●
19.5	20	79	131	0.33	195	●
20	20	79	131	0.35	200	●

Prod. Gr. 1AS

ORION® high-performance drill bit, solid carbide TiNAlOX HPC 5xD with internal cooling (DIN 6537)

For universal use up to 63 HRC

VHM | TiNAlOX | 5xD | HPC UNI | 140° | IK | HB

Application:
For HPC boring up to 63HRC.

Execution:
- Solid carbide TiNAlOX high-performance drill

Advantage:
- universal application ensures maximum flexibility
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAlOX coating ensures greater service life
- Cutting edge preparation minimises micro-fractures on the cutter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11188	135	110	90	35	30	230	280	230	180	160	130	60		110	40	35	30	25	20

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					Internal	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11188... Ident. No.	
3	6	28	66	0.09	030	●
3.1	6	28	66	0.09	031	●
3.2	6	28	66	0.09	032	●
3.25	6	28	66	0.09	325	●
3.3	6	28	66	0.09	033	●
3.4	6	28	66	0.09	034	●
3.5	6	28	66	0.09	035	●
3.6	6	28	66	0.09	036	●
3.7	6	28	66	0.09	037	●
3.8	6	36	74	0.09	038	●
3.9	6	36	74	0.09	039	●
4	6	36	74	0.09	040	●
4.1	6	36	74	0.09	041	●
4.2	6	36	74	0.09	042	●
4.3	6	36	74	0.09	043	●
4.4	6	36	74	0.09	044	●
4.5	6	36	74	0.09	045	●
4.6	6	36	74	0.09	046	●
4.65	6	36	74	0.09	465	●
4.7	6	36	74	0.09	047	●
4.8	6	44	82	0.09	048	●
4.9	6	44	82	0.09	049	●
5	6	44	82	0.09	050	●
5.1	6	44	82	0.09	051	●
5.2	6	44	82	0.09	052	●
5.3	6	44	82	0.09	053	●
5.4	6	44	82	0.09	054	●
5.5	6	44	82	0.1	055	●
5.55	6	44	82	0.1	555	●
5.6	6	44	82	0.1	056	●
5.7	6	44	82	0.1	057	●
5.8	6	44	82	0.1	058	●
5.9	6	44	82	0.1	059	●
6	6	44	82	0.1	060	●
6.1	8	53	91	0.1	061	●
6.2	8	53	91	0.1	062	●
6.3	8	53	91	0.1	063	●
6.4	8	53	91	0.1	064	●
6.5	8	53	91	0.11	065	●
6.6	8	53	91	0.11	066	●
6.7	8	53	91	0.11	067	●
6.8	8	53	91	0.11	068	●
6.9	8	53	91	0.11	069	●
7	8	53	91	0.11	070	●
7.1	8	53	91	0.11	071	●
7.2	8	53	91	0.11	072	●
7.3	8	53	91	0.11	073	●
7.4	8	53	91	0.11	074	●

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					Internal	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11188... Ident. No.	
7.5	8	53	91	0.12	075	●
7.6	8	53	91	0.12	076	●
7.7	8	53	91	0.12	077	●
7.8	8	53	91	0.12	078	●
7.9	8	53	91	0.12	079	●
8	8	53	91	0.12	080	●
8.1	10	61	103	0.12	081	●
8.2	10	61	103	0.12	082	●
8.3	10	61	103	0.12	083	●
8.4	10	61	103	0.13	084	●
8.5	10	61	103	0.13	085	●
8.6	10	61	103	0.13	086	●
8.7	10	61	103	0.13	087	●
8.8	10	61	103	0.13	088	●
8.9	10	61	103	0.13	089	●
9	10	61	103	0.13	090	●
9.1	10	61	103	0.13	091	●
9.2	10	61	103	0.14	092	●
9.3	10	61	103	0.14	093	●
9.4	10	61	103	0.14	094	●
9.5	10	61	103	0.14	095	●
9.6	10	61	103	0.14	096	●
9.7	10	61	103	0.14	097	●
9.8	10	61	103	0.14	098	●
9.9	10	61	103	0.14	099	●
10	10	61	103	0.15	100	●
10.2	12	71	118	0.15	102	●
10.5	12	71	118	0.15	105	●
10.8	12	71	118	0.16	108	●
11	12	71	118	0.16	110	●
11.2	12	71	118	0.16	112	●
11.5	12	71	118	0.16	115	●
11.8	12	71	118	0.17	118	●
12	12	71	118	0.17	120	●
12.2	14	77	124	0.17	122	●
12.5	14	77	124	0.17	125	●
12.8	14	77	124	0.18	128	●
13	14	77	124	0.18	130	●
13.1	14	77	124	0.18	131	●
13.5	14	77	124	0.18	135	●
13.8	14	77	124	0.18	138	●
14	14	77	124	0.19	140	●
14.2	16	83	133	0.19	142	●
14.5	16	83	133	0.19	145	●
14.8	16	83	133	0.19	148	●
15	16	83	133	0.19	150	●
15.1	16	83	133	0.19	151	●
15.2	16	83	133	0.19	152	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11188... Ident. No.	
15.5	16	83	133	0.2	155	●
15.8	16	83	133	0.2	158	●
16	16	83	133	0.2	160	●
16.5	18	93	143	0.22	165	●
17	18	93	143	0.24	170	●
17.5	18	93	143	0.26	175	●
18	18	93	143	0.28	180	●
18.5	20	101	153	0.29	185	●
19	20	101	153	0.31	190	●
19.5	20	101	153	0.33	195	●
20	20	101	153	0.35	200	●

Prod. Gr. 1AS

Solid carbide TiAlN high-performance drill range

Application:
For HPC boring up to a strength of 1300 N/mm².
advantage:

- universal high-performance tool with excellent price-performance ratio
- wide range of 3xD to 12xD
- 3xD + 5xD with and without internal coolant supply




TiAlN | HPC UNI

ORION®

high-performance drill bit, solid carbide TiAlN HPC 3xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN | 3xD | HPC UNI | 140° | IK | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:

- Solid carbide TiAlN high-performance drill

Advantage:

- universal high-performance tool with excellent price/performance ratio
- 3xD + 5xD with and without IC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11174	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11174... Ident. No.	
3	6	20	62	0.13	230	●
3.1	6	20	62	0.13	231	●
3.2	6	20	62	0.13	232	●
3.25	6	20	62	0.13	401	●
3.3	6	20	62	0.13	233	●
3.4	6	20	62	0.13	234	●
3.5	6	20	62	0.13	235	●
3.6	6	20	62	0.13	236	●
3.7	6	20	62	0.13	237	●
3.8	6	24	66	0.13	238	●
3.9	6	24	66	0.13	239	●
4	6	24	66	0.13	240	●
4.1	6	24	66	0.13	241	●
4.2	6	24	66	0.13	242	●
4.3	6	24	66	0.13	243	●
4.4	6	24	66	0.13	244	●
4.5	6	24	66	0.13	245	●
4.6	6	24	66	0.13	246	●
4.65	6	24	66	0.13	402	●
4.7	6	24	66	0.13	247	●
4.8	6	28	66	0.13	248	●
4.9	6	28	66	0.13	249	●
5	6	28	66	0.13	250	●
5.1	6	28	66	0.13	251	●
5.2	6	28	66	0.13	252	●
5.3	6	28	66	0.13	253	●
5.4	6	28	66	0.13	254	●
5.5	6	28	66	0.14	255	●
5.55	6	28	66	0.14	403	●
5.6	6	28	66	0.14	256	●
5.7	6	28	66	0.14	257	●
5.8	6	28	66	0.14	258	●
5.9	6	28	66	0.14	259	●
6	6	28	66	0.14	260	●
6.1	8	34	79	0.14	261	●
6.2	8	34	79	0.14	262	●
6.3	8	34	79	0.14	263	●
6.4	8	34	79	0.14	264	●
6.5	8	34	79	0.15	265	●
6.6	8	34	79	0.15	266	●
6.7	8	34	79	0.15	267	●
6.8	8	34	79	0.15	268	●
6.9	8	34	79	0.15	269	●
7	8	34	79	0.15	270	●
7.1	8	41	79	0.15	271	●
7.2	8	41	79	0.15	272	●
7.3	8	41	79	0.15	273	●
7.4	8	41	79	0.15	274	●
7.5	8	41	79	0.17	275	●
7.6	8	41	79	0.17	276	●
7.7	8	41	79	0.17	277	●
7.8	8	41	79	0.17	278	●
7.9	8	41	79	0.17	279	●
8	8	41	79	0.17	280	●
8.1	10	47	89	0.17	281	●
8.2	10	47	89	0.17	282	●
8.3	10	47	89	0.17	283	●
8.4	10	47	89	0.18	284	●
8.5	10	47	89	0.18	285	●
8.6	10	47	89	0.18	286	●
8.7	10	47	89	0.18	287	●
8.8	10	47	89	0.18	288	●
8.9	10	47	89	0.18	289	●
9	10	47	89	0.18	290	●
9.1	10	47	89	0.18	291	●
9.2	10	47	89	0.2	292	●
9.3	10	47	89	0.2	293	●
9.4	10	47	89	0.2	294	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11174... Ident. No.	
9.5	10	47	89	0.2	295	●
9.6	10	47	89	0.2	296	●
9.7	10	47	89	0.2	297	●
9.8	10	47	89	0.2	298	●
9.9	10	47	89	0.2	299	●
10	10	47	89	0.21	300	●
10.3	12	55	102	0.21	303	●
10.5	12	55	102	0.21	305	●
10.8	12	55	102	0.21	308	●
11	12	55	102	0.21	310	●
11.2	12	55	102	0.21	312	●
11.5	12	55	102	0.21	315	●
11.8	12	55	102	0.21	318	●
12	12	55	102	0.22	320	●
12.8	14	60	107	0.22	328	●
13	14	60	107	0.22	330	●
13.5	14	60	107	0.22	335	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11174... Ident. No.	
13.8	14	60	107	0.24	338	●
14	14	60	107	0.24	340	●
14.2	16	65	115	0.24	342	●
14.5	16	65	115	0.24	345	●
14.8	16	65	115	0.24	348	●
15	16	65	115	0.24	350	●
15.5	16	65	115	0.26	355	●
15.8	16	65	115	0.26	358	●
16	16	65	115	0.26	360	●
16.5	18	73	123	0.32	365	●
17	18	73	123	0.32	370	●
17.5	18	73	123	0.32	375	●
18	18	73	123	0.32	380	●
18.5	20	79	131	0.35	385	●
19	20	79	131	0.35	390	●
19.5	20	79	131	0.35	395	●
20	20	79	131	0.35	400	●

Prod. Gr. 140

ORION® high-performance drill bit, solid carbide TiAlN HPC 3xD without internal cooling

For universal use up to 1300 N/mm²

VHM | TiAlN | 3xD | HPC UNI | 140° | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill

Advantage:
- universal high-performance tool with excellent price/performance ratio
- 3xD + 5xD with and without IC

Without internal cooling

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11173	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	External
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11173... Ident. No.	
3	6	20	62	0.13	230	●
3.1	6	20	62	0.13	231	●
3.2	6	20	62	0.13	232	●
3.25	6	20	62	0.13	401	●
3.3	6	20	62	0.13	233	●
3.4	6	20	62	0.13	234	●
3.5	6	20	62	0.13	235	●
3.6	6	20	62	0.13	236	●
3.7	6	20	62	0.13	237	●
3.8	6	24	66	0.13	238	●
3.9	6	24	66	0.13	239	●
4	6	24	66	0.13	240	●
4.1	6	24	66	0.13	241	●
4.2	6	24	66	0.13	242	●
4.3	6	24	66	0.13	243	●
4.4	6	24	66	0.13	244	●
4.5	6	24	66	0.13	245	●
4.6	6	24	66	0.13	246	●
4.65	6	24	66	0.13	402	●
4.7	6	24	66	0.13	247	●
4.8	6	28	66	0.13	248	●
4.9	6	28	66	0.13	249	●
5	6	28	66	0.13	250	●
5.1	6	28	66	0.13	251	●
5.2	6	28	66	0.13	252	●
5.3	6	28	66	0.13	253	●
5.4	6	28	66	0.13	254	●
5.5	6	28	66	0.14	255	●
5.55	6	28	66	0.14	403	●
5.6	6	28	66	0.14	256	●
5.7	6	28	66	0.14	257	●
5.8	6	28	66	0.14	258	●
5.9	6	28	66	0.14	259	●
6	6	28	66	0.14	260	●
6.1	8	34	79	0.14	261	●
6.2	8	34	79	0.14	262	●
6.3	8	34	79	0.14	263	●
6.4	8	34	79	0.14	264	●
6.5	8	34	79	0.15	265	●
6.6	8	34	79	0.15	266	●
6.7	8	34	79	0.15	267	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	External
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11173... Ident. No.	
6.8	8	34	79	0.15	268	●
6.9	8	34	79	0.15	269	●
7	8	34	79	0.15	270	●
7.1	8	41	79	0.15	271	●
7.2	8	41	79	0.15	272	●
7.3	8	41	79	0.15	273	●
7.4	8	41	79	0.15	274	●
7.5	8	41	79	0.17	275	●
7.6	8	41	79	0.17	276	●
7.7	8	41	79	0.17	277	●
7.8	8	41	79	0.17	278	●
7.9	8	41	79	0.17	279	●
8	8	41	79	0.17	280	●
8.1	10	47	89	0.17	281	●
8.2	10	47	89	0.17	282	●
8.3	10	47	89	0.17	283	●
8.4	10	47	89	0.18	284	●
8.5	10	47	89	0.18	285	●
8.6	10	47	89	0.18	286	●
8.7	10	47	89	0.18	287	●
8.8	10	47	89	0.18	288	●
8.9	10	47	89	0.18	289	●
9	10	47	89	0.18	290	●
9.1	10	47	89	0.18	291	●
9.2	10	47	89	0.2	292	●
9.3	10	47	89	0.2	293	●
9.4	10	47	89	0.2	294	●
9.5	10	47	89	0.2	295	●
9.6	10	47	89	0.2	296	●
9.7	10	47	89	0.2	297	●
9.8	10	47	89	0.2	298	●
9.9	10	47	89	0.2	299	●
10	10	47	89	0.21	300	●
10.3	12	55	102	0.21	303	●
10.5	12	55	102	0.21	305	●
10.8	12	55	102	0.21	308	●
11	12	55	102	0.21	310	●
11.2	12	55	102	0.21	312	●
11.5	12	55	102	0.21	315	●
11.8	12	55	102	0.21	318	●
12	12	55	102	0.22	320	●

Tool holding device					HB parallel shank	
Surface					TiAlN	
Coolant supply					External	
Tolerance of cutting edge Ø					h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11173... Ident. No.	
12.8	14	60	107	0.22	328	●
13	14	60	107	0.22	330	●
13.5	14	60	107	0.22	335	●
13.8	14	60	107	0.24	338	●
14	14	60	107	0.24	340	●
14.2	16	65	115	0.24	342	●
14.5	16	65	115	0.24	345	●
14.8	16	65	115	0.24	348	●
15	16	65	115	0.24	350	●
15.5	16	65	115	0.26	355	●

Tool holding device					HB parallel shank	
Surface					TiAlN	
Coolant supply					External	
Tolerance of cutting edge Ø					h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11173... Ident. No.	
15.8	16	65	115	0.26	358	●
16	16	65	115	0.26	360	●
16.5	18	73	123	0.32	365	●
17	18	73	123	0.32	370	●
17.5	18	73	123	0.32	375	●
18	18	73	123	0.32	380	●
18.5	20	79	131	0.35	385	●
19	20	79	131	0.35	390	●
19.5	20	79	131	0.35	395	●
20	20	79	131	0.35	400	●

Prod. Gr. 140

ORION® high-performance drill bit, solid carbide TiAlN HPC 5xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN | 5xD | HPC UNI | 140° | IK | HA | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill

Advantage:
- universal high-performance tool with excellent price/performance ratio
- 3xD + 5xD with and without IC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11177	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN		TiAlN	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11177... Ident. No.		11177... Ident. No.	
1	3	8	55	0.04	210	●	-	-
1.1	3	12	55	0.04	211	●	-	-
1.2	3	12	55	0.04	212	●	-	-
1.3	3	12	55	0.04	213	●	-	-
1.4	3	12	55	0.04	214	●	-	-
1.5	3	12	55	0.04	215	●	-	-
1.6	3	16	55	0.04	216	●	-	-
1.7	3	16	55	0.04	217	●	-	-
1.8	3	16	55	0.04	218	●	-	-
1.9	3	16	55	0.04	219	●	-	-
2	3	21	57	0.08	220	●	-	-
2.1	3	21	57	0.08	221	●	-	-
2.2	3	21	57	0.08	222	●	-	-
2.3	3	21	57	0.08	223	●	-	-
2.4	3	21	57	0.08	224	●	-	-
2.5	3	21	57	0.08	225	●	-	-
2.6	3	21	57	0.08	226	●	-	-
2.7	3	21	57	0.08	227	●	-	-
2.8	3	21	57	0.08	228	●	-	-
2.9	3	21	57	0.08	229	●	-	-
3	6	28	66	0.13	-	-	230	●
3.1	6	28	66	0.13	-	-	231	●
3.2	6	28	66	0.13	-	-	232	●
3.25	6	28	66	0.13	-	-	401	●
3.3	6	28	66	0.13	-	-	233	●
3.4	6	28	66	0.13	-	-	234	●
3.5	6	28	66	0.13	-	-	235	●
3.6	6	28	66	0.13	-	-	236	●
3.7	6	28	66	0.13	-	-	237	●
3.8	6	36	74	0.13	-	-	238	●
3.9	6	36	74	0.13	-	-	239	●
4	6	36	74	0.13	-	-	240	●
4.1	6	36	74	0.13	-	-	241	●
4.2	6	36	74	0.13	-	-	242	●
4.3	6	36	74	0.13	-	-	243	●
4.4	6	36	74	0.13	-	-	244	●
4.5	6	36	74	0.13	-	-	245	●
4.6	6	36	74	0.13	-	-	246	●
4.65	6	36	74	0.13	-	-	402	●
4.7	6	36	74	0.13	-	-	247	●
4.8	6	44	82	0.13	-	-	248	●
4.9	6	44	82	0.13	-	-	249	●
5	6	44	82	0.13	-	-	250	●
5.1	6	44	82	0.13	-	-	251	●
5.2	6	44	82	0.13	-	-	252	●
5.3	6	44	82	0.13	-	-	253	●
5.4	6	44	82	0.14	-	-	254	●
5.5	6	44	82	0.15	-	-	255	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN		TiAlN	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11177... Ident. No.		11177... Ident. No.	
5.55	6	44	82	0.15	-	-	403	●
5.6	6	44	82	0.15	-	-	256	●
5.7	6	44	82	0.15	-	-	257	●
5.8	6	44	82	0.15	-	-	258	●
5.9	6	44	82	0.15	-	-	259	●
6	6	44	82	0.15	-	-	260	●
6.1	8	53	91	0.15	-	-	261	●
6.2	8	53	91	0.15	-	-	262	●
6.3	8	53	91	0.15	-	-	263	●
6.4	8	53	91	0.15	-	-	264	●
6.5	8	53	91	0.17	-	-	265	●
6.6	8	53	91	0.17	-	-	266	●
6.7	8	53	91	0.17	-	-	267	●
6.8	8	53	91	0.17	-	-	268	●
6.9	8	53	91	0.17	-	-	269	●
7	8	53	91	0.17	-	-	270	●
7.1	8	53	91	0.17	-	-	271	●
7.2	8	53	91	0.17	-	-	272	●
7.3	8	53	91	0.17	-	-	273	●
7.4	8	53	91	0.17	-	-	274	●
7.5	8	53	91	0.17	-	-	275	●
7.6	8	53	91	0.17	-	-	276	●
7.7	8	53	91	0.17	-	-	277	●
7.8	8	53	91	0.17	-	-	278	●
7.9	8	53	91	0.17	-	-	279	●
8	8	53	91	0.17	-	-	280	●
8.1	10	61	103	0.17	-	-	281	●
8.2	10	61	103	0.17	-	-	282	●
8.3	10	61	103	0.17	-	-	283	●
8.4	10	61	103	0.18	-	-	284	●
8.5	10	61	103	0.18	-	-	285	●
8.6	10	61	103	0.18	-	-	286	●
8.7	10	61	103	0.18	-	-	287	●
8.8	10	61	103	0.18	-	-	288	●
8.9	10	61	103	0.18	-	-	289	●
9	10	61	103	0.18	-	-	290	●
9.1	10	61	103	0.18	-	-	291	●
9.2	10	61	103	0.2	-	-	292	●
9.3	10	61	103	0.2	-	-	293	●
9.4	10	61	103	0.2	-	-	294	●
9.5	10	61	103	0.2	-	-	295	●
9.6	10	61	103	0.2	-	-	296	●
9.7	10	61	103	0.2	-	-	297	●
9.8	10	61	103	0.2	-	-	298	●
9.9	10	61	103	0.2	-	-	299	●
10	10	61	103	0.21	-	-	300	●
10.1	12	71	118	0.21	-	-	303	●
10.2	12	71	118	0.21	-	-	305	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN		TiAlN	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11177... Ident. No.		11177... Ident. No.	
10.8	12	71	118	0.22	-	-	308	●
11	12	71	118	0.22	-	-	310	●
11.2	12	71	118	0.22	-	-	312	●
11.5	12	71	118	0.22	-	-	315	●
11.8	12	71	118	0.24	-	-	318	●
12	12	71	118	0.24	-	-	320	●
12.2	14	77	124	0.24	-	-	322	●
12.5	14	77	124	0.24	-	-	325	●
12.8	14	77	124	0.3	-	-	328	●
13	14	77	124	0.3	-	-	330	●
13.5	14	77	124	0.3	-	-	335	●
13.8	14	77	124	0.3	-	-	338	●
14	14	77	124	0.32	-	-	340	●
14.2	16	83	133	0.32	-	-	342	●
14.5	16	83	133	0.32	-	-	345	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN		TiAlN	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11177... Ident. No.		11177... Ident. No.	
14.8	16	83	133	0.32	-	-	348	●
15	16	83	133	0.32	-	-	350	●
15.1	16	83	133	0.32	-	-	351	●
15.5	16	83	133	0.35	-	-	355	●
15.8	16	83	133	0.35	-	-	358	●
16	16	83	133	0.35	-	-	360	●
16.5	18	93	143	0.35	-	-	365	●
17	18	93	143	0.35	-	-	370	●
17.5	18	93	143	0.35	-	-	375	●
18	18	93	143	0.35	-	-	380	●
18.5	20	101	153	0.35	-	-	385	●
19	20	101	153	0.35	-	-	390	●
19.5	20	101	153	0.35	-	-	395	●
20	20	101	153	0.35	-	-	400	●

Prod. Gr. 140

ORION® High-performance drill, solid carbide TiAlN HPC 5xD without internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN | 5xD | HPC UNI | 140° | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- High-performance drill, solid carbide TiAlN without internal cooling

Advantage:
- universal high-performance tool with excellent price/performance ratio
- 3xD + 5xD with and without IC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11176230-403	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device					HB parallel shank	
Surface					TiAlN	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11176... Ident. No.	
3	6	28	66	0.13	230	●
3.1	6	28	66	0.13	231	●
3.2	6	28	66	0.13	232	●
3.25	6	28	66	0.13	401	●
3.3	6	28	66	0.13	233	●
3.4	6	28	66	0.13	234	●
3.5	6	28	66	0.13	235	●
3.6	6	28	66	0.13	236	●
3.7	6	28	66	0.13	237	●
3.8	6	36	74	0.13	238	●
3.9	6	36	74	0.13	239	●
4	6	36	74	0.13	240	●
4.1	6	36	74	0.13	241	●
4.2	6	36	74	0.13	242	●
4.3	6	36	74	0.13	243	●
4.4	6	36	74	0.13	244	●
4.5	6	36	74	0.13	245	●
4.6	6	36	74	0.13	246	●
4.65	6	36	74	0.13	402	●
4.7	6	36	74	0.13	247	●
4.8	6	44	82	0.13	248	●
4.9	6	44	82	0.13	249	●
5	6	44	82	0.13	250	●
5.1	6	44	82	0.13	251	●
5.2	6	44	82	0.13	252	●
5.3	6	44	82	0.13	253	●
5.4	6	44	82	0.14	254	●
5.5	6	44	82	0.15	255	●
5.55	6	44	82	0.15	403	●
5.6	6	44	82	0.15	256	●
5.7	6	44	82	0.15	257	●
5.8	6	44	82	0.15	258	●
5.9	6	44	82	0.15	259	●
6	6	44	82	0.15	260	●
6.1	8	53	91	0.15	261	●
6.2	8	53	91	0.15	262	●
6.3	8	53	91	0.15	263	●
6.4	8	53	91	0.15	264	●
6.5	8	53	91	0.17	265	●
6.6	8	53	91	0.17	266	●
6.7	8	53	91	0.17	267	●
6.8	8	53	91	0.17	268	●

Tool holding device					HB parallel shank	
Surface					TiAlN	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11176... Ident. No.	
6.9	8	53	91	0.17	269	●
7	8	53	91	0.17	270	●
7.1	8	53	91	0.17	271	●
7.2	8	53	91	0.17	272	●
7.3	8	53	91	0.17	273	●
7.4	8	53	91	0.17	274	●
7.5	8	53	91	0.17	275	●
7.6	8	53	91	0.17	276	●
7.7	8	53	91	0.17	277	●
7.8	8	53	91	0.17	278	●
7.9	8	53	91	0.17	279	●
8	8	53	91	0.17	280	●
8.1	10	61	103	0.17	281	●
8.2	10	61	103	0.17	282	●
8.3	10	61	103	0.17	283	●
8.4	10	61	103	0.18	284	●
8.5	10	61	103	0.18	285	●
8.6	10	61	103	0.18	286	●
8.7	10	61	103	0.18	287	●
8.8	10	61	103	0.18	288	●
8.9	10	61	103	0.18	289	●
9	10	61	103	0.18	290	●
9.1	10	61	103	0.18	291	●
9.2	10	61	103	0.2	292	●
9.3	10	61	103	0.2	293	●
9.4	10	61	103	0.2	294	●
9.5	10	61	103	0.2	295	●
9.6	10	61	103	0.2	296	●
9.7	10	61	103	0.2	297	●
9.8	10	61	103	0.2	298	●
9.9	10	61	103	0.2	299	●
10	10	61	103	0.21	300	●
10.1	12	71	118	0.21	301	●
10.2	12	71	118	0.21	302	●
10.3	12	71	118	0.22	303	●
10.4	12	71	118	0.22	304	●
10.5	12	71	118	0.22	305	●
10.6	12	71	118	0.22	306	●
10.7	12	71	118	0.24	307	●
10.8	12	71	118	0.24	308	●
10.9	12	71	118	0.24	309	●
11	12	71	118	0.24	310	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	External
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11176... Ident. No.	
11.1	12	71	118	0.3	311	●
11.2	12	71	118	0.3	312	●
11.3	12	71	118	0.3	313	●
11.4	12	71	118	0.3	314	●
11.5	12	71	118	0.32	315	●
11.6	12	71	118	0.32	316	●
11.7	12	71	118	0.32	317	●
11.8	12	71	118	0.32	318	●
11.9	12	71	118	0.32	319	●
12	12	71	118	0.32	320	●
12.2	14	77	124	0.35	322	●
12.3	14	77	124	0.35	323	●
12.5	14	77	124	0.35	325	●
12.8	14	77	124	0.35	328	●
13	14	77	124	0.35	330	●
13.5	14	77	124	0.35	335	●
13.8	14	77	124	0.35	338	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	External
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11176... Ident. No.	
14	14	77	124	0.35	340	●
14.2	16	83	133	0.35	342	●
14.5	16	83	133	0.35	345	●
14.8	16	83	133	0.35	348	●
15	16	83	133	0.35	350	●
15.1	16	83	133	0.35	351	○
15.5	16	83	133	0.35	355	●
15.8	16	83	133	0.35	358	●
16	16	83	133	0.4	360	●
16.5	18	93	143	0.4	365	●
17	18	93	143	0.4	370	●
17.5	18	93	143	0.4	375	●
18	18	93	143	0.4	380	●
18.5	20	101	153	0.45	385	●
19	20	101	153	0.45	390	●
19.5	20	101	153	0.45	395	●
20	20	101	153	0.45	400	●

Prod. Gr. 140

ORION® high-performance drill bit, solid carbide TiAlN HPC 8xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 8xD | HPC UNI | 140° | IK | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill

Advantage:
- universal high-performance tool with excellent price/performance ratio
- very high alignment accuracy thanks to 4 drill heels
- high process reliability even at extreme depths

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11178	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11178... Ident. No.	
3	6	34	72	0.1	230	●
3.1	6	34	72	0.1	231	●
3.2	6	34	72	0.1	232	●
3.3	6	34	72	0.1	233	●
3.4	6	34	72	0.1	234	●
3.5	6	34	72	0.1	235	●
3.6	6	34	72	0.1	236	●
3.7	6	34	72	0.1	237	●
3.8	6	43	81	0.1	238	●
3.9	6	43	81	0.1	239	●
4	6	43	81	0.1	240	●
4.1	6	43	81	0.1	241	●
4.2	6	43	81	0.1	242	●
4.3	6	43	81	0.1	243	●
4.4	6	43	81	0.1	244	●
4.5	6	43	81	0.1	245	●
4.6	6	43	81	0.1	246	●
4.7	6	57	95	0.1	247	●
4.8	6	57	95	0.1	248	●
4.9	6	57	95	0.1	249	●
5	6	57	95	0.1	250	●
5.1	6	57	95	0.1	251	●
5.2	6	57	95	0.1	252	●
5.3	6	57	95	0.1	253	●
5.4	6	57	95	0.1	254	●
5.5	6	57	95	0.13	255	●
5.6	6	57	95	0.13	256	●
5.7	6	57	95	0.13	257	●
5.8	6	57	95	0.13	258	●
5.9	6	57	95	0.13	259	●
6	6	57	95	0.13	260	●
6.1	8	76	114	0.13	261	●
6.2	8	76	114	0.13	262	●
6.3	8	76	114	0.13	263	●
6.4	8	76	114	0.13	264	●
6.5	8	76	114	0.15	265	●
6.6	8	76	114	0.15	266	●
6.7	8	76	114	0.15	267	●
6.8	8	76	114	0.15	268	●
6.9	8	76	114	0.15	269	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11178... Ident. No.	
7	8	76	114	0.15	270	●
7.1	8	76	114	0.15	271	●
7.2	8	76	114	0.15	272	●
7.3	8	76	114	0.15	273	●
7.4	8	76	114	0.15	274	●
7.5	8	76	114	0.17	275	●
7.6	8	76	114	0.17	276	●
7.7	8	76	114	0.17	277	●
7.8	8	76	114	0.17	278	●
7.9	8	76	114	0.17	279	●
8	8	76	114	0.17	280	●
8.1	10	95	142	0.17	281	●
8.2	10	95	142	0.17	282	●
8.3	10	95	142	0.17	283	●
8.4	10	95	142	0.18	284	●
8.5	10	95	142	0.18	285	●
8.6	10	95	142	0.18	286	●
8.7	10	95	142	0.18	287	●
8.8	10	95	142	0.18	288	●
8.9	10	95	142	0.18	289	●
9	10	95	142	0.18	290	●
9.1	10	95	142	0.18	291	●
9.2	10	95	142	0.2	292	●
9.3	10	95	142	0.2	293	●
9.4	10	95	142	0.2	294	●
9.5	10	95	142	0.2	295	●
9.6	10	95	142	0.2	296	●
9.7	10	95	142	0.2	297	●
9.8	10	95	142	0.2	298	●
9.9	10	95	142	0.2	299	●
10	10	95	142	0.21	300	●
10.5	12	114	162	0.21	305	●
10.8	12	114	162	0.21	308	●
11	12	114	162	0.21	310	●
11.5	12	114	162	0.21	315	●
11.8	12	114	162	0.22	318	●
12	12	114	162	0.22	320	●
12.5	14	133	178	0.22	325	●
13	14	133	178	0.22	330	●
13.5	14	133	178	0.22	335	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11178... Ident. No.	
14	14	133	178	0.24	340	●
14.5	16	152	203	0.24	345	●
15	16	152	203	0.24	350	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11178... Ident. No.	
15.5	16	152	203	0.3	355	●
16	16	152	203	0.3	360	●

Prod. Gr. 140

ORION® high-performance drill bit, solid carbide TiAlN HPC 12xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 12xD | HPC UNI | 140° | IK | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill

Advantage:
- universal high-performance tool with excellent price/performance ratio
- very high alignment accuracy thanks to 4 drill heels
- high process reliability even at extreme depths

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11179230-360	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11179... Ident. No.	
3	6	54	92	0.1	230	●
3.3	6	54	92	0.1	233	●
3.5	6	54	92	0.1	235	●
3.8	6	64	102	0.1	238	●
4	6	64	102	0.1	240	●
4.2	6	64	102	0.1	242	●
4.5	6	64	102	0.1	245	●
4.8	6	78	116	0.1	248	●
5	6	78	116	0.1	250	●
5.5	6	78	116	0.1	255	●
5.8	6	78	116	0.1	258	●
6	6	78	116	0.1	260	●
6.5	8	108	146	0.13	265	●
6.8	8	108	146	0.13	268	●
7	8	108	146	0.13	270	●
7.5	8	108	146	0.15	275	●
7.8	8	108	146	0.15	278	●
8	8	108	146	0.15	280	●
8.5	10	120	162	0.15	285	●
8.8	10	120	162	0.15	288	●
9	10	120	162	0.2	290	●
9.5	10	120	162	0.2	295	●
9.8	10	120	162	0.2	298	●
10	10	120	162	0.2	300	●
10.2	12	156	204	0.2	302	●
10.5	12	156	204	0.2	305	●
10.8	12	156	204	0.2	308	●
11	12	156	204	0.24	310	●
11.5	12	156	204	0.24	315	●
11.8	12	156	204	0.26	318	●
12	12	156	204	0.26	320	●
12.5	14	182	230	0.26	325	●
12.8	14	182	230	0.26	328	●
13	14	182	230	0.26	330	●
13.5	14	182	230	0.26	335	●
14	14	182	230	0.26	340	●
14.5	16	208	260	0.26	345	●
15	16	208	260	0.26	350	●
15.5	16	208	260	0.26	355	●
16	16	208	260	0.26	360	●

Prod. Gr. 140

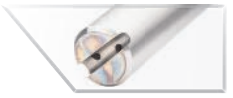
Ultra M solid carbide high-performance drill range

Application:
For HPC boring in the stainless steel, titanium, nickel and special alloy material groups.

advantage:

- special HPC cutter geometry: innovative cutter geometry with extremely smooth cutting blade and very high service life
- latest coating technology: newly developed form-fitting ULTRA M coating for extra service life and added process stability
- cutting edge preparation minimises micro-fractures on the cutter



ULTRA M | HPC VA

ATORN® high-performance drill bit, solid carbide ULTRA M HPC 3xD with internal cooling

For use in stainless steel and special alloys

VHM | ULTRA M | 3xD | HPC VA | 140° | IK | HA | HB

Application:
For HPC boring in stainless steel, titanium alloys, nickel alloys and special alloys.

Execution:

- Solid carbide high-performance drill ULTRA M

Advantage:

- innovative cutting geometry with extremely effective cutting edge
- newly developed form-fitting ULTRA M coating for improved service life
- Cutting edge preparation minimises micro-fractures on the cutter

Ident. No. 030–203, 601
Shank HA

Ident. No. 204–400, 602
Shank HB

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11142030-601				60	55										40	40	30		
11142204-603				60	55										40	40	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	mm	mm	mm	f steinl. st. ● (mm/U)	11142... Ident. No.		11142... Ident. No.	
3	6	20	62	0.09	030	●	230	●
3.1	6	20	62	0.09	031	●	231	●
3.2	6	20	62	0.09	032	●	232	●
3.25	6	20	62	0.09	201	○	204	●
3.3	6	20	62	0.09	033	●	233	●
3.4	6	20	62	0.09	034	●	234	●
3.5	6	20	62	0.09	035	●	235	●
3.6	6	20	62	0.09	036	●	236	●
3.7	6	20	62	0.09	037	●	237	●
3.8	6	24	66	0.09	038	●	238	●
3.9	6	24	66	0.09	039	●	239	●
4	6	24	66	0.09	040	●	240	●
4.1	6	24	66	0.09	041	●	241	●
4.2	6	24	66	0.09	042	●	242	●
4.3	6	24	66	0.09	043	●	243	●
4.4	6	24	66	0.09	044	●	244	●
4.5	6	24	66	0.09	045	●	245	●
4.6	6	24	66	0.09	046	●	246	●
4.65	6	24	66	0.09	202	●	205	●
4.7	6	28	66	0.09	047	●	247	●
4.8	6	28	66	0.09	048	●	248	●
4.9	6	28	66	0.09	049	●	249	●
5	6	28	66	0.09	050	●	250	●
5.1	6	28	66	0.09	051	●	251	●
5.2	6	28	66	0.09	052	●	252	●
5.3	6	28	66	0.09	053	●	253	●
5.4	6	28	66	0.09	054	●	254	●
5.5	6	28	66	0.1	055	●	255	●
5.55	6	28	66	0.1	203	●	206	●
5.6	6	28	66	0.1	056	●	256	●
5.7	6	28	66	0.1	057	●	257	●
5.8	6	28	66	0.1	058	●	258	●
5.9	6	28	66	0.1	059	●	259	●
6	6	28	66	0.1	060	●	260	●
6.1	8	34	79	0.1	061	●	261	●
6.2	8	34	79	0.1	062	●	262	●
6.3	8	34	79	0.1	063	●	263	●
6.4	8	34	79	0.1	064	●	264	●
6.5	8	34	79	0.11	065	●	265	●
6.6	8	34	79	0.11	066	●	266	●
6.7	8	34	79	0.11	067	●	267	●
6.8	8	34	79	0.11	068	●	268	●
6.9	8	34	79	0.11	069	●	269	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	mm	mm	mm	f steinl. st. ● (mm/U)	11142... Ident. No.		11142... Ident. No.	
7	8	34	79	0.11	070	●	270	●
7.1	8	41	79	0.11	071	●	271	●
7.2	8	41	79	0.11	072	●	272	●
7.3	8	41	79	0.11	073	●	273	●
7.4	8	41	79	0.11	074	●	274	●
7.5	8	41	79	0.12	075	●	275	●
7.6	8	41	79	0.12	076	●	276	●
7.7	8	41	79	0.12	077	●	277	●
7.8	8	41	79	0.12	078	●	278	●
7.9	8	41	79	0.12	079	●	279	●
8	8	41	79	0.12	080	●	280	●
8.1	10	47	89	0.12	081	●	281	●
8.2	10	47	89	0.12	082	●	282	●
8.3	10	47	89	0.12	083	●	283	●
8.4	10	47	89	0.13	084	●	284	●
8.5	10	47	89	0.13	085	●	285	●
8.6	10	47	89	0.13	086	●	286	●
8.7	10	47	89	0.13	087	●	287	●
8.8	10	47	89	0.13	088	●	288	●
8.9	10	47	89	0.13	089	●	289	●
9	10	47	89	0.13	090	●	290	●
9.1	10	47	89	0.13	091	●	291	●
9.2	10	47	89	0.14	092	●	292	●
9.25	10	47	89	0.1	601	●	602	●
9.3	10	47	89	0.14	093	●	293	●
9.4	10	47	89	0.14	094	●	294	●
9.5	10	47	89	0.14	095	●	295	●
9.6	10	47	89	0.14	096	●	296	●
9.7	10	47	89	0.14	097	●	297	●
9.8	10	47	89	0.14	098	●	298	●
9.9	10	47	89	0.14	099	●	299	●
10	10	47	89	0.15	100	●	300	●
10.1	12	55	102	0.15	101	●	301	●
10.2	12	55	102	0.15	102	●	302	●
10.3	12	55	102	0.15	103	●	303	●
10.4	12	55	102	0.15	104	●	304	●
10.5	12	55	102	0.15	105	●	305	●
10.6	12	55	102	0.15	106	●	306	●
10.7	12	55	102	0.15	107	●	307	●
10.8	12	55	102	0.16	108	●	308	●
10.9	12	55	102	0.16	109	●	309	●
11	12	55	102	0.16	110	●	310	●
11.1	12	55	102	0.16	111	●	311	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/U)	11142... Ident. No.		11142... Ident. No.	
11.2	12	55	102	0.16	112	●	312	●
11.3	12	55	102	0.16	113	●	313	●
11.4	12	55	102	0.16	114	●	314	●
11.5	12	55	102	0.16	115	●	315	●
11.6	12	55	102	0.17	116	●	316	●
11.7	12	55	102	0.17	117	●	317	●
11.8	12	55	102	0.17	118	●	318	●
11.9	12	55	102	0.17	119	●	319	●
12	12	55	102	0.17	120	●	320	●
12.5	14	60	107	0.17	125	●	325	●
12.7	14	60	107	0.18	127	●	327	●
13	14	60	107	0.18	130	●	330	●
13.5	14	60	107	0.18	135	●	335	●
14	14	60	107	0.19	140	●	340	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/U)	11142... Ident. No.		11142... Ident. No.	
14.5	16	65	115	0.19	145	●	345	●
15	16	65	115	0.19	150	●	350	●
15.5	16	65	115	0.2	155	●	355	●
16	16	65	115	0.2	160	●	360	●
16.5	18	73	123	0.21	165	●	365	●
16.9	18	73	123	0.22	169	●	369	●
17	18	73	123	0.23	170	●	370	●
17.5	18	73	123	0.24	175	●	375	●
18	18	73	123	0.25	180	●	380	●
18.5	20	79	131	0.26	185	●	385	●
18.9	20	79	131	0.27	189	●	389	●
19	20	79	131	0.28	190	●	390	●
19.5	20	79	131	0.29	195	○	395	●
20	20	79	131	0.3	200	●	400	●

Prod. Gr. 113

ATORN® high-performance drill bit, solid carbide ULTRA M HPC 5xD with internal cooling

For machining stainless steel and titanium

VHM | ULTRA M | 5xD | HPC VA | 140° | IK | HA | HB

Application:
For HPC boring in stainless steel, titanium alloys, nickel alloys and special alloys.

Execution:
- Solid carbide high-performance drill ULTRA M

Advantage:
- innovative cutting geometry with extremely effective cutting edge
- newly developed form-fitting ULTRA M coating for improved service life
- Cutting edge preparation minimises micro-fractures on the cutter

Ident. No. 030–203
Shank HA

Ident. No. 204–400
Shank HB

p. 15 p. 731 p. 98

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11147030-203				60	55										40	30	30		
11147204-400				60	55										40	30	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/U)	11147... Ident. No.		11147... Ident. No.	
3	6	28	66	0.09	030	●	230	●
3.1	6	28	66	0.09	031	●	231	●
3.2	6	28	66	0.09	032	●	232	●
3.25	6	28	66	0.09	201	●	204	●
3.3	6	28	66	0.09	033	●	233	●
3.4	6	28	66	0.09	034	●	234	●
3.5	6	28	66	0.09	035	●	235	●
3.6	6	28	66	0.09	036	●	236	●
3.7	6	28	66	0.09	037	●	237	●
3.8	6	36	74	0.09	038	●	238	●
3.9	6	36	74	0.09	039	●	239	●
4	6	36	74	0.09	040	●	240	●
4.1	6	36	74	0.09	041	●	241	●
4.2	6	36	74	0.09	042	●	242	●
4.3	6	36	74	0.09	043	●	243	●
4.4	6	36	74	0.09	044	●	244	●
4.5	6	36	74	0.09	045	●	245	●
4.6	6	36	74	0.09	046	●	246	●
4.65	6	36	74	0.09	202	●	205	●
4.7	6	36	74	0.09	047	●	247	●
4.8	6	44	82	0.09	048	●	248	●
4.9	6	44	82	0.09	049	●	249	●
5	6	44	82	0.09	050	●	250	●
5.1	6	44	82	0.09	051	●	251	●
5.2	6	44	82	0.09	052	●	252	●
5.3	6	44	82	0.09	053	●	253	●
5.4	6	44	82	0.09	054	●	254	●
5.5	6	44	82	0.1	055	●	255	●
5.55	6	44	82	0.1	203	●	206	●
5.6	6	44	82	0.1	056	●	256	●
5.7	6	44	82	0.1	057	●	257	●
5.8	6	44	82	0.1	058	●	258	●
5.9	6	44	82	0.1	059	●	259	●
6	6	44	82	0.1	060	●	260	●
6.1	8	53	91	0.1	061	●	261	●
6.2	8	53	91	0.1	062	●	262	●
6.3	8	53	91	0.1	063	●	263	●
6.4	8	53	91	0.1	064	●	264	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/U)	11147... Ident. No.		11147... Ident. No.	
6.5	8	53	91	0.11	065	●	265	●
6.6	8	53	91	0.11	066	●	266	●
6.7	8	53	91	0.11	067	●	267	●
6.8	8	53	91	0.11	068	●	268	●
6.9	8	53	91	0.11	069	●	269	●
7	8	53	91	0.11	070	●	270	●
7.1	8	53	91	0.11	071	●	271	●
7.2	8	53	91	0.11	072	●	272	●
7.3	8	53	91	0.11	073	●	273	●
7.4	8	53	91	0.11	074	●	274	●
7.5	8	53	91	0.12	075	●	275	●
7.6	8	53	91	0.12	076	●	276	●
7.7	8	53	91	0.12	077	●	277	●
7.8	8	53	91	0.12	078	●	278	●
7.9	8	53	91	0.12	079	●	279	●
8	8	53	91	0.12	080	●	280	●
8.1	10	61	103	0.12	081	●	281	●
8.2	10	61	103	0.12	082	●	282	●
8.3	10	61	103	0.12	083	●	283	●
8.4	10	61	103	0.13	084	●	284	●
8.5	10	61	103	0.13	085	●	285	●
8.6	10	61	103	0.13	086	●	286	●
8.7	10	61	103	0.13	087	●	287	●
8.8	10	61	103	0.13	088	●	288	●
8.9	10	61	103	0.13	089	●	289	●
9	10	61	103	0.13	090	●	290	●
9.1	10	61	103	0.13	091	●	291	●
9.2	10	61	103	0.14	092	●	292	●
9.3	10	61	103	0.14	093	●	293	●
9.4	10	61	103	0.14	094	●	294	●
9.5	10	61	103	0.14	095	●	295	●
9.6	10	61	103	0.14	096	●	296	●
9.7	10	61	103	0.14	097	●	297	●
9.8	10	61	103	0.14	098	●	298	●
9.9	10	61	103	0.14	099	●	299	●
10	10	61	103	0.15	100	●	300	●
10.2	12	71	118	0.15	102	●	302	●
10.5	12	71	118	0.15	105	●	305	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/U)	11147... Ident. No.		11147... Ident. No.	
10.8	12	71	118	0.16	108	●	308	●
11	12	71	118	0.16	110	●	310	●
11.2	12	71	118	0.16	112	●	312	●
11.5	12	71	118	0.16	115	●	315	●
11.8	12	71	118	0.17	118	●	318	●
12	12	71	118	0.17	120	●	320	●
12.2	14	77	124	0.17	122	●	322	●
12.5	14	77	124	0.17	125	●	325	●
12.7	14	77	124	0.18	127	●	327	●
13	14	77	124	0.18	130	●	330	●
13.5	14	77	124	0.18	135	●	335	●
14	14	77	124	0.19	140	●	340	●
14.2	16	83	133	0.19	142	●	342	●
14.5	16	83	133	0.19	145	●	345	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/U)	11147... Ident. No.		11147... Ident. No.	
15	16	83	133	0.19	150	●	350	●
15.5	16	83	133	0.2	155	●	355	●
16	16	83	133	0.2	160	●	360	●
16.5	18	93	143	0.21	165	●	365	●
16.9	18	93	143	0.22	169	●	369	●
17	18	93	143	0.23	170	●	370	●
17.5	18	93	143	0.24	175	●	375	●
18	18	93	143	0.25	180	●	380	●
18.5	20	101	153	0.26	185	●	385	●
18.9	20	101	153	0.27	189	●	389	●
19	20	101	153	0.28	190	●	390	●
19.5	20	101	153	0.29	195	●	395	●
20	20	101	153	0.3	200	●	400	●

Prod. Gr. 113

Solid carbide ALU CC high-performance drill range

Application:
For HPC boring in the non-ferrous metals and cast iron material groups in series production.

advantage:

- innovative cutting geometry with 15° twist angle ensures optimum chip removal
- 6 drill heels ensure drilling accuracy even at high cutting speeds
- latest ALU-CC coating technology with superior form-fitting properties of the blade ensures sharp cutting edges and excellent good sliding behaviour as well as optimal chip removal




CC

HPC ALU

ATORN® high-performance drill bit, solid carbide ALU CC HPC 5xD with internal cooling (DIN 6537)

for use in non-ferrous metals

VHM | CC | 5xD | HPC ALU | 135° | IK | HA

Application:
for HPC drilling in non-ferrous metals.

Execution:

- Solid carbide high-performance drill ALU CC

Advantage:

- innovative cutting geometry with 15° twist angle and 6 drill heels ensures optimum chip removal
- 6 drill heels ensure boring accuracy even at high cutting speeds
- ALU-CC coating with outstanding form-fitting properties of the cutting edge ensures sharp cutting and excellent sliding performance

Notes:
required coolant pressure: minimum 12 bar

p. 15 p. 731 p. 98

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11158						380	350	250	190	160	120			90					

Tool holding device				HA parallel shank		
Surface				CC		
Coolant supply				Internal		
Tolerance of cutting edge Ø				h7		
mm	h6 mm	mm	mm	f alu ● (mm/U)	11158... Ident. No.	
2.5	4	21	57	0.15	025	●
2.8	4	21	57	0.15	028	●
3	6	28	66	0.15	030	●
3.25	6	28	66	0.15	232	●
3.3	6	28	66	0.2	033	●
3.5	6	28	66	0.2	035	●
3.8	6	36	74	0.2	038	●
4	6	36	74	0.2	040	●
4.2	6	36	74	0.25	042	●
4.5	6	36	74	0.25	045	●
4.6	6	36	74	0.25	046	●
4.65	6	36	74	0.25	246	●
4.8	6	44	82	0.3	048	●
5	6	44	82	0.3	050	●
5.5	6	44	82	0.35	055	●
5.8	6	44	82	0.35	058	●
6	6	44	82	0.35	060	●
6.5	8	53	91	0.4	065	●
6.8	8	53	91	0.4	068	●
7	8	53	91	0.4	070	●
7.4	8	53	91	0.45	074	●

Tool holding device				HA parallel shank		
Surface				CC		
Coolant supply				Internal		
Tolerance of cutting edge Ø				h7		
mm	h6 mm	mm	mm	f alu ● (mm/U)	11158... Ident. No.	
7.45	8	53	91	0.45	274	●
7.8	8	53	91	0.45	078	●
8	8	53	91	0.45	080	●
8.5	10	61	103	0.45	085	●
8.8	10	61	103	0.45	088	●
9	10	61	103	0.5	090	●
9.35	10	61	103	0.5	093	●
9.8	10	61	103	0.5	098	●
10	10	61	103	0.5	100	●
10.2	12	71	118	0.55	102	●
11	12	71	118	0.55	110	●
11.2	12	71	118	0.55	112	●
12	12	71	118	0.55	120	●
13	14	77	124	0.55	130	●
14	14	77	124	0.6	140	●
15	16	83	133	0.6	150	●
15.5	16	83	133	0.6	155	●
16	16	83	133	0.6	160	●
17	18	93	143	0.6	170	●
17.5	18	93	143	0.6	175	●
18	18	93	143	0.65	180	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

				Tool holding device	HA parallel shank	
				Surface	CC	
				Coolant supply	Internal	
				Tolerance of cutting edge Ø	h7	
mm	h6 mm	mm	mm	f alu ● (mm/U)	11158... Ident. No.	
20	20	101	143	0.7	200	●

Prod. Gr. 134

ATORN® high-performance drill bit, solid carbide ALU CC HPC 8xD with internal cooling (DIN 6537)

for use in non-ferrous metals

VHM | CC | 8xD | HPC ALU | 135° | IK | HA

Application:
for HPC drilling in non-ferrous metals.

Execution:
- Solid carbide high-performance drill ALU CC

Advantage:
- innovative cutting geometry with 15° twist angle and 6 drill heels ensures optimum chip removal
- 6 drill heels ensure boring accuracy even at high cutting speeds
- ALU-CC coating with outstanding form-fitting properties of the cutting edge ensures sharp cutting and excellent sliding performance

Notes:
required coolant pressure: minimum 12 bar

p. 15 p. 731 p. 98

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11159						380	350	250	190	160	120			90					

				Tool holding device	HA parallel shank	
				Surface	CC	
				Coolant supply	Internal	
				Tolerance of cutting edge Ø	h7	
mm	h6 mm	mm	mm	f alu ● (mm/U)	11159... Ident. No.	
2.5	4	30	66	0.15	025	○
3	6	34	72	0.15	030	○
3.3	6	34	72	0.2	033	○
3.5	6	34	72	0.2	035	○
3.8	6	43	81	0.2	038	○
4	6	43	81	0.2	040	○
4.2	6	43	81	0.25	042	○
4.5	6	43	81	0.25	045	○
4.6	6	43	81	0.25	046	○
4.8	6	57	95	0.3	048	○
5	6	57	95	0.3	050	○
5.5	6	57	95	0.35	055	○
5.8	6	57	95	0.35	058	○
6	6	57	95	0.35	060	○
6.5	8	76	114	0.4	065	○
6.8	8	76	114	0.4	068	○
7	8	76	114	0.4	070	○
7.4	8	76	114	0.45	074	○
7.8	8	76	114	0.45	078	○

				Tool holding device	HA parallel shank	
				Surface	CC	
				Coolant supply	Internal	
				Tolerance of cutting edge Ø	h7	
mm	h6 mm	mm	mm	f alu ● (mm/U)	11159... Ident. No.	
8	8	76	114	0.45	080	○
8.5	10	95	142	0.45	085	○
8.8	10	95	142	0.45	088	○
9	10	95	142	0.5	090	○
9.8	10	95	142	0.5	098	○
10	10	95	142	0.5	100	○
10.2	12	114	162	0.55	102	○
11	12	114	162	0.55	110	○
12	12	114	162	0.55	120	○
13	14	131	178	0.55	130	○
14	14	131	178	0.6	140	○
15	16	152	203	0.6	150	○
15.5	16	152	203	0.6	155	○
16	16	152	203	0.6	160	○
17	18	171	222	0.6	170	○
17.5	18	171	222	0.6	175	○
18	18	171	222	0.65	180	○
20	20	190	243	0.7	200	○

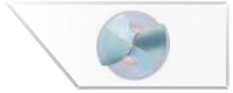
Prod. Gr. 134

high-performance drill, solid carbide TiAlSiN HPC 3xD
for hard machining up to 65 HRC

application:

for HPC boring up to 65HRC

advantage:
- high centring accuracy
- special coating for drilling hardened steels up to 65 HRC
- extremely hard, low-friction and temperature-resistant TiASiN coating for longer service life
- reinforced core with special tip and cutting chisel edge



TiAlSiN | HPC HART

high-performance deep-hole drill range – 16-30XD

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².
advantage:

- angle and diameter are co-ordinated across the whole range
- very good all-round properties and precise cutting behaviour with high cutting rates
- very good chip removal and chip control through by polished chipping space
- state-of-the-art coating technology ensures a long service life in the series
- high boring precision thanks to newly developed drill heels
- cutting edge preparation minimises micro-fractures on the cutter
- available in 40xD and 50xD on request



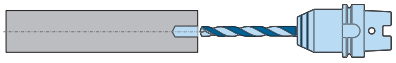

TiAlN

HPC UNI

process description, deep hole drilling

drilling the pilot bore hole

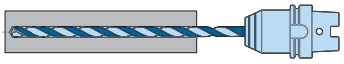
- in order to get an accurate pitch, we recommend centring with our NC spotting drill no 11169.
- for the pilot hole, we recommend our no. 11181.
- these are 0.02 mm larger in diameter than the corresponding deep-hole drills and have a tip angle of 140°.
- the pilot hole should be at least 3xD in depth, to a maximum of 5xD.



entering the pilot bore hole with the deep hole drill

deep hole drilling up to 30xD

- please enter the pilot hole at low rotation speed (n = 300 rpm) and a low feed rate (Vf = 1000 mm/min), 1-2 mm before reaching the hole base, stop the feed. then increase the rotation speed continuously until reaching the final speed. allow sufficient idling time to ensure that the cooling pump has built up enough pressure.



deep hole drilling

- carry out deep hole drilling with the recommended cutting values, do not remove chips.
- for cross-drilled holes or exiting, reduce the feed by 50 %.

extending the deep hole drill

- retract the deep hole drill by about 1-2 mm from the base of the hole
- reduce the rotation speed to (n = 300 rpm) and travel out of the hole with a low feed rate of (Vf = 1000 mm/min). Cooling must be switched off during this process.

ATORN® high-performance pilot drill bit, solid carbide TiAlN 5xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 5xD | HPC UNI | 140° | IK | HA

Application:
For placing a pilot hole for deep-hole drills from 12xD with HPC geometry up to a strength of 1300 N/mm².

Execution:

- Solid carbide TiAlN high-performance drill

Advantage:

- Precision grinding for very accurate holes in terms of fit and shape for demanding requirements around dimensional tolerance
- very precise guidance due to innovative geometry
- High-performance coating provides high cutting parameters and long service life
- the entire range is coordinated in terms of angle and diameter

p. 15 p. 62 p. 731 p. 41,98

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11181202-442	95	80	65	50	40	200	250	230	180	160	130			95	35	30	30		

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11181... Ident. No.	
2.02	4	21	57	0.08	202	●
2.22	4	21	57	0.08	208	●
2.32	4	21	57	0.08	214	●
2.42	4	21	57	0.08	220	●
2.52	4	21	57	0.08	226	●
2.62	4	21	57	0.08	232	●
2.72	4	21	57	0.08	238	●
2.82	4	21	57	0.08	244	●
2.92	4	21	57	0.08	250	●
3.02	6	28	66	0.08	256	●
3.22	6	28	66	0.08	262	●
3.32	6	28	66	0.08	268	●
3.52	6	28	66	0.08	274	●
3.82	6	36	74	0.15	280	●
4.02	6	36	74	0.15	286	●
4.22	6	36	74	0.15	292	●
4.52	6	36	74	0.15	298	●
4.82	6	44	82	0.15	304	●
5.02	6	44	82	0.15	310	●
5.52	6	44	82	0.15	316	●

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11181... Ident. No.	
5.82	6	44	82	0.25	322	●
6.02	6	44	82	0.25	328	●
6.52	8	53	91	0.25	334	●
6.82	8	53	91	0.25	340	●
7.02	8	53	91	0.25	346	●
7.52	8	53	91	0.25	352	●
7.82	8	53	91	0.25	364	●
8.02	8	53	91	0.25	370	●
8.52	10	61	103	0.27	376	●
8.82	10	61	103	0.27	382	●
9.02	10	61	103	0.27	388	●
9.52	10	61	103	0.27	394	●
9.82	10	61	103	0.27	400	●
10.02	10	61	103	0.27	406	●
10.22	12	71	118	0.27	412	●
10.82	12	71	118	0.27	418	●
11.02	12	71	118	0.27	424	●
11.52	12	71	118	0.27	430	●
11.82	12	71	118	0.27	436	●
12.02	12	71	118	0.27	442	●

Prod. Gr. 113

ATORN® high-performance deep hole drill bit, solid carbide TiAlN HPC 16xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 16xD | HPC UNI | 135° | IK | HA

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².

Execution:
- High-performance deep-hole drill, solid carbide TiAlN, and 4 drill heels

Advantage:
- very good all-round properties and precise cutting performance with high cutting rates
- unique, extremely hard, low-friction, temperature-resistant and form-fitting TiAlN coating ensures a longer service life
- Cutting edge preparation minimises micro-fractures on the cutter
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11179430-520	90	75	65	35	30	200	250	180	160	160	130			80	35	30	30		

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11179... Ident. No.	
3	6	60	100	0.08	430	●
3.2	6	60	100	0.08	432	●
3.3	6	60	100	0.08	433	●
3.5	6	60	100	0.08	435	●
3.8	6	75	115	0.08	438	●
4	6	75	115	0.08	440	●
4.2	6	75	115	0.08	442	●
4.5	6	90	130	0.08	445	●
4.8	6	90	130	0.08	448	●
5	6	90	130	0.08	450	●
5.5	6	108	150	0.12	455	●
5.8	6	108	150	0.12	458	●
6	6	108	150	0.12	460	●
6.5	8	125	165	0.12	465	●
6.8	8	125	165	0.12	468	●
7	8	125	165	0.12	470	●

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11179... Ident. No.	
7.5	8	140	180	0.12	475	●
7.8	8	140	180	0.12	478	●
8	8	140	180	0.12	480	●
8.5	10	160	205	0.15	485	●
8.8	10	160	205	0.15	488	●
9	10	160	205	0.15	490	●
9.5	10	160	205	0.15	495	●
9.8	10	180	225	0.15	498	●
10	10	180	225	0.15	500	●
10.2	12	190	240	0.15	502	●
10.5	12	190	240	0.15	505	●
10.8	12	190	240	0.15	508	●
11	12	190	240	0.15	510	●
11.5	12	190	240	0.15	515	●
11.8	12	215	265	0.15	518	●
12	12	215	265	0.15	520	●

Prod. Gr. 113

ATORN® high-performance deep hole drill bit, solid carbide TiAlN HPC 20xD with internal cooling

For universal use up to 1300 N/mm²

VHM | TiAlN | 20xD | HPC UNI | 135° | IK | HA

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².

Execution:
- High-performance deep-hole drill, solid carbide TiAlN, and 4 drill heels

Advantage:
- very good all-round properties and precise cutting performance with high cutting rates
- unique, extremely hard, low-friction, temperature-resistant and form-fitting TiAlN coating ensures a longer service life
- Cutting edge preparation minimises micro-fractures on the cutter
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11181020-120	90	75	65	35	30	200	250	180	160	160	130			80	35	30	30		

Tool holding device: HA parallel shank
Surface: TiAlN
Coolant supply: Internal
Tolerance of cutting edge Ø: h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11181... Ident. No.	
2	6	50	92	0.05	020	●
2.2	6	50	92	0.05	022	●
2.3	6	50	92	0.05	023	●
2.4	6	70	112	0.05	024	●
2.5	6	70	112	0.05	025	●
2.7	6	70	112	0.05	027	●
2.8	6	70	112	0.05	028	●
2.9	6	70	112	0.05	029	●
3	6	80	120	0.08	030	●
3.2	6	80	120	0.08	032	●
3.3	6	80	120	0.08	033	●
3.5	6	80	120	0.08	035	●
3.8	6	90	130	0.08	038	●
4	6	90	130	0.08	040	●
4.2	6	110	160	0.08	042	●
4.5	6	110	160	0.08	045	●
4.6	6	120	160	0.08	046	●
4.8	6	120	160	0.08	048	●
5	6	120	160	0.08	050	●
5.5	6	140	185	0.12	055	●
5.8	6	140	185	0.12	058	●

Tool holding device: HA parallel shank
Surface: TiAlN
Coolant supply: Internal
Tolerance of cutting edge Ø: h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11181... Ident. No.	
6	6	140	185	0.12	060	●
6.5	8	160	210	0.12	065	●
6.8	8	160	210	0.12	068	●
7	8	160	210	0.12	070	●
7.5	8	180	230	0.12	075	●
7.8	8	180	230	0.12	078	●
8	8	180	230	0.12	080	●
8.5	10	195	260	0.15	085	●
8.8	10	230	290	0.15	088	●
9	10	230	290	0.15	090	●
9.5	10	230	290	0.15	095	●
9.8	10	230	290	0.15	098	●
10	10	230	290	0.15	100	●
10.2	12	268	315	0.15	102	●
10.5	12	268	315	0.15	105	○
10.8	12	268	315	0.15	108	●
11	12	268	315	0.15	110	●
11.5	12	268	315	0.15	115	●
11.8	12	268	315	0.15	118	●
12	12	268	315	0.15	120	●

Prod. Gr. 113

ATORN® high-performance deep hole drill bit, solid carbide TiAlN HPC 25xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 25xD | HPC UNI | 135° | IK | HA

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².

Execution:
- High-performance deep-hole drill, solid carbide TiAlN, and 4 drill heels

Advantage:
- very good all-round properties and precise cutting performance with high cutting rates
- unique, extremely hard, low-friction, temperature-resistant and form-fitting TiAlN coating ensures a longer service life
- Cutting edge preparation minimises micro-fractures on the cutter
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11189230-320	60	50	35	35	30	150	200	160	140	140	120			70	30	20	20		

Tool holding device: HA parallel shank
Surface: TiAlN
Coolant supply: Internal
Tolerance of cutting edge Ø: h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11189... Ident. No.	
3	6	98	135	0.08	230	●
3.2	6	98	135	0.08	232	●
3.3	6	110	150	0.08	233	●
3.5	6	110	150	0.08	235	●
3.8	6	120	160	0.08	238	●

Tool holding device: HA parallel shank
Surface: TiAlN
Coolant supply: Internal
Tolerance of cutting edge Ø: h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11189... Ident. No.	
4	6	120	160	0.08	240	●
4.2	6	120	160	0.08	242	●
4.5	6	135	180	0.08	245	●
4.8	6	135	180	0.08	248	●
5	6	135	180	0.08	250	●

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11189... Ident. No.	
5.5	6	168	205	0.12	255	●
5.8	6	168	205	0.12	258	●
6	6	168	205	0.12	260	●
6.5	8	200	240	0.12	265	●
6.8	8	200	240	0.12	268	●
7	8	200	240	0.12	270	●
7.5	8	220	260	0.12	275	●
7.8	8	220	260	0.12	278	●
8	8	220	260	0.12	280	●
8.5	10	240	285	0.15	285	●
8.8	10	268	310	0.15	288	●

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11189... Ident. No.	
9	10	268	310	0.15	290	●
9.5	10	268	310	0.15	295	●
9.8	10	268	310	0.15	298	●
10	10	268	310	0.15	300	●
10.2	12	325	375	0.15	302	●
10.5	12	325	375	0.15	305	●
10.8	12	325	375	0.15	308	●
11	12	325	375	0.15	310	●
11.5	12	325	375	0.15	315	●
11.8	12	325	375	0.15	318	●
12	12	325	375	0.15	320	●

Prod. Gr. 113

ATORN® high-performance deep hole drill bit, solid carbide TiAlN HPC 30xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 30xD | HPC UNI | 135° | IK | HA

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².

Execution:
- High-performance deep-hole drill, solid carbide TiAlN, and 4 drill heels

Advantage:
- very good all-round properties and precise cutting performance with high cutting rates
- unique, extremely hard, low-friction, temperature-resistant and form-fitting TiAlN coating ensures a longer service life
- Cutting edge preparation minimises micro-fractures on the cutter
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11182	80	60	40	35	30	150	200	160	140	140	120			70	30	20	20		

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11182... Ident. No.	
2	4	70	115	0.05	020	●
2.2	4	70	115	0.05	022	●
2.3	4	70	115	0.05	023	●
2.4	4	90	138	0.05	024	●
2.5	4	90	138	0.05	025	●
2.7	4	90	138	0.05	027	●
2.8	4	90	138	0.05	028	●
2.9	4	90	138	0.05	029	●
3	6	105	150	0.05	030	●
3.2	6	105	150	0.08	032	●
3.3	6	135	185	0.08	033	●
3.5	6	135	185	0.08	035	●
3.8	6	135	185	0.08	038	●
4	6	135	185	0.08	040	●
4.2	6	135	185	0.08	042	●
4.5	6	165	215	0.08	045	●
4.6	6	165	215	0.08	046	●
4.8	6	165	215	0.08	048	●
5	6	165	215	0.08	050	●
5.5	6	180	230	0.12	055	●
5.8	6	180	230	0.12	058	●

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11182... Ident. No.	
6	6	180	230	0.12	060	●
6.5	8	215	280	0.12	065	●
6.8	8	230	280	0.12	068	●
7	8	230	280	0.12	070	●
7.5	8	230	280	0.12	075	●
7.8	8	265	315	0.12	078	●
8	8	265	315	0.12	080	●
8.5	10	295	350	0.15	085	●
8.8	10	330	380	0.15	088	●
9	10	330	380	0.15	090	●
9.5	10	330	380	0.15	095	○
9.8	10	330	380	0.15	098	●
10	10	330	380	0.15	100	●
10.2	12	380	430	0.15	102	●
10.5	12	380	430	0.15	105	●
10.8	12	380	430	0.15	108	●
11	12	380	430	0.15	110	●
11.5	12	380	430	0.15	115	●
11.8	12	380	430	0.15	118	●
12	12	380	430	0.15	120	●

Prod. Gr. 113

high-performance solid carbide micro drill

Application:
For HPC micro boring up to a strength of 1300 N/mm².

advantage:
- extremely hard, low-friction, temperature resistant and conforming coating ensures an increased service life
- high-quality solid carbide cutting material and cutting edge preparation minimise breakouts on the blade
- diameter of 0.10 mm to 3.00 mm
- uncoated variant for non-ferrous metals

TiAlN | HPC UNI

ATORN® micro drill bit, solid carbide, HPC 5xD without internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 5xD | HPC UNI | 130° | HA

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- High-performance drill, solid carbide, with universal precision grinding and 3 H6 straight shank

Advantage:
- innovative cutting geometry for universal use
- maximum concentricity: ensures series machining with process reliability
- **Ident. No. 010–300:** Extremely hard, low-friction, temperature-resistant, form-fitting coating
- **Ident. No. 310–600:** extremely sharp cutters ensure reliable machining even with long chipping non-ferrous metals

Ident. No. 010–300

Ident. No. 310–600

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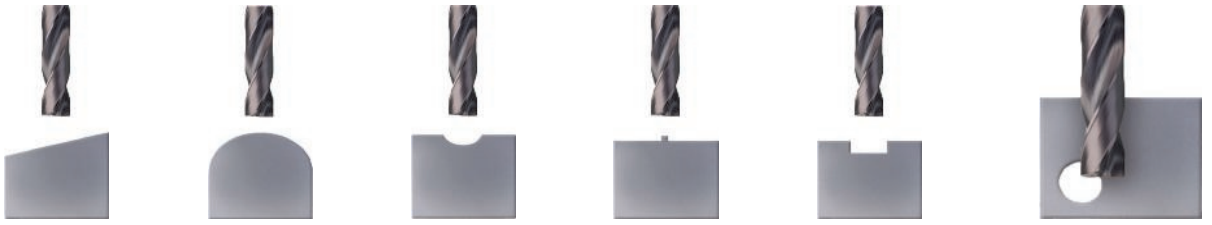
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11137010-300	60	60	40	30	30	150	190	100	110	130	140	50	40	90	30	20	20		
11137310-600	60	45	35	40	30	140	180	100	80	70	60	55	40	50	20	15	15		

Tool holding device					HA parallel shank		HA parallel shank	
Surface					TiAlN		Uncoated	
Coolant supply					External		External	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11137... Ident. No.		11137... Ident. No.	
0.1	3	1	38	0.01	010	●	310	●
0.15	3	2	38	0.01	015	●	315	●
0.2	3	2.5	38	0.01	020	●	320	●
0.25	3	4	38	0.01	025	●	325	●
0.3	3	5.5	38	0.01	030	●	330	●
0.35	3	5.5	38	0.01	035	●	335	●
0.4	3	6	38	0.01	040	●	340	●
0.45	3	6	38	0.01	045	●	345	●
0.5	3	6	38	0.015	050	●	350	●
0.55	3	8	38	0.015	055	●	355	●
0.6	3	8	38	0.015	060	●	360	●
0.65	3	8	38	0.015	065	●	365	●
0.7	3	8	38	0.015	070	●	370	●
0.75	3	8	38	0.015	075	●	375	●
0.8	3	8	38	0.015	080	●	380	●
0.85	3	8	38	0.015	085	●	385	●
0.9	3	8	38	0.015	090	●	390	●
0.95	3	8	38	0.015	095	●	395	●
0.97	3	8	38	0.02	097	●	397	●
0.98	3	8	38	0.02	098	●	398	●
0.99	3	8	38	0.02	099	●	399	●
1	3	10	38	0.02	100	●	400	●
1.01	3	10	38	0.02	101	●	401	●
1.02	3	10	38	0.03	102	●	402	●
1.03	3	10	38	0.03	103	●	403	●
1.05	3	10	38	0.03	105	●	405	●
1.1	3	10	38	0.03	110	●	410	●
1.15	3	10	38	0.03	115	●	415	●
1.2	3	10	38	0.03	120	●	420	●
1.25	3	10	38	0.03	125	●	425	●
1.3	3	10	38	0.03	130	●	430	●
1.35	3	10	38	0.03	135	●	435	●
1.4	3	10	38	0.03	140	●	440	●
1.45	3	10	38	0.03	145	●	445	●
1.47	3	10	38	0.03	147	●	447	●
1.48	3	10	38	0.03	148	●	448	●
1.49	3	10	38	0.03	149	●	449	●
1.5	3	12	38	0.03	150	●	450	●
1.51	3	12	38	0.03	151	●	451	●
1.52	3	12	38	0.03	152	●	452	●
1.53	3	12	38	0.03	153	●	453	●
1.55	3	12	38	0.03	155	●	455	●

Tool holding device					HA parallel shank		HA parallel shank	
Surface					TiAlN		Uncoated	
Coolant supply					External		External	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11137... Ident. No.		11137... Ident. No.	
1.6	3	12	38	0.03	160	●	460	●
1.65	3	12	38	0.03	165	●	465	●
1.7	3	12	38	0.03	170	●	470	●
1.75	3	12	38	0.03	175	●	475	●
1.8	3	12	38	0.03	180	●	480	●
1.85	3	12	38	0.03	185	●	485	●
1.9	3	12	38	0.03	190	●	490	●
1.95	3	12	38	0.03	195	●	495	●
1.97	3	12	38	0.03	197	●	497	●
1.98	3	12	38	0.03	198	●	498	●
1.99	3	12	38	0.03	199	●	499	●
2	3	12	38	0.05	200	●	500	●
2.01	3	12	38	0.05	201	●	501	●
2.02	3	12	38	0.05	202	●	502	●
2.03	3	12	38	0.05	203	●	503	●
2.05	3	12	38	0.05	205	●	505	●
2.1	3	12	38	0.05	210	●	510	●
2.15	3	12	38	0.05	215	●	515	●
2.2	3	12	38	0.05	220	●	520	●
2.25	3	12	38	0.05	225	●	525	●
2.3	3	12	38	0.05	230	●	530	●
2.35	3	12	38	0.05	235	●	535	●
2.4	3	12	38	0.05	240	●	540	●
2.45	3	12	38	0.05	245	●	545	●
2.5	3	12	38	0.05	250	●	550	●
2.51	3	12	38	0.06	251	●	551	●
2.52	3	12	38	0.06	252	●	552	●
2.53	3	12	38	0.06	253	●	553	●
2.55	3	12	38	0.06	255	●	555	●
2.56	3	12	38	0.06	256	●	556	●
2.65	3	12	38	0.06	265	●	565	●
2.7	3	12	38	0.06	270	●	570	●
2.75	3	12	38	0.06	275	●	575	●
2.8	3	12	38	0.06	280	●	580	●
2.85	3	12	38	0.06	285	●	585	●
2.9	3	12	38	0.06	290	●	590	●
2.95	3	12	38	0.06	295	●	595	●
2.96	3	12	38	0.06	296	○	596	●
2.97	3	12	38	0.06	297	●	597	●
2.98	3	12	38	0.06	298	●	598	●
2.99	3	12	38	0.06	299	●	599	●
3	3	12	38	0.06	300	●	600	●

Prod. Gr. 113

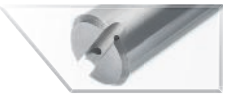
high-performance drill 180° solid carbide TiAlN



applications:
for producing drill holes with 180° base of bore hole.

advantages:
- spot drilling on inclined surfaces
- spot drilling on convex surfaces
- spot drilling despite centre waste
- spot drilling in existing drill holes
- drilling through cross holes



TiAlN | HPC UNI

ATORN® 180° high-performance drill bit, solid carbide TiAlN 5xD with internal cooling

For universal use up to 1000 N/mm²

VHM | TiAlN | 5xD | 180° | IK | HA

Application:
For producing drill holes with 180° drill base in a single action for universal application up to 1000 N/mm².

Execution:
- Heavy-duty solid carbide drill with 180° precision grinding and drill heels

Advantage:
- drilling and counterboring in a single work step at high cutting speed
- Innovative geometry ensures good chip removal

Notes:
maximum spot drilling surface angle 15°
correction factor = 0.25
when spot drilling, multiply feed rate f [mm/U] by correction factor Kf
– spot drill at reduced feed rate until tool reaches 0.25xD across full ø
– for angled spot drilling: retract at double feed rate f [mm/U]
– after spot drilling at reduced feed rate (correction factor) drilling continues
at feed rate f [mm/U] according to recommended cutting data without correction factors

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Tool holding device					HA parallel shank	
Surface					TiAlN	
Coolant supply					Internal	
Tolerance of cutting edge Ø					h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11168... Ident. No.	
8	8	53	91	0.13	280	●
9	10	61	103	0.14	290	●
10	10	61	103	0.14	300	●
11	12	69	116	0.16	310	●

Tool holding device					HA parallel shank	
Surface					TiAlN	
Coolant supply					Internal	
Tolerance of cutting edge Ø					h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11168... Ident. No.	
15	16	81	131	0.18	350	●
18	18	91	141	0.20	380	●
20	20	99	151	0.23	400	●

Prod. Gr. 1AB

Solid carbide TiAlN high-performance drill reamer range

Application:

For producing clearance bore holes up to a strength of 1300 N/mm².

advantage:
- drilling and reaming in one work step, ensures high profitability
- innovative cutting geometry with 6 drill heels ensures high bore hole quality
- long service life owing to high-quality cutting material and coating




H7 | TiAlN | HPC

ATORN® high-performance drill reamer, solid carbide TiAlN 5xD with internal cooling

For universal use up to 1000 N/mm²

VHM | TiAlN | 5xD | 140° | IK | HA | H7

Application:
For producing H7 drill holes in a single action for universal application up to 1000 N/mm².

Execution:
- high-performance drill reamer with 6 drill heels

Advantage:
- drilling and reaming in H7 quality in a single work step at a high cutting speed
- innovative geometry for productively and reliably machining holes in H7 quality

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				Tool holding device	HA parallel shank	
				Surface	TiAlN	
				Coolant supply	Internal	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/U)	11175... Ident. No.	
5.98	6	53	91	0.19	400	●
5.99	6	53	91	0.19	402	●
6	6	53	91	0.19	404	●
6.01	6	53	91	0.19	406	●
6.02	6	53	91	0.19	408	●
7.98	8	53	91	0.23	410	●
7.99	8	53	91	0.23	412	●
8	8	53	91	0.23	414	●
8.01	8	53	91	0.23	416	●
8.02	8	53	91	0.23	418	●
9.98	10	61	103	0.28	420	●
9.99	10	61	102	0.28	422	●
10	10	61	103	0.28	424	●
10.01	10	61	103	0.28	426	●
10.02	10	61	103	0.28	428	●
11.98	12	71	118	0.32	430	●
11.99	12	71	118	0.32	432	●
12	12	71	118	0.32	434	●
12.01	12	71	118	0.32	436	●
12.02	12	71	118	0.32	438	●
14	14	77	124	0.35	440	●
16	16	83	133	0.37	442	●
18	18	93	143	0.39	444	●
20	20	101	153	0.40	446	●

Prod. Gr. 117

solid carbide drill 3-blade

Application:
for precise position and shape drilling into the main body.

advantage:
- special geometry with 3 cutting edges: innovative cutting geometry for precise position and shape drilling into the main body without centring
- universal application: wide range of cemented carbide qualities and geometries for wide-ranging applications, therefore longer service life and high process stability

TiN | Z 3

ATORN® Solid carbide high-performance drill 3-flute without IC

for universal use up to 1300 N/mm²

VHM | TiN | 5xD | 150° | HA | Z 3

Application:
No. 11164 030–11164 102, 11167 030–11167 102: Special geometry with 3 cutting edges for precise position and shape drilling into the main body.
No. 11166: special geometry with 3 cutting edges for precise position and shape drilling into the main body.

Execution:
- **No. 11164:** SC drill bit, 3-edge, uncoated, **for machining steels up to 1000 N/mm²**
- **No. 11166:** SC drill bit, 3-edge, TiN **for machining steels and non-ferrous metals**
- **No. 11167:** SC drill bit, 3-edge, 3xD, uncoated, **for machining cast and non-ferrous metals**

Advantage:
- special geometry with three cutting edges: innovative cutting geometry for precise position and shape drilling into the main body

No. 11164

No. 11166

No. 11167

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11164	80	70	50	35	30	170	200	120	100	70	60	50		80					
11166	85	75	55	35		180	210	140						80					
11167	85	75	55	35	30	180	210	140	100	70	60	50		90					

					Tool holding device	HA parallel shank		HA parallel shank		HA parallel shank	
					Surface	Uncoated		TiN		Uncoated	
					Coolant supply	External		External		External	
					Tolerance of cutting edge Ø	h7		h7		h7	
mm	mm	mm	mm	f steel 1000 ● (mm/U)		11164... Ident. No.		11166... Ident. No.		11167... Ident. No.	
3	3	22	46	0.09		030	●	030	●	030	●
3.2	3.2	24	49	0.09		032	●	032	●	032	●
3.3	3.3	24	49	0.09		033	●	033	●	033	●
3.5	3.5	27	52	0.09		035	●	035	●	035	●
3.8	3.8	30	55	0.09		038	●	038	●	038	●
4	4	30	55	0.09		040	●	040	●	040	●
4.2	4.2	30	55	0.09		042	●	042	●	042	●
4.5	4.5	32	58	0.09		045	●	045	●	045	●
4.8	4.8	35	62	0.09		048	●	048	●	048	●
5	5	35	62	0.09		050	●	050	●	050	●
5.5	5.5	39	66	0.1		055	●	055	●	055	●
5.8	5.8	39	66	0.1		058	●	058	●	058	●
6	6	39	66	0.11		060	●	060	●	060	●
6.5	6.5	42	70	0.12		065	●	065	●	065	●
6.8	6.8	45	74	0.12		068	●	068	●	068	●
7	7	45	74	0.12		070	●	070	●	070	●
7.5	7.5	45	74	0.13		075	●	075	●	075	●
7.8	7.8	48	79	0.14		078	●	078	●	078	●
8	8	48	79	0.14		080	●	080	●	080	●
8.5	8.5	48	79	0.15		085	●	085	●	085	●
9	9	52	84	0.16		090	●	090	●	090	●
9.5	9.5	52	84	0.17		095	●	095	●	095	●
9.8	9.8	55	89	0.18		098	●	098	●	098	●
10	10	55	89	0.19		100	●	100	●	100	●
10.2	10.2	55	89	0.19		102	●	102	●	102	●

Prod. Gr. 113

Twist drill, solid carbide, TYPE N range

Application:
Standard geometry for use up to a strength of 1300 N/mm².
advantage:

- excellent all-round properties and precise cutting behaviour in a wide range of materials
- universal application: minimises tool costs and improves flexibility
- high-quality cutting material and cutting edge preparation minimise micro-fractures on the cutter



Typ N | TiAlN

ATORN® Twist drill solid carbide 3xD type N without IC (DIN 1897)

for universal use up to 1300 N/mm²

VHM | TiAlN | 118° | 3xD | Typ N | HA

Application:
Standard geometry for use up to a strength of 1300 N/mm².

Execution:

- Standard solid carbide tool with universal precision grinding

Advantage:

- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Cutting edge preparation minimises micro-fractures on the cutter
- **No. 11153:** TiAlN coating for up to 50% longer service life, dry processing possible in steel


No. 11150


No. 11153

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11150	70	60	50	30	28	140	190	130	120	130	120	100	80	80	25	25	25		
11153	80	70	60	32	30	150	200	140	150	150	130	100	80	90	30	30	30		

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/U)	11150... Ident. No.		11153... Ident. No.	
0.5	3	20	0.02	005	●	005	●
0.6	3.5	21	0.02	006	●	006	●
0.7	4.5	23	0.02	007	●	007	●
0.8	5	24	0.02	008	●	008	●
0.9	5.5	25	0.02	009	●	009	●
1	6	26	0.03	010	●	010	●
1.1	7	28	0.03	011	●	011	●
1.2	8	30	0.03	012	●	012	●
1.3	8	30	0.03	013	●	013	●
1.4	9	32	0.05	014	●	014	●
1.5	9	32	0.05	015	●	015	●
1.6	10	34	0.06	016	●	016	●
1.7	10	34	0.06	017	●	017	●
1.8	11	36	0.06	018	●	018	●
1.9	11	36	0.06	019	●	019	●
2	12	38	0.06	020	●	020	●
2.1	12	38	0.07	021	●	021	●
2.2	13	40	0.07	022	●	022	●
2.3	13	40	0.07	023	●	023	●
2.4	14	43	0.07	024	●	024	●
2.5	14	43	0.07	025	●	025	●
2.6	14	43	0.08	026	●	026	●
2.7	16	46	0.08	027	●	027	●
2.8	16	46	0.08	028	●	028	●
2.9	16	46	0.08	029	●	029	●
3	16	46	0.09	030	●	030	●
3.1	18	49	0.09	031	●	031	●
3.2	18	49	0.09	032	●	032	●
3.3	18	49	0.09	033	●	033	●
3.4	20	52	0.09	034	●	034	●
3.5	20	52	0.09	035	●	035	●
3.6	20	52	0.09	036	●	036	●
3.7	20	52	0.09	337	●	337	●
3.8	22	55	0.09	038	●	038	●
3.9	22	55	0.09	039	●	039	●
4	22	55	0.09	040	●	040	●
4.1	22	55	0.09	041	●	041	●
4.2	22	55	0.09	042	●	042	●
4.3	24	58	0.09	043	●	043	●
4.4	24	58	0.09	344	●	344	●
4.5	24	58	0.09	045	●	045	●
4.6	24	58	0.09	046	●	046	●
4.7	24	58	0.09	347	●	347	●
4.8	26	62	0.09	048	●	048	●
4.9	26	62	0.09	349	●	349	●
5	26	62	0.09	050	●	050	●
5.1	26	62	0.09	051	●	051	●
5.2	26	62	0.09	052	●	052	●
5.3	26	62	0.09	353	●	353	●
5.4	28	66	0.09	354	●	354	●
5.5	28	66	0.1	055	●	055	●
5.6	28	66	0.1	356	●	356	●
5.7	28	66	0.1	357	●	357	●

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/U)	11150... Ident. No.		11153... Ident. No.	
5.8	28	66	0.1	058	●	058	●
5.9	28	66	0.1	359	●	359	●
6	28	66	0.1	060	●	060	●
6.1	31	70	0.1	061	●	061	●
6.2	31	70	0.1	362	●	362	●
6.3	31	70	0.1	363	●	363	●
6.4	31	70	0.1	364	●	364	●
6.5	31	70	0.11	065	●	065	●
6.6	31	70	0.11	366	●	366	●
6.7	31	70	0.11	367	●	367	●
6.8	34	74	0.11	068	●	068	●
6.9	34	74	0.11	369	●	369	●
7	34	74	0.11	070	●	070	●
7.1	34	74	0.11	371	●	371	●
7.2	34	74	0.11	372	●	372	●
7.3	34	74	0.11	373	●	373	●
7.4	34	74	0.11	374	●	374	●
7.5	34	74	0.12	075	●	075	●
7.6	37	79	0.12	376	●	376	●
7.7	37	79	0.12	377	●	377	●
7.8	37	79	0.12	378	●	378	●
7.9	37	79	0.12	379	●	379	●
8	37	79	0.12	080	●	080	●
8.1	37	79	0.12	081	●	081	●
8.2	37	79	0.12	082	●	082	●
8.3	37	79	0.12	383	●	383	●
8.4	37	79	0.13	384	●	384	●
8.5	37	79	0.13	085	●	085	●
8.6	40	84	0.13	386	●	386	●
8.7	40	84	0.13	387	●	387	●
8.8	40	84	0.13	388	●	388	●
8.9	40	84	0.13	389	●	389	●
9	40	84	0.13	090	●	090	●
9.1	40	84	0.13	391	●	391	●
9.2	40	84	0.14	392	●	392	●
9.3	40	84	0.14	393	●	393	●
9.4	40	84	0.14	394	●	394	●
9.5	40	84	0.14	095	●	095	●
9.6	43	89	0.14	396	●	396	●
9.7	43	89	0.14	397	●	397	●
9.8	43	89	0.14	098	●	098	●
9.9	43	89	0.14	399	●	399	●
10	43	89	0.15	100	●	100	●
10.2	43	89	0.15	102	●	102	●
10.5	43	89	0.15	105	●	105	●
11	47	95	0.16	110	●	110	●
11.2	47	95	0.16	112	●	112	●
11.5	47	95	0.16	115	●	115	●
12	51	102	0.17	120	●	120	●
13	51	102	0.18	130	●	130	●
14	54	107	0.19	140	●	140	●
15	56	111	0.19	150	●	150	●
16	58	115	0.2	160	●	160	●

Prod. Gr. 1AB

ATORN® Twist drill solid carbide 5xD type N without IC (DIN 338)

for universal use up to 1300 N/mm²

VHM | TiAlN | 118° | 5xD | Typ N | HA

Application:
Standard geometry for use up to a strength of 1300 N/mm².

Execution:
- **No. 11155:** Standard solid carbide tool with universal precision grinding
- **No. 11157:** Standard solid carbide tool with universal precision-ground flutes

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Cutting edge preparation minimises micro-fractures on the cutter
- **No. 11157:** TiAlN coating for up to 50% longer service life, dry processing possible in steel

No. 11155

No. 11157

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11155	70	60	50	30	28	140	190	130	120	130	120	100	80	80	25	25	25		
11157	80	70	60	32	30	150	200	140	150	150	130	100	80	90	30	30	30		

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/U)	11155... Ident. No.		11157... Ident. No.	
1	12	34	0.04	010	●	010	●
1.1	14	36	0.04	011	●	011	●
1.2	16	38	0.05	012	●	012	●
1.3	16	38	0.05	013	●	013	●
1.4	18	40	0.05	014	●	014	●
1.5	18	40	0.05	015	●	015	●
1.6	20	43	0.06	016	●	016	●
1.7	20	43	0.06	017	●	017	●
1.8	22	46	0.06	018	●	018	●
1.9	22	46	0.06	019	●	019	●
2	24	49	0.06	020	●	020	●
2.1	24	49	0.07	021	●	021	●
2.2	27	53	0.07	022	●	022	●
2.3	27	53	0.07	023	●	023	●
2.4	30	57	0.07	024	●	024	●
2.5	30	57	0.07	025	●	025	●
2.6	30	57	0.08	026	●	026	●
2.7	33	61	0.08	027	●	027	●
2.8	33	61	0.08	028	●	028	●
2.9	33	61	0.08	029	●	029	●
3	33	61	0.09	030	●	030	●
3.1	36	65	0.09	031	●	031	●
3.2	36	65	0.09	032	●	032	●
3.3	36	65	0.09	033	●	033	●
3.4	39	70	0.09	034	●	034	●
3.5	39	70	0.09	035	●	035	●
3.6	39	70	0.09	036	●	036	●
3.7	39	70	0.09	037	●	037	●
3.8	43	75	0.09	038	●	038	●
3.9	43	75	0.09	039	●	039	●
4	43	75	0.09	040	●	040	●
4.1	43	75	0.09	041	●	041	●
4.2	43	75	0.09	042	●	042	●
4.3	47	80	0.09	043	●	043	●
4.4	47	80	0.09	044	●	344	●
4.5	47	80	0.09	045	●	045	●
4.6	47	80	0.09	346	●	346	●
4.7	47	80	0.09	047	●	047	●
4.8	52	86	0.09	048	●	048	●
4.9	52	86	0.09	049	●	049	●
5	52	86	0.09	050	●	050	●
5.1	52	86	0.09	051	●	051	●
5.2	52	86	0.09	052	●	052	●
5.3	52	86	0.09	053	●	053	●
5.4	57	93	0.09	354	●	354	●
5.5	57	93	0.1	055	●	055	●
5.6	57	93	0.1	356	●	356	●
5.7	57	93	0.1	057	●	057	●
5.8	57	93	0.1	058	●	058	●

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/U)	11155... Ident. No.		11157... Ident. No.	
5.9	57	93	0.1	359	●	359	●
6	57	93	0.1	060	●	060	●
6.1	63	101	0.1	361	●	361	●
6.2	63	101	0.1	062	●	062	●
6.3	63	101	0.1	063	●	063	●
6.4	63	101	0.1	364	●	364	●
6.5	63	101	0.11	065	●	065	●
6.6	63	101	0.11	066	●	066	●
6.7	63	101	0.11	367	●	367	●
6.8	69	109	0.11	068	●	068	●
6.9	69	109	0.11	369	●	369	●
7	69	109	0.11	070	●	070	●
7.1	69	109	0.11	371	●	371	●
7.2	69	109	0.11	372	●	372	●
7.3	69	109	0.11	373	●	373	●
7.4	69	109	0.11	374	●	374	●
7.5	69	109	0.12	075	●	075	●
7.6	75	117	0.12	376	●	376	●
7.7	75	117	0.12	377	●	377	●
7.8	75	117	0.12	378	●	378	●
7.9	75	117	0.12	379	●	379	●
8	75	117	0.12	080	●	080	●
8.1	75	117	0.12	381	●	381	●
8.2	75	117	0.12	382	●	382	●
8.3	75	117	0.12	383	●	383	●
8.4	75	117	0.13	384	●	384	●
8.5	75	117	0.13	085	●	085	●
8.6	81	125	0.13	386	●	386	●
8.7	81	125	0.13	387	●	387	●
8.8	81	125	0.13	088	●	088	●
8.9	81	125	0.13	389	●	389	●
9	81	125	0.13	090	●	090	●
9.1	81	125	0.13	391	●	391	●
9.2	81	125	0.14	392	●	392	●
9.3	81	125	0.14	393	●	393	●
9.4	81	125	0.14	394	●	394	●
9.5	81	125	0.14	095	●	095	●
9.6	87	133	0.14	396	●	396	●
9.7	87	133	0.14	397	●	397	●
9.8	87	133	0.14	398	●	398	●
9.9	87	133	0.14	399	●	399	●
10	87	133	0.14	100	●	100	●
10.2	87	133	0.14	102	●	102	●
10.5	87	133	0.14	105	●	105	●
11	94	142	0.15	110	●	110	●
11.5	94	142	0.15	115	●	115	●
12	101	151	0.18	120	●	120	●
13	101	151	0.18	130	●	130	●

Prod. Gr. 1AB

ATORN® Twist drill sets solid carbide type N without IC

In box

VHM | TiN | 3xD | Typ N | HA

Application:
Standard geometry for use up to a strength of 1300 N/mm².

Execution:
- Standard solid carbide tool with universal precision grinding

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Cutting edge preparation minimises micro-fractures on the cutter
- robust metal box protects the tool from damage

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Surface			Uncoated		TiN	
Composition of set	Number of pieces in assortment/set (PCS)	Pitch of drill Ø	11150... Ident. No.		11151... Ident. No.	
1.0-10.0	10	1 mm	900	●	900	●

Prod. Gr. 1AB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11150900	70	60	50	30	28	140	190	130	120	130	120	100	80	80	25	25	25		
11151900	80	70	60	32	30	150	200	140	150	150	130	100	80	90	30	30	30		

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

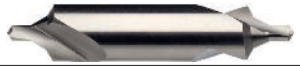
Centre drill, type A

application: for centre drilling with type A on conventional and CNC machines.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 55HRC		page
11001	0.5-12.5 mm	HSS	●	●	○		●	●				52
11011	1.0-5.0 mm	HSSE	●	●	●	●	●	●	○			53
11002	1.0-5.0 mm	HSSE	●	●	●	●	●	●	●			53
11004	0.5-6.3 mm	HSSE	●	●	●	●	●	●	●			53
11008	1.0-4.0 mm	VHM	●	●	●	●	●	●	●	○		54
11003	0.5-6.3 mm	HSS	●	●	○		●	●				54
11014	0.75-5.0 mm	HSSE	●	●	○		●	●				55
11001160-630	1.6-6.3 mm	HSSE	●	●	●	●	●	●	○			53-54

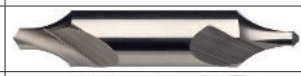
Centre drill with protective chamfer, type B

application: for centre drilling with type B on conventional and CNC machines. protection countersink protects the centre drill from damage.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	N	K		page
11012	1.6-4.0 mm	HSS	●	●	○	●	●		55

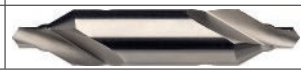
Centre drill with radius, type R

application: for centre drilling with type R on conventional and CNC machines. radius ensures low risk of breakage and compensates for offset.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11010	0.5-12.5 mm	HSS	●	●	○		●	●			56
11010160-630	1.6-6.3 mm	HSSE	●	●	●	●	●	●	○		56

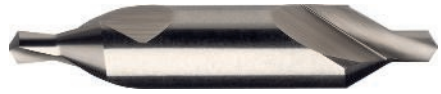
Centre drill with reinforcing bulge, type W

application: for centre drilling with type W on conventional and CNC machines. bead ensures additional lubricant space.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	N	K		page
11005	1.0-5.0 mm	HSS	●	●	○	●	●		57

ATORN® HSS centre drill, form A (DIN 333)

for universal use up to 1000 N/mm²



Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding. diameter 0.5–0.8, ground on one side

Advantage:
- radial relief ensures optimum chip breaking

Delivery:
Packaging unit: ref. no. 005 - 031 = 10 pieces (price per piece)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11001	35	20	10	10		50	70	40	30	35	30	20	10	20					

				Surface	Uncoated	
mm	mm	mm	mm	f steel 700 ● (mm/U)	11001... Ident. No.	
0.5	3.15	0.6-0.8 mm	25	0.01	005	●
0.8	3.15	1-1.2 mm	25	0.02	008	●
1	3.15	1.3-1.6 mm	31.5	0.02	010	●
1.25	3.15	1.6-1.9 mm	31.5	0.03	012	●
1.6	4	2-2.4 mm	30.3	0.03	016	●
2	5	2.5-2.9 mm	40	0.04	020	●
2.5	6.3	3.1-3.6 mm	45	0.05	025	●
3.15	8	3.9-4.4 mm	50	0.05	031	●
4	10	5-5.6 mm	56	0.06	040	●
5	12.5	6.3-6.9 mm	63	0.07	050	●
6.3	16	8-8.6 mm	71	0.08	063	●
8	20	10.1-11.1 mm	80	0.08	080	●
10	25	12.8-13.8 mm	100	0.08	100	●
12.5	31.5	16.5-17.5 mm	125	0.08	125	●

Prod. Gr. 1AD

ATORN® HSSE centre drill, form A (DIN 333)

for universal use up to 1300 N/mm²

60° | HSSE | TiN | TiAlN | Form A | HA

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding. diameter 0.5–0.8, ground on one side

Advantage:
- radial relief ensures optimum chip breaking
- **No. 11002:** TiAlN coating ensures long service life
- **No. 11004:** TiN coating ensures long service life

Delivery:
No. 11002 010–11002 050, 11011 010–11011 050: Packaging unit: ref. no. 010 - 031 = 10 pieces (price per piece)
No. 11004: Packaging unit: ref. no. 005 - 031 = 10 pieces (price per piece)

No. 11004

No. 11002

No. 11011

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11002	40	20	20	15	10	50	80	40	30	35	30	20	10	20	5	5	5		
11004	40	20	20	15	10	50	80	40	30	35	30	20	10	20	5	5	5		
11011	40	20	20	15	10	50	80	40	30	35	40	20	10	20	5	5	5		

mm	mm	mm	mm	Surface f steel 1000 ● (mm/U)	TiN 11004... Ident. No.		TiAlN 11002... Ident. No.		Uncoated 11011... Ident. No.	
0.5	3.15	0.6-0.8 mm	25	0.01	005	●	-	-	-	-
0.8	3.15	1-1.2 mm	25	0.01	008	●	-	-	-	-
1	3.15	1.3-1.6 mm	31.5	0.01	010	●	010	●	010	●
1.25	3.15	1.6-1.9 mm	31.5	0.02	012	●	012	●	012	●
1.6	4	2-2.4 mm	30.3	0.02	016	●	016	●	016	●
2	5	2.5-2.9 mm	40	0.02	020	●	020	●	020	●
2.5	6.3	3.1-3.6 mm	45	0.03	025	●	025	●	025	●
3.15	8	3.9-4.4 mm	50	0.03	031	●	031	●	031	●
4	10	5-5.6 mm	56	0.04	040	●	040	●	040	●
5	12.5	6.3-6.9 mm	63	0.04	050	●	050	●	050	●
6.3	16	8-8.6 mm	71	0.05	063	●	-	-	-	-

Prod. Gr. 1AD

ATORN® HSS centre-drill set, form A (DIN 333)

for universal use up to 1300 N/mm²

60° | HSS | HSSE | TiAlN | TiN | Form A | HA

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with grinding relief in metal box

Advantage:
- radial relief ensures optimum chip breaking
- robust metal box
- **No. 11002:** TiAlN coating ensures long service life
- **No. 11004:** TiN coating ensures long service life

Surface	Uncoated 11001... Ident. No.		TiAlN 11002... Ident. No.		TiN 11004... Ident. No.	
Composition of set						
1 each of diameter 1.0/1.6/5.0 mm | 2 each of diameter 2.0/2.5/4.0 mm | 3 each of diameter 3.15 mm	900	●	900	●	900	●

Prod. Gr. 1AD

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11001900	35	20	10	10		50	70	40	30	35	30	20	10	20					
11002900	40	20	20	15	10	50	80	40	30	35	30	20	10	20	5	5	5		
11004900	40	20	20	15	10	50	80	40	30	35	30	20	10	20	5	5	5		

ATORN® HSSE centre drill form A with surface (DIN 333)

for universal use up to 1000 N/mm²

60° | HSSE | Form A | HA

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- Face ensures good accessibility
- radial relief ensures optimum chip breaking

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11001160-630	40	20	20	15	10	50	80	40	30	35	40	20	10	20	5	5	5		

mm	mm	mm	mm	Surface f steel 700 ● (mm/U)	Uncoated 11001... Ident. No.	
1.6	4	2-2.6 mm	35	0.03	160	●
2	5	2.5-3.1 mm	40	0.04	200	●
2.5	6.3	3.1-3.8 mm	45	0.05	250	●
3.15	8	3.9-4.6 mm	50	0.05	315	●
4	10	5-5.9 mm	55	0.06	400	●
5	12.5	6.3-7.2 mm	63	0.07	500	●
6.3	16	8-8.9 mm	71	0.08	630	●

Prod. Gr. 1AD

ATORN® HSS centre drill, form A left (DIN 333)

for universal use up to 1000 N/mm²

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding. diameter 0.5–0.8, ground on one side

Advantage:
- radial relief ensures optimum chip breaking

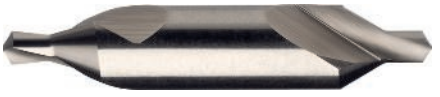
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11003	35	20	10	10		50	70	40	30	35	30	20	10	20					

mm	mm	mm	mm	Surface f steel 700 ● (mm/U)	Uncoated 11003... Ident. No.	
0.5	3.15	0.6-0.9 mm	25	0.01	105	●
0.8	3.15	1-1.3 mm	25	0.02	108	●
1	3.15	1.3-1.7 mm	31	0.02	110	●
1.25	3.15	1.6-2 mm	31	0.03	125	●
1.6	4	2-2.6 mm	35	0.03	160	●
2	5	2.5-3.1 mm	40	0.04	200	●
2.5	6.3	3.1-3.8 mm	45	0.05	250	●
3.15	8	3.9-4.6 mm	50	0.05	315	●
4	10	5-5.9 mm	55	0.06	400	●
5	12.5	6.3-7.2 mm	63	0.07	500	●
6.3	16	8-8.9 mm	71	0.08	630	●

Prod. Gr. 1AD

ATORN® Solid carbide centre drill, form A (DIN 333)

for universal use up to 1300 N/mm²



Application:
For centre drilling on CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- radial relief ensures optimum chip breaking
- Solid carbide cutting material ensures a broad application range and an extremely long service life in series production

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11008	80	60	40	30	25	180	190	70	60	60	50	40	40	60	20	20	20	4	

mm	mm	mm	mm	Surface f steel 1300 ● (mm/U)	Uncoated 11008... Ident. No.	
1	3.15	1.3-1.6 mm	31.5	0.03	010	●
1.25	3.15	1.6-1.9 mm	31.5	0.04	012	●
1.6	4	2-2.4 mm	30.3	0.05	016	●
2	5	2.5-2.9 mm	40	0.06	020	●
2.5	6.3	3.1-3.6 mm	45	0.07	025	●
3.15	8	3.9-4.4 mm	50	0.09	031	●
4	10	5-5.6 mm	56	0.11	040	●

Prod. Gr. 1AC

ATORN® HSS centre drill, extra long (DIN 333)

for universal use up to 1000 N/mm²

Application:
For centre drilling on conventional and CNC machines on low-lying or difficult-to-access components.

Advantage:
- Extra length permits precise drilling, even on difficult-to-access components
- Radial relief ensures optimum chip breaking

Execution:
- spiral-fluted design with relief grinding

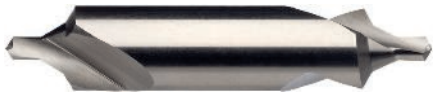
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11014	40	20	10	10		50	80	40	35	35	30	20	10	20					

mm	mm	mm	mm	f steel 700 ● (mm/U)	11014... Ident. No.	
0.75	3.5	1-1.2 mm	120	0.02	020	●
1	4	1.3-1.6 mm	120	0.02	030	●
1.6	5	2-2.4 mm	120	0.03	050	●
2	6	2.5-2.9 mm	120	0.04	070	●
2.5	8	3.1-3.6 mm	120	0.05	100	●
2.5	6.3	3.1-3.6 mm	200	0.05	300	●
3.15	10	3.9-4.4 mm	120	0.05	150	●
3.15	8	3.9-4.4 mm	200	0.05	350	●
4	10	5-5.6 mm	120	0.06	170	●
4	10	5-5.6 mm	200	0.06	370	●
5	14	6.3-6.9 mm	120	0.07	200	●

Prod. Gr. 1AD

ATORN® HSS centre drill with protective countersink form B (DIN 333)

for universal use up to 1000 N/mm²

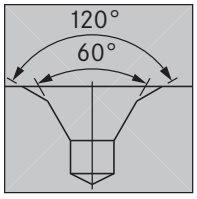


Application:
For centre drilling on conventional and CNC machines.

Advantage:
- Protective countersink protects the centre drill from damage
- Radial relief ensures optimum chip breaking

Execution:
- Spiral-fluted design with grinding relief

Delivery:
Packing unit: Ref. 016 - 025 = 10 units (price per unit)



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11012	40	20	10	10		50	80	40	35	35	30	20	10	20					

mm	mm	mm	mm	f steel 700 ● (mm/U)	11012... Ident. No.	
1.6	6.3	2-2.4 mm	45	0.03	016	●
2	8	2.5-2.9 mm	50	0.04	020	●
2.5	10	3.1-3.6 mm	56	0.05	025	●
3.15	11.2	3.9-4.4 mm	60	0.05	031	●
4	14	5-5.6 mm	67	0.06	040	●

Prod. Gr. 1AD

ATORN® HSS centre drill with radius type R (DIN 333)

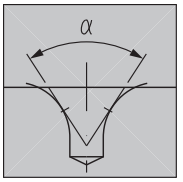
for universal use up to 1000 N/mm²

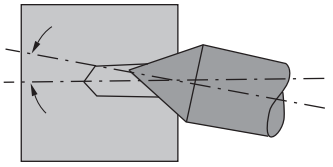
Application:
For centre drilling on CNC machines.

Execution:
- spiral-fluted design with relief grinding. diameter 0.5–0.8, ground on one side

Advantage:
- less risk of centre drill breakage, since the radius does not leave behind sharp edges
- radius compensates for positioning inaccuracies and angle errors (sufficient bearing surface present even with offset lathe centre)

Delivery:
Packaging unit: ref. no. 005 - 025 = 10 pieces (price per piece)





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11010	40	20	10	10		50	80	40	35	35	30	20	10	20					

mm	mm	mm	mm	R	f steel 700 ● (mm/U)	11010... Ident. No.	
0.5	3.15	2.3-2.6 mm	25	2	0.01	005	●
0.8	3.15	2.6-2.9 mm	25	2.5	0.02	008	●
1	3.15	3-3.3 mm	31.5	2.9	0.02	010	●
1.25	3.15	3.3-3.6 mm	31.5	3.15	0.03	012	●
1.6	4	4.2-4.7 mm	30.3	4	0.03	016	●
2	5	5-5.4 mm	40	5	0.04	020	●
2.5	6.3	6.3-6.8 mm	45	6.3	0.05	025	●
3.15	8	8-8.5 mm	50	8	0.05	031	●
4	10	10-10.6 mm	56	10	0.06	040	●
5	12.5	12.5-13.1 mm	63	12.5	0.07	050	●
6.3	16	16-16.6 mm	71	16	0.08	063	●
8	20	20-20.7 mm	80	20	0.08	080	●
10	25	25-25.7 mm	100	25	0.08	100	●
12.5	31.5	31.5-32.3 mm	125	31.5	0.08	125	●

Prod. Gr. 1AD

ATORN® HSSE centre drill with radius form R with surface (DIN 333)

for universal use up to 1300 N/mm²

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- radius compensates for positioning inaccuracies and angle errors (sufficient bearing surface present even with offset lathe centre)
- radial relief ensures optimum chip breaking
- Face ensures good accessibility

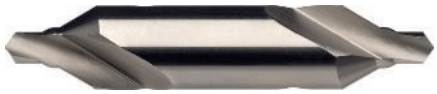
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11010160-630	40	20	20	15	10	50	80	40	30	35	40	20	10	20	5	5	5		

mm	mm	mm	mm	R	11010... Ident. No.	
1.6	4	4.2-4.7 mm	35	4	160	●
2	5	5-5.4 mm	40	5	200	●
2.5	6.3	6.3-6.8 mm	45	6.3	250	●
3.15	8	8-8.5 mm	50	8	315	●
4	10	10-10.6 mm	55	10	400	●
5	12.5	12.5-13.1 mm	63	12.5	500	●
6.3	16	16-16.6 mm	71	16	630	●

Prod. Gr. 1AD

ATORN® HSS centre drill with bulge type W (DIN 333)

for universal use up to 1000 N/mm²



Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- Bulge ensures additional room for lubricant
- radial relief ensures optimum chip breaking

Delivery:
Packaging unit: ref. no. 005 - 031 = 10 pieces (price per piece)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11005	40	20	10	10		50	80	40	35	35	30	20	10	20					

mm	mm	mm	mm	f steel 700 ● (mm/U)	11005... Ident. No.	
1	3.15	1.3-1.6 mm	31.5	0.02	010	●
1.6	4	2-2.4 mm	30.3	0.03	016	●
2	5	2.5-2.9 mm	40	0.04	020	●
2.5	6.3	3.1-3.6 mm	45	0.05	025	●
3.15	8	3.9-4.4 mm	50	0.05	031	●
4	10	5-5.6 mm	56	0.06	040	●
5	12.5	6.3-6.9 mm	63	0.07	050	●

Prod. Gr. 1AD

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

90° NC spotting drill

application: for NC drilling 90° on conventional and CNC machines.
drilling and countersinking in a single operation.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	S	H 55HRC		page
11016	3-25 mm	HSSE	●	●	●	●	●				59
11019031-251	3-25 mm	HSSE	●	●	●	●	●	○			59
11019606-620	6-20 mm	HSSE	●	●	●	●	●	●			59
11016740-860	4-16 mm	HSSE	●	●	●	●	●				59
11019541-661	4-16 mm	HSSE	●	●	●	●	●	○			59
11018	3-20 mm	VHM	●	●	●	●	●	●	○		59-60
11016035-205	3-20 mm	HSSE	●	●	●	●	●				60
11022	3-16 mm	HSS	●	●	●	●	●	●			60

120° NC spotting drill

application: for NC drilling 120° on conventional and CNC machines. ensures optimum centring for 118° drills.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	S	H 55HRC		page
11015	3-25 mm	HSSE	●	●	●	●	●				61
11019030-160	3-16 mm	HSSE	●	●	●	●	●	○			61
11019506-516	6-16 mm	HSSE	●	●	●	●	●	●			61
11017	3-20 mm	VHM	●	●	●	●	●	●	○		61

142° NC spotting drill

Application: For 142° NC spot drilling on CNC machines.
Guarantees optimum centring for HPC 140° drills.

advantage:

- hole can be positioned precisely
- following tool does not wander
- centring recommended for HPC drills from 8xD

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	S	H 55HRC		page
11169	6-20 mm	VHM	●	●	●	●	●	○	○		62

ATORN® ORION® HSSE 90° NC spotting drill

for universal use up to 1300 N/mm²

Application:
For NC spot drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- **No. 11016 030–11016 250, 11019 031–11019 251, 11019 606–11019 620:** short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- **No. 11016 030–11016 860, 11019 541–11019 661:** 90° NC spotting drill for spot drilling and countersinking in a single action
- **No. 11016 740–11016 860, 11019 541–11019 601, 11019 621–11019 661:**
  - profile-ground, cost-effective NC spotting drill
  - short design with cross-cutter
- **No. 11019 031–11019 251:** 90° NC spotting drill for drilling and countersinking in one step
- **No. 11019 031–11019 601, 11019 621–11019 661:** TiN coating for increased service life requirements
- **No. 11019 606–11019 620:** TiNAlOX coating for increased service life requirements

No. 11016

No. 11019 031–11019 601, 11019 621–11019 661

No. 11019 606–11019 620

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11016	40	20	10	12	10	70	80	40	35	35	30	20	10	20	6				
11016740-860	40	20	10	12	10	70	80	40	35	35	30	20	10	20	6				
11019031-251	50	30	12	20	15	80	90	50	40	45	40	30	10	30	10	10	10		
11019541-661	50	30	12	20	15	80	90	50	40	45	40	30	10	30	10	10	10		
11019606-620	50	30	10	20	15	80	90	50	40	45	40	30	10	30	8	8	8		

				ATORN®		ATORN®		ORION®		ORION®		ATORN®	
			Surface	Uncoated		TiN		Uncoated		TiN		TiNALOX	
			Tool holding device	HA parallel shank		HA parallel shank		HA parallel shank		HA parallel shank		HB parallel shank	
mm	mm	mm	f steel 1000 ● (mm/U)	11016... Ident. No.		11019... Ident. No.		11016... Ident. No.		11019... Ident. No.		11019... Ident. No.	
3	10	50	0.04	030	●	031	●	-	-	-	-	-	-
4	12	52	0.05	040	●	041	●	740	●	541	●	-	-
5	15	60	0.05	050	●	051	●	751	●	552	●	-	-
6	20	66	0.06	060	●	061	●	761	●	561	●	606	●
8	25	79	0.07	080	●	081	●	780	●	581	●	608	●
10	25	89	0.08	100	●	101	●	800	●	601	●	610	●
12	30	102	0.08	120	●	121	●	820	●	621	●	612	●
14	35	115	0.09	140	●	-	-	-	-	-	-	-	-
16	35	115	0.09	160	●	161	●	860	●	661	●	616	●
18	40	131	0.09	180	●	181	●	-	-	-	-	-	-
20	40	131	0.09	200	●	201	●	-	-	-	-	620	●
25	45	138	0.1	250	●	251	●	-	-	-	-	-	-

ATORN® = Prod. Gr. 1AD
ORION = Prod. Gr. 1AO

ATORN® ORION® NC spotting drill solid carbide 90°

for universal use up to 1300 N/mm²

Application:
For NC spot drilling on CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- Solid carbide cutting material for a broad range of uses and long service life in series production
- **Ident. No. 030–201, 530–701:** 90° NC spotting drill for drilling and countersinking in one step
- **Ident. No. 361–461:** 90° NC spotting drill for spot drilling and countersinking in a single action

Notes:
Ident. No. 530–701: Diameter <6 mm with HA shaft

Ident. No. 030–461

Ident. No. 530–701

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11018	70	60	40	30	25	180	200	150	130	80	70	50	20	70	20	20	20	4	
11018361-461	70	60	40	30	25	180	200	150	130	80	70	50	20	70	20	20	20	4	
11018530-701	70	60	40	30	25	180	200	150	130	80	70	50	20	70	20	20	20	4	

				ATORN®		ATORN®		ATORN®		ORION®		ATORN®	
			Surface	Uncoated		TiAlN plus		Uncoated		Uncoated		TiAlN plus	
			Tool holding device	HA parallel shank		HA parallel shank		HB parallel shank		HB parallel shank		HB parallel shank	
mm	mm	mm	f steel 1300 ● (mm/U)	11018... Ident. No.		11018... Ident. No.		11018... Ident. No.		11018... Ident. No.		11018... Ident. No.	
3	12	46	0.03	030	●	530	●	-	-	-	-	-	-
4	12	55	0.04	040	●	540	●	-	-	-	-	-	-
5	14	62	0.05	050	●	550	●	-	-	-	-	-	-
6	20	66	0.06	-	-	-	-	061	●	361	●	561	●
8	25	79	0.06	-	-	-	-	081	●	381	●	581	●
10	25	89	0.07	-	-	-	-	101	●	401	●	601	●
12	30	102	0.08	-	-	-	-	121	●	421	●	621	●
16	35	115	0.09	-	-	-	-	161	●	461	●	661	●
20	40	131	0.09	-	-	-	-	201	●	-	-	701	●

ATORN® = Prod. Gr. 1AC
ORION = Prod. Gr. 1AO

ATORN® HSSE 90° NC spotting drill, uncoated, extra-long

for universal use up to 1300 N/mm²

Application:
For NC spot drilling on conventional and CNC machines on deep-seated or hard to reach components.

Execution:
- Spiral-fluted design with relief grinding.

Advantage:
- short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- 90° NC spotting drill for spot drilling and countersinking in a single action
- Extra length enables precision drilling even on components that are difficult to reach

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11016035-205	40	20	10	12	10	70	80	80	50	40	30	20	10	20	10				

			Surface	Uncoated	
			Tool holding device	HA parallel shank	
mm	mm	mm	f steel 1000 ● (mm/U)	11016... Ident. No.	
3	10	80	0.04	035	●
4	12	100	0.05	045	●
5	15	120	0.05	055	●
6	20	140	0.06	065	●
8	25	140	0.07	085	●
10	25	170	0.08	105	●
12	30	170	0.08	125	●
16	35	200	0.09	165	●
20	40	200	0.09	205	●

Prod. Gr. 1AD

ORION® HSS 90° multifunctional tool

for universal use up to 1300 N/mm²

Application:
For centring, drilling, countersinking, chamfering and peripheral milling.

Execution:
- Spiral-fluted design with grinding relief

Advantage:
- Universal point geometry ensures a broad range of uses
- TiNAlOX coating for increased service life requirements

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11022	50	30	12	20	18	80	90	90	60	50	40	30	10	30	10	10	10		

mm	h6 mm	mm	mm	f steel 700 ● (mm/U)	11022... Ident. No.	
3	3	6	50	0.04	030	●
4	4	8	52	0.05	040	●
5	5	10	60	0.05	050	●
6	6	12	66	0.06	060	●
8	8	14	79	0.07	080	●
10	10	16	89	0.08	100	●
12	12	18	102	0.08	120	●
16	16	24	115	0.1	160	●

Prod. Gr. 1AO

ATORN® HSSE 120° NC spotting drill

for universal use up to 1300 N/mm²

HSSE | TiN | TiNAlOX | HA | HB

Application:
For NC spot drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- 120° NC spotting drill ensures precise centring (deflection of drill is minimised)
- **No. 11019 030–11019 160:** TiN coating for increased service life requirements
- **No. 11019 506–11019 516:** TiNAlOX coating for increased service life requirements

No. 11015

No. 11019 030–11019 160

No. 11019 506–11019 516

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11015	40	20	10	12	10	70	80	80	50	40	30	20	10	20	10				
11019030-160	50	30	12	20	18	80	90	90	60	50	40	30	10	30	10	10	10		
11019506-516	50	30	12	20	18	80	90	90	60	50	40	30	10	30	10	10	10		

			Surface	Uncoated		TiN		TiNALOX	
			Tool holding device	HA parallel shank		HA parallel shank		HB parallel shank	
mm	mm	mm	f steel 1000 ● (mm/U)	11015... Ident. No.		11019... Ident. No.		11019... Ident. No.	
3	10	50	0.04	030	●	030	●	-	-
4	12	52	0.05	040	●	040	●	-	-
5	15	60	0.05	050	●	050	●	-	-
6	20	66	0.06	060	●	060	●	506	●
8	25	79	0.07	080	●	080	●	508	●
10	25	89	0.08	100	●	100	●	510	●
12	30	102	0.08	120	●	120	●	512	●
14	35	115	0.09	140	●	-	-	-	-
16	35	115	0.09	160	●	160	●	516	●
20	40	131	0.09	200	●	-	-	-	-
25	45	138	0.1	250	●	-	-	-	-

Prod. Gr. 1AD

ATORN® ORION® NC spotting drill solid carbide 120°

for universal use up to 1300 N/mm²

VHM | TiAlN plus | HA | HB

Application:
For NC spot drilling on CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- 120° NC spotting drill for exact centring for subsequent machining of holes (drastically reduces untrue running of the drill)
- Solid carbide cutting material for a broad range of uses and long service life in series production

Notes:
Ident. No. 530–701: Diameter <6 mm with HA shaft

Ident. No. 030–461

Ident. No. 530–701

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11017	70	60	40	30	25	180	200	150	130	80	70	50	20	70	20	20	20	4	
11017361-461	70	60	40	30	25	180	200	150	130	80	70	50	20	70	20	20	20	4	
11017530-701	70	60	40	30	25	WS-N	200	150	130	80	70	50	20	70	20	20	20	4	

				ATORN®		ATORN®		ATORN®		ORION®		ATORN®	
			Surface	Uncoated		TiAlN plus		Uncoated		Uncoated		TiAlN plus	
			Tool holding device	HA parallel shank		HA parallel shank		HB parallel shank		HB parallel shank		HB parallel shank	
mm	mm	mm	f steel 1300 ● (mm/U)	11017... Ident. No.		11017... Ident. No.		11017... Ident. No.		11017... Ident. No.		11017... Ident. No.	
3	12	46	0.03	030	●	530	●	-	-	-	-	-	-
4	12	55	0.03	040	●	540	●	-	-	-	-	-	-
5	14	62	0.04	050	●	550	●	-	-	-	-	-	-
6	20	66	0.06	-	-	-	-	061	●	361	●	561	●
8	25	79	0.06	-	-	-	-	081	●	381	●	581	●
10	25	89	0.07	-	-	-	-	101	●	401	●	601	●
12	30	102	0.08	-	-	-	-	121	●	421	●	621	●
16	35	115	0.09	-	-	-	-	161	●	461	●	661	●
20	40	131	0.10	-	-	-	-	201	●	-	-	701	●

ATORN® = Prod. Gr. 1AC
ORION = Prod. Gr. 1AO

ATORN® Solid carbide TiAlN 142° NC spotting drill

for universal use up to 1300 N/mm²

142° | VHM | TiAlN | HB

Application:
For NC spot drilling on CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- 142° NC spotting drill provides a high-quality and precise hole for subsequent HPC drilling with a 140° tip angle
- short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- TiAlN coating for increased service life requirements

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11169	70	60	40	30	20	180	200	150	130	80	70	50	20	70	25	25	25	4	

			Surface	TiAlN
			Tool holding device	HB parallel shank
mm	mm	mm	f steel 1300 ● (mm/U)	11169... Ident. No.	
6	16	66	0.11	060	●
8	21	79	0.12	080	●
10	25	89	0.12	100	●
12	30	102	0.12	120	●
16	35	115	0.13	160	●
20	40	131	0.14	200	●

Prod. Gr. 1AC

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

twist drill type U4
for universal use up to 1300 N/mm²

Application:
series and single-part production, in particular on CNC machines in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups.

advantage:
- 4-surface cutting for drilling without centring
- universal application, thereby reducing tool costs to a minimum and increasing user flexibility
- innovative and high-quality coating technology ensures increased service life
- ideal for use on NC machines



Typ U4

	Ø	Cutting material	Nutzlänge	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11079	1.0-14.0 mm	HSSE	3xD	1897	●	●	●	●	●	●	○		67-68
11086	1.0-14.0 mm	HSSE	3xD	1897	●	●	●	●	●	●	○		67-68
11023	1.0-14.0 mm	HSSE	5xD	338	●	●	●	●	●	●	○		68
11037	1.0-14.0 mm	HSSE	5xD	338	●	●	●	●	●	●	○		68

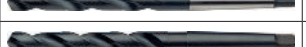
twist drill type N
for universal use up to 1000 N/mm²

Application:
series and single-part production on conventional and CNC machines in the steel, non-ferrous metals, cast iron up to a strength of 1000 N/mm² material groups.

advantage:
- long-term proven cutting geometry: excellent all-round properties and precise cutting behaviour
- universal application: tool costs minimised and greater flexibility for the user



Typ N

	Ø	Cutting material	Nutzlänge	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11020	0.3-20.0 mm	HSS	5xD	338	●	○			○	○			69-70
11066	1.0-25.0 mm	HSS	5xD	338	●	○			○	○			69-70
11022600-834	1.0-16.0 mm	HSS	5xD	338	●	○			○	○			69-70
11031	1.0-13.0 mm	HSS	5xD	338	●	○			○	●			70-71
11041	1.0-13.0 mm	HSS	5xD	338	●	○			○	○			70-71
11040	2.0-16.0 mm	HSS	5xD	338	●	○			○	○			71-72
11056	0.6-16.0 mm	HSS	10xD	340	●	○			○	○			72-73
11059	1.0-13.0 mm	HSS	10xD	340	●	○			○	○			72-73
11063	1.5-14.0 mm	HSS	20xD	1869	●	○			○	○			73
11070	5.0-65.0 mm	HSS	5xD	345	●	○			○	○			89-90
11071	10.0-60.0 mm	HSS	5xD	345	●	○			○	○			89-90
11084	14.0-25.0 mm	HSS	10xD	345	●	●			○	○			90

Twist drill type NV
For use in high-strength materials from 700 N/mm²

Application:
Series and single-part production on conventional and CNC machines for use in the steel, stainless steel, cast iron and special alloy material groups from a strength of 700 N/mm².

advantage:
- special geometry with reinforced core and increased thermal resistance
- use in high-strength materials owing to high cobalt content in cutting material



Typ NV

	Ø	Cutting material	Nutzlänge	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11052	1.0-20.0 mm	HSSE	3xD	1897	○	●	●	●		●	●		74-75
11053	1.0-20.0 mm	HSSE	3xD	1897	○	●	●	●	○	●	○		74-75
11026	1.0-13.0 mm	HSSE Co8	5xD	338	○	●	●	●	○	●	○		75-76

Twist drill type TLP
for universal use up to 1300 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, (stainless steel), non-ferrous metals, cast iron and special alloy material groups up to a strength of 1300 N/mm².

advantage:
- deep hole profile with large chipping spaces for optimised chip removal with larger drilling depths without venting
- favourable removal of chips owing to high chipping space volume



Typ TLP

	Ø	Cutting material	Nutzlänge	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11021	1.0-16.0 mm	HSS	5xD	338	●	○			●	●			76-77
11027	1.0-16.0 mm	HSSE	5xD	338	●	●	●	○	●	●	○		76-77
11033	1.0-15.0 mm	HSSE	5xD	338	●	●	●	○	●	●	○		76-77
11055	1.0-14.0 mm	HSS	10xD	340	●	●			●	●			77-78
11057	1.0-16.0 mm	HSSE	10xD	340	●	●	●	○	●	●	○		77-78
11060	1.0-12.0 mm	HSSE	10xD	340	●	●	●	○	●	●	○		77-78
11061	2.0-10.0 mm	HSS	15xD	1869	●	○			●	●			78
11085	8.0-25.0 mm	HSS	10xD	345	●	●			●	○			91

Twist drill type VA
For use in stainless steel and special alloys

Application:
Series and single-part production on conventional and CNC machines in the stainless steel, special alloy and (steel) material groups up to a strength of 1300 N/mm².

advantage:
- special geometry with aggressive cutter design and free geometry for very smooth cutting in stainless steel and special alloys
- long service life owing to increased cobalt content



Typ VA

	Ø	Cutting material	Nutzlänge	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11028	1.0-13.0 mm	HSSE	5xD	338	○	○	○	●	○		●		79-80
11029	0.3-16.0 mm	HSSE	5xD	338	○	○	○	●	○		●		79-80
11058	1.0-12.0 mm	HSSE	10xD	340	○	○	○	●	○		●		80
11074	11.0-23.0 mm	HSSE	5xD	345	○	○	○	●	○		●		90

Twist drill type X
for universal use up to 1300 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1300 N/mm².

advantage:
- very high wear resistance and heat resistance owing to high-quality HSSE-PM cutting material
- high cutting edge stability owing to special point thinning and cutting angle adjustment
- very long service life in higher-alloyed steels and materials



Typ X

	Ø	Cutting material	Nutzlänge	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11080	1.0-14.0 mm	HSSE-PM	3xD	1897	●	●	●	●	●	●	○		81
11025	1.0-14.0 mm	HSSE-PM	5xD	338	●	●	●	●	●	●	○		82

twist drill type UNI/VA HSSE V3
for high-strength and stainless steel processing

application:
problem solver on conventional machines without internal cooling in the following material groups: steel, stainless steel and high-strength materials

advantage:
- special geometry in conjunction with HSSE-V3 cutting material makes the drill the ultimate problem solver
- very high cutting speeds achievable
- very long service life in high-alloyed steels and stainless steels
- for low-performance machines without internal cooling in stainless steel



TiAlN

Typ VA

micro twist drill HSSE-PM
for universal use up to 1300 N/mm²

Application:
for machining micro holes up to a strength of 1300 N/mm².

advantage:
- high-quality HSSE PM cutting material provides maximum toughness and is therefore less susceptible to breakage
- diameter from 0.05 mm–1.50 mm
- cost-effective alternative to solid carbide range




Typ N

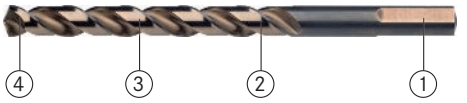
	Ø	Cutting material	Nutzlänge	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11054	0.05-1.5 mm	HSSE-PM	5xD	1899	●	●	●	●	●	●	○		83

Multi-twist drill
Straight shank with 3-surface cut

Application:
The multi-twist drill was specially developed for mobile use on cordless drill screwdrivers (plates up to 5 mm) and electronic drills.
advantage:

- Three-faced polished section on the shank ensures optimum power transmission and fastening in drill chuck. Slippage is a thing of the past. Less effort when opening or closing in drill chuck.
- 40° twist angle ensures reliable removal of chippings during universal use. Higher cutting speeds with increased stability and accuracy.
- Special coating in connection with relief grinding provides for maximum adhesion of the lubricant and reliable chip removal.
- In the case of hand-held applications with a cordless drill screwdriver in particular, the 135° tip angle provides for a very high precision of the bore hole, a reduced cutting edge (extension of the battery life) and optimum centring precision, thanks to the innovative centre grinding.





	Ø	Cutting material	Nutzlänge	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11032020-130	2.0-13.0 mm	HSSE	5xD	338	●	●	○	●	●	○	○		84

Twist drill with soldered cemented carbide cutting insert

Application:
series and single-part production on conventional and CNC machines.
advantage:

- polished chipping space ensures favourable chip removal
- cemented carbide cutting insert K20 ensures long service life
- ideal where high elasticity with high wear resistance is required
- excellent price/performance ratio



HM

Typ **N**

	Ø	Schneid-stoff	Max. drilling depth (D)	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11160	1.5-20.0 mm	Carbide	4xD	8037	●	●	●	○	○	●	○			-
11162	3.0-12.0 mm	Carbide	4xD	8037								●		-
11163	13.0-30.0 mm	Carbide	4xD	8041	●	●	●	○	○	●	○			-

twist drill type U4
for universal use up to 1300 N/mm²

Application:
series and single-part production, in particular on CNC machines in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups.

advantage:
- 4-surface cutting for drilling without centring
- universal application, thereby reducing tool costs to a minimum and increasing user flexibility
- innovative and high-quality coating technology ensures increased service life
- ideal for use on NC machines



Typ U4

ATORN® Twist drill type U4 HSSE 3xD (DIN 1897)
for universal use up to 1300 N/mm²

HSSE | TiNAlOX | 3xD | Typ U4 | 118° | HA

Application:
Universal use in all material groups up to a strength of 1300 N/mm2.

Execution:
- **No. 11079:** Twist drill with 4-facet ground
- **No. 11086:** Twist drill with 4-surface cut

Advantage:
- innovative cutting geometry: 4-faced polished section for drilling without centring
- universal use: tool costs minimised and greater flexibility for the user
- **No. 11086:** extremely hard, low-friction, temperature-resistant and form-fitting TiNAlOX coating ensures greater service life

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)


No. 11079


No. 11086

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11079	40	20	10	10	8	60	80	70	45	40	30	30	10	30	10	10	10		
11086	40	20	10	10	8	60	80	70	45	40	30	30	10	30	10	10	10		

Cutting material				HSSE		HSSE	
Surface				Uncoated		TiNALOX	
mm	mm	mm	f steel 1000 ● (mm/U)	11079... Ident. No.		11086... Ident. No.	
1	6	26	0.03	015	●	015	●
1.1	7	28	0.03	017	●	017	●
1.2	8	30	0.03	020	●	020	●
1.3	8	30	0.03	022	●	022	●
1.4	9	32	0.03	024	●	024	●
1.5	9	32	0.03	026	●	026	●
1.6	10	34	0.03	029	●	029	●
1.7	10	34	0.03	031	●	031	●
1.8	11	36	0.03	033	●	033	●
1.9	11	36	0.03	035	●	035	●
2	12	38	0.03	038	●	038	●
2.1	12	38	0.03	040	●	040	●
2.2	13	40	0.04	042	●	042	●
2.3	13	40	0.04	044	●	044	●
2.4	14	43	0.04	047	●	047	●
2.5	14	43	0.04	049	●	049	●
2.6	14	43	0.04	051	●	051	●
2.7	16	46	0.04	053	●	053	●
2.8	16	46	0.04	056	●	056	●
2.9	16	46	0.04	058	●	058	●
3	16	46	0.04	060	●	060	●
3.1	18	49	0.04	062	●	062	●
3.2	18	49	0.04	065	●	065	●
3.3	18	49	0.05	067	●	067	●
3.4	20	52	0.05	069	●	069	●
3.5	20	52	0.05	071	●	071	●
3.6	20	52	0.05	074	●	074	●
3.7	20	52	0.06	076	●	076	●
3.8	22	55	0.06	078	●	078	●
3.9	22	55	0.06	080	●	080	●
4	22	55	0.06	083	●	083	●
4.1	22	55	0.06	084	●	084	●
4.2	22	55	0.07	085	●	085	●
4.3	24	58	0.07	087	●	087	●
4.4	24	58	0.07	089	●	089	●
4.5	24	58	0.07	090	●	090	●
4.6	24	58	0.08	091	●	091	●
4.7	24	58	0.08	092	●	092	●
4.8	26	62	0.08	095	●	095	●
4.9	26	62	0.08	096	●	096	●
5	26	62	0.08	097	●	097	●
5.1	26	62	0.09	098	●	098	●
5.2	26	62	0.09	099	●	099	●

Cutting material				HSSE		HSSE	
Surface				Uncoated		TiNALOX	
mm	mm	mm	f steel 1000 ● (mm/U)	11079... Ident. No.		11086... Ident. No.	
5.3	26	62	0.09	101	●	101	●
5.4	28	66	0.09	102	●	102	●
5.5	28	66	0.1	103	●	103	●
5.6	28	66	0.1	105	●	105	●
5.7	28	66	0.1	106	●	106	●
5.8	28	66	0.1	108	●	108	●
5.9	28	66	0.1	109	●	109	●
6	28	66	0.11	111	●	111	●
6.1	31	70	0.11	112	●	112	●
6.2	31	70	0.11	113	●	113	●
6.3	31	70	0.11	115	●	115	●
6.4	31	70	0.12	117	●	117	●
6.5	31	70	0.12	118	●	118	●
6.6	31	70	0.12	119	●	119	●
6.7	31	70	0.12	120	●	120	●
6.8	34	74	0.12	122	●	122	●
6.9	34	74	0.13	123	●	123	●
7	34	74	0.13	124	●	124	●
7.1	34	74	0.13	125	●	125	●
7.2	34	74	0.13	127	●	127	●
7.3	34	74	0.14	129	●	129	●
7.4	34	74	0.14	130	●	130	●
7.5	34	74	0.14	131	●	131	●
7.6	37	79	0.14	133	●	133	●
7.7	37	79	0.14	134	●	134	●
7.8	37	79	0.15	136	●	136	●
7.9	37	79	0.15	137	●	137	●
8	37	79	0.15	139	●	139	●
8.1	37	79	0.15	140	●	140	●
8.2	37	79	0.15	141	●	141	●
8.3	37	79	0.15	143	●	143	●
8.4	37	79	0.15	145	●	145	●
8.5	37	79	0.15	146	●	146	●
8.8	40	84	0.16	151	●	151	●
9	40	84	0.16	153	●	153	●
9.3	40	84	0.16	158	●	158	●
9.5	40	84	0.16	160	●	160	●
9.8	43	89	0.16	165	●	165	●
10	43	89	0.16	168	●	168	●
10.2	43	89	0.16	170	●	170	●
10.5	43	89	0.17	175	●	175	●
11	47	95	0.17	182	●	182	●
11.5	47	95	0.17	188	●	188	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Cutting material				HSSE		HSSE	
			Surface	Uncoated		TiNALOX	
mm	mm	mm	f steel 1000 ● (mm/U)	11079... Ident. No.		11086... Ident. No.	
12	51	102	0.18	195	●	195	●
12.5	51	102	0.18	201	●	201	●
13	51	102	0.18	207	●	207	●
13.5	54	107	0.18	214	●	214	●
14	54	107	0.19	221	●	221	●

Prod. Gr. 1AG

ATORN® Twist drill type U4 HSSE 5xD (DIN 338)

for universal use up to 1300 N/mm²

HSSE | TiNAIOX | 5xD | Typ U4 | 118° | HA

No. 11023

No. 11037

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Application:
Universal application in all material groups up to a strength of 1300 N/mm2.

Execution:
- **No. 11023:** Twist drill with 4-surface cutting
- **No. 11037:** Twist drill with 4-flute cutting

Advantage:
- universal use: tool costs minimised and greater flexibility for the user
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAIOX coating ensures greater service life
- **No. 11023:** 4-flute cutting for drilling without centring
- **No. 11037:** 4-faced polished section for drilling without centring

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11023	40	20	10	10	8	60	80	70	45	40	30	30	10	30	10	10	10		
11037	40	20	10	10	8	60	80	70	45	40	30	30	10	30	10	10	10		

Cutting material				HSSE		HSSE	
			Surface	Uncoated		TiNALOX	
mm	mm	mm	f steel 1000 ● (mm/U)	11023... Ident. No.		11037... Ident. No.	
1	12	34	0.03	081	●	081	●
1.1	14	36	0.03	091	●	091	●
1.2	16	38	0.03	101	●	101	●
1.3	16	38	0.03	111	●	111	●
1.4	18	40	0.03	121	●	121	●
1.5	18	40	0.03	131	●	131	●
1.6	20	43	0.03	141	●	141	●
1.7	20	43	0.03	151	●	151	●
1.8	22	46	0.03	161	●	161	●
1.9	22	46	0.03	171	●	171	●
2	24	49	0.03	181	●	181	●
2.1	24	49	0.03	192	●	192	●
2.2	27	53	0.04	202	●	202	●
2.3	27	53	0.04	210	●	210	●
2.4	30	57	0.04	220	●	220	●
2.5	30	57	0.04	230	●	230	●
2.6	30	57	0.04	240	●	240	●
2.7	33	61	0.04	250	●	250	●
2.8	33	61	0.04	260	●	260	●
2.9	33	61	0.04	270	●	270	●
3	33	61	0.04	280	●	280	●
3.1	36	65	0.04	282	●	282	●
3.17	36	65	0.04	285	●	-	-
3.2	36	65	0.04	286	●	286	●
3.3	36	65	0.05	289	●	289	●
3.4	39	70	0.05	291	●	291	●
3.5	39	70	0.05	293	●	293	●
3.6	39	70	0.05	296	●	296	●
3.7	39	70	0.06	299	●	299	●
3.8	43	75	0.06	302	●	302	●
3.9	43	75	0.06	305	●	305	●
3.97	43	75	0.06	307	●	-	-
4	43	75	0.06	310	●	310	●
4.1	43	75	0.06	314	●	314	●
4.2	43	75	0.07	316	●	316	●
4.3	47	80	0.07	319	●	319	●
4.4	47	80	0.07	324	●	324	●
4.5	47	80	0.07	326	●	326	●
4.6	47	80	0.08	329	●	329	●
4.7	47	80	0.08	332	●	332	●
4.8	52	86	0.08	335	●	335	●
4.9	52	86	0.08	337	●	337	●
5	52	86	0.08	341	●	341	●
5.1	52	86	0.09	344	●	344	●
5.2	52	86	0.09	349	●	349	●
5.3	52	86	0.09	352	●	352	●
5.4	57	93	0.09	355	●	355	●
5.5	57	93	0.1	358	●	358	●
5.6	57	93	0.1	361	●	361	●
5.7	57	93	0.1	364	●	364	●
5.8	57	93	0.1	367	●	367	●
5.9	57	93	0.1	369	●	369	●
6	57	93	0.11	371	●	371	●
6.1	63	101	0.11	373	●	373	●
6.2	63	101	0.11	375	●	375	●
6.3	63	101	0.11	377	●	377	●
6.35	63	101	0.11	378	●	-	-
6.4	63	101	0.12	379	●	379	●
6.5	63	101	0.12	381	●	381	●
6.6	63	101	0.12	383	●	383	●
6.7	63	101	0.12	385	●	385	●
6.8	69	109	0.12	387	●	387	●
6.9	69	109	0.13	389	●	389	●
7	69	109	0.13	391	●	391	●
7.1	69	109	0.13	393	●	393	●
7.2	69	109	0.13	396	●	396	●
7.3	69	109	0.14	398	●	398	●
7.4	69	109	0.14	400	●	400	●
7.5	69	109	0.14	402	●	402	●
7.6	75	117	0.14	405	●	405	●
7.7	75	117	0.14	407	●	407	●
7.8	75	117	0.15	409	●	409	●
7.9	75	117	0.15	411	●	411	●
7.94	75	117	0.15	412	●	-	-
8	75	117	0.15	414	●	414	●
8.1	75	117	0.15	416	●	416	●
8.2	75	117	0.15	418	●	418	●
8.3	75	117	0.15	420	●	420	●
8.4	75	117	0.15	423	●	423	●
8.5	75	117	0.15	425	●	425	●
8.6	81	125	0.15	427	●	427	●
8.7	81	125	0.15	429	●	429	●
8.8	81	125	0.16	432	●	432	●
8.9	81	125	0.16	434	●	434	●
9	81	125	0.16	436	●	436	●
9.1	81	125	0.16	438	●	438	●
9.2	81	125	0.16	441	●	441	●
9.3	81	125	0.16	443	●	443	●
9.4	81	125	0.16	445	●	445	●
9.5	81	125	0.16	447	●	447	●
9.6	87	133	0.16	450	●	450	●
9.7	87	133	0.16	452	●	452	●
9.8	87	133	0.16	454	●	454	●
9.9	87	133	0.16	456	●	456	●
10	87	133	0.16	459	●	459	●
10.2	87	133	0.16	461	●	461	●
10.3	87	133	0.16	463	●	-	-
10.5	87	133	0.17	466	●	466	●
11	94	142	0.17	473	●	473	●
11.11	94	142	0.17	475	●	-	-
11.5	94	142	0.17	480	●	480	●
12	101	151	0.18	488	●	488	●
12.5	101	151	0.18	494	●	494	●
13	101	151	0.18	500	●	500	●
13.5	108	160	0.18	505	●	507	●
14	108	160	0.19	510	●	514	●

Prod. Gr. 1AG

twist drill type N
for universal use up to 1000 N/mm²

Application:
series and single-part production on conventional and CNC machines in the steel, non-ferrous metals, cast iron up to a strength of 1000 N/mm² material groups.

advantage:
- long-term proven cutting geometry: excellent all-round properties and precise cutting behaviour
- universal application: tool costs minimised and greater flexibility for the user



Typ N

ATORN® Twist drill type N HSS 5xD (DIN 338)
for universal use up to 1000 N/mm²

HSS | TiN | 5xD | Typ N | 118° | HA

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- **No. 11020 011–11020 577, 11066 081–11066 561:** Twist drill with universal standard geometry
- **No. 11022:** twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- **No. 11020:** vaporisation ensures favourable adherence of coolant
- **No. 11022–11066:** TiN coating for increased requirements in service life

Delivery:
No. 11020: box quantity: drill Ø 1.0–6.0 mm = 10 units (price per unit)

Notes:
No. 11020: vaporised drill Ø >2.4 mm


No. 11020


No. 11022


No. 11066

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11020	30	20		10		50	45	40	35	40	30	20	10	25					
11022600-834	30	20		10		50	45	40	35	40	30	20	10	25					
11066	30	20		10		50	45	40	35	40	30	20	10	25					

Cutting material				HSS		HSS		HSS	
Surface				Vapor-ised		TiN		TiN	
mm	mm	mm	f steel 700 ● (mm/U)	11020... Ident. No.		11022... Ident. No.		11066... Ident. No.	
0.3	3	20	0.02	011	●	-	-	-	-
0.4	5	20	0.03	021	●	-	-	-	-
0.45	5	20	0.03	025	●	-	-	-	-
0.5	6	22	0.03	031	●	-	-	-	-
0.6	7	24	0.03	041	●	-	-	-	-
0.65	7	24	0.03	045	●	-	-	-	-
0.7	9	28	0.03	051	●	-	-	-	-
0.75	9	28	0.03	055	●	-	-	-	-
0.8	10	30	0.03	061	●	-	-	-	-
0.85	10	30	0.03	065	●	-	-	-	-
0.9	11	32	0.03	071	●	-	-	-	-
0.95	11	32	0.03	075	●	-	-	-	-
1	12	34	0.03	081	●	600	●	081	●
1.1	14	36	0.04	091	●	602	●	091	●
1.19	16	38	0.04	095	●	-	-	-	-
1.2	16	38	0.04	101	●	604	●	101	●
1.25	16	38	0.04	105	●	-	-	105	●
1.3	16	38	0.04	111	●	606	●	111	●
1.4	18	40	0.04	121	●	608	●	121	●
1.45	18	40	0.04	125	●	-	-	125	●
1.5	18	40	0.04	131	●	610	●	131	●
1.6	20	43	0.04	141	●	612	●	141	●
1.7	20	43	0.04	151	●	614	●	151	●
1.8	22	46	0.04	161	●	616	●	161	●
1.9	22	46	0.05	171	●	618	●	171	●
2	24	49	0.05	181	●	620	●	181	●
2.05	24	49	0.05	185	●	-	-	185	●
2.1	24	49	0.05	192	●	622	●	192	●
2.15	24	49	0.05	195	●	-	-	195	●
2.2	27	53	0.05	202	●	624	●	202	●
2.3	27	53	0.05	210	●	626	●	210	●
2.4	30	57	0.05	220	●	628	●	220	●
2.49	30	57	0.05	229	●	-	-	-	-
2.5	30	57	0.05	230	●	630	●	230	●
2.6	30	57	0.06	240	●	632	●	240	●
2.65	30	57	0.06	245	●	-	-	-	-
2.7	33	61	0.06	250	●	634	●	250	●
2.8	33	61	0.06	260	●	636	●	260	●
2.9	33	61	0.06	270	●	638	●	270	●
3	33	61	0.06	280	●	640	●	280	●
3.1	36	65	0.06	282	●	642	●	282	●

Cutting material				HSS		HSS		HSS	
Surface				Vapor-ised		TiN		TiN	
mm	mm	mm	f steel 700 ● (mm/U)	11020... Ident. No.		11022... Ident. No.		11066... Ident. No.	
3.15	36	65	0.06	283	●	-	-	-	-
3.17	36	65	0.06	285	●	-	-	-	-
3.2	36	65	0.07	286	●	644	●	286	●
3.25	36	65	0.07	287	●	-	-	-	-
3.26	36	65	0.07	288	●	-	-	-	-
3.3	36	65	0.07	289	●	646	●	289	●
3.4	39	70	0.07	291	●	648	●	291	●
3.5	39	70	0.07	293	●	650	●	293	●
3.6	39	70	0.08	296	●	652	●	296	●
3.7	39	70	0.08	299	●	654	●	299	●
3.8	43	75	0.08	302	●	656	●	302	●
3.9	43	75	0.09	305	●	658	●	305	●
3.97	43	75	0.09	308	●	-	-	-	-
4	43	75	0.09	310	●	660	●	310	●
4.09	43	75	0.09	312	●	-	-	-	-
4.1	43	75	0.09	314	●	662	●	314	●
4.2	43	75	0.09	316	●	664	●	316	●
4.25	43	75	0.09	318	●	-	-	-	-
4.3	47	80	0.1	319	●	666	●	319	●
4.37	47	80	0.1	323	●	-	-	-	-
4.4	47	80	0.1	324	●	668	●	324	●
4.5	47	80	0.1	326	●	670	●	326	●
4.6	47	80	0.11	329	●	672	●	329	●
4.65	47	80	0.11	331	●	-	-	-	-
4.7	47	80	0.11	332	●	674	●	332	●
4.76	47	80	0.11	334	●	-	-	-	-
4.8	52	86	0.11	335	●	676	●	335	●
4.9	52	86	0.11	337	●	678	●	337	●
5	52	86	0.12	341	●	680	●	341	●
5.1	52	86	0.12	344	●	682	●	344	●
5.16	52	86	0.12	347	●	-	-	-	-
5.2	52	86	0.12	349	●	684	●	349	●
5.25	52	86	0.12	350	●	-	-	-	-
5.3	52	86	0.12	352	●	686	●	352	●
5.4	57	93	0.13	355	●	688	●	355	●
5.5	57	93	0.13	358	●	690	●	358	●
5.55	57	93	0.13	359	●	-	-	-	-
5.56	57	93	0.13	360	●	-	-	-	-
5.6	57	93	0.13	361	●	692	●	361	●
5.65	57	93	0.13	362	●	-	-	-	-
5.7	57	93	0.14	364	●	694	●	364	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Cutting material				HSS		HSS		HSS	
			Surface	Vapor-ised		TiN		TiN	
			f steel 700 ● (mm/U)	11020... Ident. No.		11022... Ident. No.		11066... Ident. No.	
mm	mm	mm							
5.8	57	93	0.14	367	●	696	●	367	●
5.9	57	93	0.14	369	●	698	●	369	●
6	57	93	0.14	371	●	700	●	371	●
6.1	63	101	0.15	373	●	702	●	373	●
6.2	63	101	0.15	375	●	704	●	375	●
6.3	63	101	0.15	377	●	706	●	377	●
6.35	63	101	0.15	378	●	-	-	-	-
6.4	63	101	0.16	379	●	708	●	379	●
6.5	63	101	0.16	381	●	710	●	381	●
6.6	63	101	0.16	383	●	712	●	383	●
6.7	63	101	0.16	385	●	714	●	385	●
6.75	63	101	0.16	386	●	-	-	-	-
6.8	69	109	0.17	387	●	716	●	387	●
6.9	69	109	0.17	389	●	718	●	389	●
7	69	109	0.17	391	●	720	●	391	●
7.1	69	109	0.18	393	●	722	●	393	●
7.2	69	109	0.18	396	●	724	●	396	●
7.3	69	109	0.18	398	●	726	●	398	●
7.4	69	109	0.18	400	●	728	●	400	●
7.5	69	109	0.19	402	●	730	●	402	●
7.55	69	109	0.19	403	●	-	-	-	-
7.6	75	117	0.19	405	●	732	●	405	●
7.7	75	117	0.19	407	●	734	●	407	●
7.8	75	117	0.19	409	●	736	●	409	●
7.9	75	117	0.2	411	●	738	●	411	●
7.94	75	117	0.2	412	●	-	-	-	-
8	75	117	0.2	414	●	740	●	414	●
8.1	75	117	0.2	416	●	742	●	416	●
8.2	75	117	0.2	418	●	744	●	418	●
8.3	75	117	0.2	420	●	746	●	420	●
8.4	75	117	0.2	423	●	748	●	423	●
8.5	75	117	0.21	425	●	750	●	425	●
8.6	81	125	0.21	427	●	752	●	427	●
8.7	81	125	0.21	429	●	754	●	429	●
8.75	81	125	0.21	431	●	-	-	-	-
8.8	81	125	0.21	432	●	756	●	432	●
8.9	81	125	0.21	434	●	758	●	434	●
9	81	125	0.21	436	●	760	●	436	●
9.1	81	125	0.21	438	●	762	●	438	●
9.2	81	125	0.21	441	●	764	●	441	●
9.3	81	125	0.21	443	●	766	●	443	●
9.4	81	125	0.21	445	●	768	●	445	●
9.5	81	125	0.22	447	●	770	●	447	●
9.52	81	125	0.22	448	●	-	-	-	-
9.6	87	133	0.22	450	●	772	●	450	●
9.7	87	133	0.22	452	●	774	●	452	●
9.8	87	133	0.22	454	●	776	●	454	●
9.9	87	133	0.22	456	●	778	●	456	●
10	87	133	0.22	459	●	780	●	459	●
10.1	87	133	0.22	460	●	782	●	460	●
10.2	87	133	0.22	461	●	784	●	461	●
10.25	87	133	0.22	462	●	-	-	-	-
10.3	87	133	0.22	463	●	786	●	463	●
10.4	87	133	0.22	465	●	788	●	465	●
10.5	87	133	0.23	466	●	790	●	466	●
10.6	87	133	0.23	467	●	792	●	467	●
10.7	94	142	0.23	468	●	794	●	468	●
10.72	94	142	0.23	469	●	-	-	-	-
10.8	94	142	0.23	471	●	796	●	471	●
10.9	94	142	0.23	472	●	798	●	472	●
11	94	142	0.23	473	●	800	●	473	●
11.1	94	142	0.23	474	●	802	●	474	●
11.2	94	142	0.23	476	●	804	●	476	●
11.3	94	142	0.23	478	●	806	●	478	●
11.4	94	142	0.23	479	●	808	●	479	●
11.5	94	142	0.24	480	●	810	●	480	●
11.6	94	142	0.24	482	●	812	●	482	●
11.7	94	142	0.24	483	●	814	●	483	●
11.8	94	142	0.24	485	●	816	●	485	●
11.9	101	151	0.24	486	●	818	●	486	●
12	101	151	0.24	488	●	820	●	488	●
12.1	101	151	0.24	489	●	822	●	489	●
12.2	101	151	0.24	490	●	824	●	490	●
12.3	101	151	0.24	492	●	826	●	492	●
12.4	101	151	0.24	493	●	828	●	493	●
12.5	101	151	0.25	494	●	830	●	494	●
12.6	101	151	0.25	495	●	832	●	495	●
12.7	101	151	0.25	496	●	834	●	496	●
12.8	101	151	0.25	498	●	836	●	498	●
12.9	101	151	0.25	499	●	838	●	499	●
13	101	151	0.25	500	●	840	●	500	●
13.25	108	160	0.25	503	●	842	●	-	-
13.5	108	160	0.26	507	●	844	●	505	●
13.75	108	160	0.26	510	●	846	●	-	-
14	108	160	0.26	514	●	848	●	514	●
14.25	114	169	0.26	517	●	850	●	-	-
14.5	114	169	0.27	521	●	852	●	521	●
14.75	114	169	0.27	525	●	854	●	-	-
15	114	169	0.27	528	●	856	●	528	●
15.25	120	178	0.27	532	●	858	●	-	-
15.5	120	178	0.28	536	●	860	●	536	●
15.75	120	178	0.28	539	●	862	●	-	-
16	120	178	0.28	543	●	864	●	543	●
16.5	125	187	0.28	550	●	-	-	550	●
17	125	187	0.29	557	●	-	-	557	●
17.5	130	196	0.29	561	●	-	-	-	-
18	130	196	0.3	564	●	-	-	561	●
18.5	135	205	0.3	567	●	-	-	-	-
19	135	205	0.3	570	●	-	-	-	-
19.5	140	214	0.31	574	●	-	-	-	-
20	140	214	0.31	577	●	-	-	-	-

Price/unit, €

Prod. Gr. 1AA

ORION® Twist drill type N HSS 5xD (DIN 338)

for universal use up to 1000 N/mm²

HSS | TiN | 5xD | Typ N | 118° | HA

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility

- **No. 11031:** TiN coating for increased service life requirements
- **No. 11041:** Vaporisation ensures favourable adherence of coolant

Delivery:
box quantity: drill Ø 1.0–6.0 mm = 10 units (price per unit)

Notes:
No. 11041: steam-treated drill Ø >2.4 mm

No. 11031

No. 11041

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11031	40	20		10		50	45	40	35	40	30	20	10	30	10				
11041	30	20		10		50	45	40	35	40	30	20	10	25					

Cutting material				HSS		HSS	
			Surface	TiN		Vaporised	
			f steel 700 ● (mm/U)	11031... Ident. No.		11041... Ident. No.	
mm	mm	mm					
1	12	34	0.03	081	●	081	●
1.1	14	36	0.04	091	●	091	●
1.2	16	38	0.04	101	●	101	●
1.3	16	38	0.04	111	●	111	●
1.4	18	40	0.04	121	●	121	●
1.5	18	40	0.04	131	●	131	●

Cutting material			Surface	HSS TiN		HSS Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11031... Ident. No.		11041... Ident. No.	
1.6	20	43	0.04	141	●	141	●
1.7	20	43	0.04	151	●	151	●
1.8	22	46	0.04	161	●	161	●
1.9	22	46	0.05	171	●	171	●
2	24	49	0.05	181	●	181	●
2.1	24	49	0.05	192	●	192	●
2.2	27	53	0.05	202	●	202	●
2.3	27	53	0.05	210	●	210	●
2.4	30	57	0.05	220	●	220	●
2.5	30	57	0.05	230	●	230	●
2.6	30	57	0.06	240	●	240	●
2.7	33	61	0.06	250	●	250	●
2.8	33	61	0.06	260	●	260	●
2.9	33	61	0.06	270	●	270	●
3	33	61	0.06	280	●	280	●
3.1	36	65	0.06	282	●	282	●
3.2	36	65	0.07	286	●	286	●
3.3	36	65	0.07	289	●	289	●
3.4	39	70	0.07	291	●	291	●
3.5	39	70	0.07	293	●	293	●
3.6	39	70	0.08	296	●	296	●
3.7	39	70	0.08	299	●	299	●
3.8	43	75	0.08	302	●	302	●
3.9	43	75	0.09	305	●	305	●
4	43	75	0.09	310	●	310	●
4.1	43	75	0.09	314	●	314	●
4.2	43	75	0.09	316	●	316	●
4.3	47	80	0.1	319	●	319	●
4.4	47	80	0.1	324	●	324	●
4.5	47	80	0.1	326	●	326	●
4.6	47	80	0.11	329	●	329	●
4.7	47	80	0.11	332	●	332	●
4.8	52	86	0.11	335	●	335	●
4.9	52	86	0.11	337	●	337	●
5	52	86	0.12	341	●	341	●
5.1	52	86	0.12	344	●	344	●
5.2	52	86	0.12	349	●	349	●
5.3	52	86	0.12	352	●	352	●
5.4	57	93	0.13	355	●	355	●
5.5	57	93	0.13	358	●	358	●
5.6	57	93	0.13	361	●	361	●
5.7	57	93	0.14	364	●	364	●
5.8	57	93	0.14	367	●	367	●
5.9	57	93	0.14	369	●	369	●
6	57	93	0.14	371	●	371	●
6.1	63	101	0.15	373	●	373	●
6.2	63	101	0.15	375	●	375	●

Cutting material			Surface	HSS TiN		HSS Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11031... Ident. No.		11041... Ident. No.	
6.3	63	101	0.15	377	●	377	●
6.4	63	101	0.16	379	●	379	●
6.5	63	101	0.16	381	●	381	●
6.6	63	101	0.16	383	●	383	●
6.7	63	101	0.16	385	●	385	●
6.8	69	109	0.17	387	●	387	●
6.9	69	109	0.17	389	●	389	●
7	69	109	0.17	391	●	391	●
7.1	69	109	0.18	393	●	393	●
7.2	69	109	0.18	396	●	396	●
7.3	69	109	0.18	398	●	398	●
7.4	69	109	0.18	400	●	400	●
7.5	69	109	0.19	402	●	402	●
7.6	75	117	0.19	405	●	405	●
7.7	75	117	0.19	407	●	407	●
7.8	75	117	0.19	409	●	409	●
7.9	75	117	0.2	411	●	411	●
8	75	117	0.2	414	●	414	●
8.1	75	117	0.2	416	●	416	●
8.2	75	117	0.2	418	●	418	●
8.3	75	117	0.2	420	●	420	●
8.4	75	117	0.2	423	●	423	●
8.5	75	117	0.21	425	●	425	●
8.6	81	125	0.21	427	●	427	●
8.7	81	125	0.21	429	●	429	●
8.8	81	125	0.21	432	●	432	●
8.9	81	125	0.21	434	●	434	●
9	81	125	0.21	436	●	436	●
9.1	81	125	0.21	438	●	438	●
9.2	81	125	0.21	441	●	441	●
9.3	81	125	0.21	443	●	443	●
9.4	81	125	0.21	445	●	445	●
9.5	81	125	0.22	447	●	447	●
9.6	87	133	0.22	450	●	450	●
9.7	87	133	0.22	452	●	452	●
9.8	87	133	0.22	454	●	454	●
9.9	87	133	0.22	456	●	456	●
10	87	133	0.22	459	●	459	●
10.2	87	133	0.22	461	●	461	●
10.5	87	133	0.23	466	●	466	●
10.75	94	142	0.23	-	-	470	●
11	94	142	0.23	473	●	473	●
11.5	94	142	0.24	480	●	480	●
11.75	94	142	0.24	-	-	484	●
12	101	151	0.24	488	●	488	●
12.5	101	151	0.25	494	●	494	●
13	101	151	0.25	500	●	500	●

Prod. Gr. 1AP

ORION® Twist drill type N HSS 5xD, roll forged (DIN 338)

for universal use up to 1000 N/mm²

HSS | 5xD | Typ N | 118° | HA

Application:
for drilling on hand-guided drills and CNC machines.

Execution:
- Twist drill with universal standard geometry, roll forged

Advantage:
- excellent all-round properties and precise cutting pattern
- vaporisation ensures favourable adherence of coolant
- the drill is perfectly suited to machining on hand-operated machines due to its high degree of resilience
- very economical tool

Delivery:
packing unit: drill bits up to Ø10, 20 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11040	30	20		10		50	45	40	35	40	30	20	10	25					

Cutting material			Surface	HSS Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11040... Ident. No.	
2	24	49	0.05	181	●
2.1	24	49	0.05	192	●
2.2	27	53	0.05	202	●
2.3	27	53	0.05	210	●
2.4	30	57	0.05	220	●
2.5	30	57	0.05	230	●
2.6	30	57	0.06	240	●
2.7	33	61	0.06	250	●
2.8	33	61	0.06	260	●
2.9	33	61	0.06	270	●
3	33	61	0.06	280	●

Cutting material			Surface	HSS Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11040... Ident. No.	
3.1	36	65	0.06	282	●
3.2	36	65	0.07	286	●
3.3	36	65	0.07	289	●
3.4	39	70	0.07	291	●
3.5	39	70	0.07	293	●
3.6	39	70	0.08	296	●
3.7	39	70	0.08	299	●
3.8	43	75	0.08	302	●
3.9	43	75	0.09	305	●
4	43	75	0.09	310	●
4.1	43	75	0.09	314	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

			Cutting material	HSS	
			Surface	Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11040... Ident. No.	
4.2	43	75	0.09	316	●
4.3	47	80	0.1	319	●
4.4	47	80	0.1	324	●
4.5	47	80	0.1	326	●
4.6	47	80	0.11	329	●
4.7	47	80	0.11	332	●
4.8	52	86	0.11	335	●
4.9	52	86	0.11	337	●
5	52	86	0.12	341	●
5.1	52	86	0.12	344	●
5.2	52	86	0.12	349	●
5.3	52	86	0.12	352	●
5.4	57	93	0.13	355	●
5.5	57	93	0.13	358	●
5.6	57	93	0.13	361	●
5.7	57	93	0.14	364	●
5.8	57	93	0.14	367	●
5.9	57	93	0.14	369	●
6	57	93	0.14	371	●
6.1	63	101	0.15	373	●
6.2	63	101	0.15	375	●
6.3	63	101	0.15	377	●
6.4	63	101	0.16	379	●
6.5	63	101	0.16	381	●
6.6	63	101	0.16	383	●
6.7	63	101	0.16	385	●
6.8	69	109	0.17	387	●
6.9	69	109	0.17	389	●
7	69	109	0.17	391	●
7.1	69	109	0.18	393	●
7.2	69	109	0.18	396	●
7.3	69	109	0.18	398	●
7.4	69	109	0.18	400	●
7.5	69	109	0.19	402	●
7.6	75	117	0.19	405	●
7.7	75	117	0.19	407	●
7.8	75	117	0.19	409	●

			Cutting material	HSS	
			Surface	Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11040... Ident. No.	
7.9	75	117	0.2	411	●
8	75	117	0.2	414	●
8.1	75	117	0.2	416	●
8.2	75	117	0.2	418	●
8.3	75	117	0.2	420	●
8.4	75	117	0.2	423	●
8.5	75	117	0.21	425	●
8.6	81	125	0.21	427	●
8.7	81	125	0.21	429	●
8.8	81	125	0.21	432	●
8.9	81	125	0.21	434	●
9	81	125	0.21	436	●
9.1	81	125	0.21	438	●
9.2	81	125	0.21	441	●
9.3	81	125	0.21	443	●
9.4	81	125	0.21	445	●
9.5	81	125	0.22	447	●
9.6	87	133	0.22	450	●
9.7	87	133	0.22	452	●
9.8	87	133	0.22	454	●
9.9	87	133	0.22	456	●
10	87	133	0.22	459	●
10.2	87	133	0.22	461	●
10.5	87	133	0.23	466	●
11	94	142	0.23	473	●
11.5	94	142	0.24	480	●
11.75	94	142	0.24	484	●
12	101	151	0.24	488	●
12.25	101	151	0.24	491	●
12.5	101	151	0.25	494	●
13	101	151	0.25	500	●
13.5	108	160	0.26	507	●
14	108	160	0.26	514	●
14.5	114	169	0.27	521	●
15	114	169	0.27	528	●
15.5	120	178	0.28	536	●
16	120	178	0.28	543	●

Prod. Gr. 1AP

ATORN® ORION® Twist drill type N HSS 10xD (DIN 340)

for universal use up to 1000 N/mm²

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Vaporisation ensures favourable adherence of coolant

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11056	30	20		10		40	60	50	35	30	20	20	10	25					
11059	30	20		10		40	60	50	35	30	20	20	10	25					

			Cutting material	ATORN® HSS		ORION® HSS	
			Surface	Vaporised		Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11056... Ident. No.		11059... Ident. No.	
0.6	15	35	0.03	006	●	-	-
0.8	29	46	0.03	008	●	-	-
1	33	56	0.03	030	●	030	●
1.1	37	60	0.04	031	●	-	-
1.2	41	65	0.04	033	●	-	-
1.3	41	65	0.04	035	●	-	-
1.4	45	70	0.04	037	●	-	-
1.5	45	70	0.04	039	●	039	●
1.6	50	76	0.04	042	●	-	-
1.7	50	76	0.04	044	●	-	-
1.8	53	80	0.04	046	●	-	-
1.9	53	80	0.05	048	●	-	-
2	56	85	0.05	051	●	051	●
2.1	56	85	0.05	053	●	-	-
2.2	59	90	0.05	055	●	-	-
2.3	59	90	0.05	057	●	-	-
2.4	62	95	0.05	060	●	-	-
2.5	62	95	0.05	062	●	062	●

			Cutting material	ATORN® HSS		ORION® HSS	
			Surface	Vaporised		Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11056... Ident. No.		11059... Ident. No.	
2.6	62	95	0.06	064	●	-	-
2.7	66	100	0.06	066	●	-	-
2.8	66	100	0.06	069	●	-	-
2.9	66	100	0.06	071	●	-	-
3	66	100	0.06	073	●	073	●
3.1	69	106	0.06	075	●	-	-
3.2	69	106	0.07	078	●	-	-
3.3	69	106	0.07	080	●	080	●
3.4	73	112	0.07	082	●	-	-
3.5	73	112	0.07	084	●	084	●
3.6	73	112	0.08	087	●	-	-
3.7	73	112	0.08	089	●	-	-
3.8	78	119	0.08	091	●	-	-
3.9	78	119	0.09	093	●	-	-
4	78	119	0.09	096	●	096	●
4.1	78	119	0.09	098	●	-	-
4.2	78	119	0.09	100	●	100	●
4.3	82	126	0.1	102	●	-	-

				ATORN®		ORION®	
			Cutting material	HSS		HSS	
			Surface	Vaporised		Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11056... Ident. No.		11059... Ident. No.	
4.5	82	126	0.1	107	●	107	●
4.6	82	126	0.11	109	●	-	-
4.7	82	126	0.11	111	●	-	-
4.8	87	132	0.11	114	●	-	-
4.9	87	132	0.11	116	●	-	-
5	87	132	0.12	118	●	118	●
5.1	87	132	0.12	119	●	-	-
5.2	87	132	0.12	121	●	-	-
5.3	87	132	0.12	123	●	-	-
5.4	91	139	0.13	124	●	-	-
5.5	91	139	0.13	125	●	125	●
5.6	91	139	0.13	127	●	-	-
5.7	91	139	0.14	128	●	-	-
5.8	91	139	0.14	130	●	-	-
5.9	91	139	0.14	131	●	-	-
6	91	139	0.14	133	●	133	●
6.1	97	148	0.15	134	●	-	-
6.2	97	148	0.15	135	●	-	-
6.3	97	148	0.15	137	●	-	-
6.4	97	148	0.16	139	●	-	-
6.5	97	148	0.16	140	●	140	●
6.6	97	148	0.16	141	●	-	-
6.7	97	148	0.16	142	●	-	-
6.8	102	156	0.17	144	●	-	-

				ATORN®		ORION®	
			Cutting material	HSS		HSS	
			Surface	Vaporised		Vaporised	
mm	mm	mm	f steel 700 ● (mm/U)	11056... Ident. No.		11059... Ident. No.	
7	102	156	0.17	146	●	146	●
7.5	102	156	0.19	153	●	153	●
7.7	109	165	0.19	156	●	-	-
7.8	109	165	0.19	158	●	-	-
8	109	165	0.2	161	●	161	●
8.1	109	165	0.2	162	●	-	-
8.2	109	165	0.2	163	●	-	-
8.4	109	165	0.2	167	●	-	-
8.5	109	165	0.21	168	●	168	●
9	115	175	0.21	175	●	175	●
9.5	115	175	0.22	182	●	-	-
9.8	121	184	0.22	187	●	-	-
10	121	184	0.22	190	●	-	-
10.2	121	184	0.22	192	●	-	-
10.5	121	184	0.23	197	●	-	-
11	128	197	0.23	204	●	-	-
11.5	128	197	0.24	207	●	-	-
12	134	205	0.24	211	●	-	-
12.5	134	205	0.25	214	●	-	-
13	134	205	0.25	217	●	217	●
13.5	140	214	0.26	221	●	-	-
14	140	214	0.26	224	●	-	-
15	144	220	0.27	230	●	-	-
16	149	227	0.28	235	●	-	-

ATORN® = Prod. Gr. 1AA
ORION = Prod. Gr. 1AP

ATORN® Twist drills type N HSS 15xD-25xD (DIN 1869)

for universal use up to 1000 N/mm²

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Vaporisation ensures favourable adherence of coolant

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11063	20	10				40	50	40	30	30	20	10		20					

			Cutting material	HSS	
			Surface	Uncoated	
mm	mm	mm	f steel 700 ● (mm/U)	11063... Ident. No.	
1.5	80	125	0.04	005	●
1.5	100	160	0.04	010	●
2	80	125	0.05	015	●
2	100	160	0.05	020	●
2.5	80	125	0.05	025	●
2.5	100	160	0.05	030	●
3	100	160	0.06	045	●
3	150	200	0.06	050	●
3	200	250	0.06	055	●
3.5	100	160	0.07	060	●
3.5	200	250	0.07	070	●
4	100	160	0.09	075	●
4	150	200	0.09	080	●
4	200	250	0.09	085	●
4	250	315	0.09	090	●
4.5	100	160	0.1	095	●
4.5	150	200	0.1	100	●
4.5	200	250	0.1	105	●
4.5	250	315	0.1	110	●
5	100	160	0.12	115	●
5	150	200	0.12	120	●
5	200	250	0.12	125	●
5	250	315	0.12	130	●
5	300	400	0.12	135	●
5.5	150	200	0.13	140	●
5.5	200	250	0.13	145	●
5.5	250	315	0.13	150	●
6	150	200	0.14	155	●
6	200	250	0.14	160	●
6	250	315	0.14	165	●
6	300	400	0.14	170	●
6.5	150	200	0.16	180	●
6.5	200	250	0.16	185	●

			Cutting material	HSS	
			Surface	Uncoated	
mm	mm	mm	f steel 700 ● (mm/U)	11063... Ident. No.	
6.5	250	315	0.16	190	●
7	150	200	0.17	195	●
7	200	250	0.17	200	●
7	250	315	0.17	205	●
7.5	150	200	0.19	215	●
7.5	200	250	0.19	220	●
7.5	250	315	0.19	225	●
8	200	250	0.2	235	●
8	250	315	0.2	240	●
8	300	400	0.2	250	●
8.5	200	250	0.21	260	●
8.5	250	315	0.21	265	●
9	200	250	0.21	275	●
9	250	315	0.21	280	●
9	300	400	0.21	285	●
9.5	200	250	0.22	290	●
9.5	250	315	0.22	295	●
10	200	250	0.22	300	●
10	250	315	0.22	305	●
10	300	400	0.22	315	●
10.5	200	250	0.23	320	●
10.5	250	315	0.23	325	●
10.5	300	400	0.23	335	●
11	200	250	0.23	340	●
11	250	315	0.23	345	●
11	300	400	0.23	355	●
12	200	250	0.24	360	●
12	250	315	0.24	365	●
12	300	400	0.24	375	●
13	250	315	0.25	380	●
13	300	400	0.25	385	●
14	250	315	0.26	390	●
14	300	400	0.26	395	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Prod. Gr. 112

Twist drill type NV
For use in high-strength materials from 700 N/mm²

Application:
Series and single-part production on conventional and CNC machines for use in the steel, stainless steel, cast iron and special alloy material groups from a strength of 700 N/mm².

advantage:

- special geometry with reinforced core and increased thermal resistance
- use in high-strength materials owing to high cobalt content in cutting material



Typ NV

ATORN® Twist drill type NV HSSE 3xD (DIN 1897)
For use in high-strength materials from 700 N/mm²

HSSE | TiN | 3xD | Typ NV | 130° | HA

Application:
Geometry with reinforced core and increased thermal resistance for application from strengths upwards of 700 N/mm².

Execution:

- Twist drill with reinforced geometry

Advantage:

- excellent cutting durability owing to reinforced core geometry
- **No. 11052:** TiN coating for increased service life requirements

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)


No. 11052


No. 11053

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11052	40	**20**	**10**	**20**	15			45	35	40	30			**30**	7	**6**	**6**		
11053	30	**20**	**10**	**20**	10			**50**	35	40	30			**30**	**8**	6	6		

Cutting material				HSSE		HSSE	
Surface				TiN		Uncoated	
mm	mm	mm	f steel 1300 ● (mm/U)	11052... Ident. No.		11053... Ident. No.	
1	6	26	0.03	015	●	015	●
1.1	7	28	0.03	016	●	016	●
1.2	8	30	0.03	020	●	020	●
1.3	8	30	0.03	021	●	021	●
1.4	9	32	0.03	024	●	024	●
1.5	9	32	0.03	026	●	026	●
1.6	10	34	0.03	029	●	029	●
1.7	10	34	0.03	030	●	030	●
1.8	11	36	0.03	033	●	033	●
1.9	11	36	0.03	034	●	034	●
2	12	38	0.03	038	●	038	●
2.1	12	38	0.03	040	●	040	●
2.2	13	40	0.04	042	●	042	●
2.3	13	40	0.04	045	●	045	●
2.4	14	43	0.04	047	●	047	●
2.5	14	43	0.04	049	●	049	●
2.6	14	43	0.04	051	●	051	●
2.7	16	46	0.04	053	●	053	●
2.8	16	46	0.04	056	●	056	●
2.9	16	46	0.04	059	●	059	●
3	16	46	0.04	060	●	060	●
3.1	18	49	0.04	061	●	061	●
3.2	18	49	0.04	065	●	065	●
3.3	18	49	0.04	067	●	067	●
3.4	20	52	0.05	069	●	069	●
3.5	20	52	0.05	071	●	071	●
3.6	20	52	0.05	074	●	074	●
3.7	20	52	0.05	075	●	075	●
3.8	22	55	0.05	078	●	078	●
3.9	22	55	0.05	081	●	081	●
4	22	55	0.05	083	●	083	●
4.1	22	55	0.05	084	●	084	●
4.2	22	55	0.05	085	●	085	●
4.3	24	58	0.06	087	●	087	●
4.4	24	58	0.06	088	●	088	●
4.5	24	58	0.06	090	●	090	●
4.6	24	58	0.06	346	●	346	●
4.7	24	58	0.06	347	●	347	●
4.8	26	62	0.06	348	●	348	●
4.9	26	62	0.06	349	●	349	●
5	26	62	0.06	097	●	097	●
5.1	26	62	0.07	098	●	098	●
5.2	26	62	0.07	099	●	099	●
5.3	26	62	0.07	353	●	353	●
5.4	28	66	0.07	354	●	354	●
5.5	28	66	0.07	103	●	103	●

Cutting material				HSSE		HSSE	
Surface				TiN		Uncoated	
mm	mm	mm	f steel 1300 ● (mm/U)	11052... Ident. No.		11053... Ident. No.	
5.6	28	66	0.07	104	●	104	●
5.7	28	66	0.07	107	●	107	●
5.8	28	66	0.07	108	●	108	●
5.9	28	66	0.08	359	●	359	●
6	28	66	0.08	111	●	111	●
6.1	31	70	0.08	361	●	361	●
6.2	31	70	0.08	362	●	362	●
6.3	31	70	0.08	363	●	363	●
6.4	31	70	0.08	364	●	364	●
6.5	31	70	0.08	118	●	118	●
6.6	31	70	0.08	366	●	366	●
6.7	31	70	0.08	367	●	367	●
6.8	34	74	0.09	122	●	122	●
6.9	34	74	0.09	369	●	369	●
7	34	74	0.09	124	●	124	●
7.1	34	74	0.09	125	●	125	●
7.2	34	74	0.09	372	●	372	●
7.3	34	74	0.09	373	●	373	●
7.4	34	74	0.09	374	●	374	●
7.5	34	74	0.09	131	●	131	●
7.6	37	79	0.1	376	●	376	●
7.7	37	79	0.1	377	●	377	●
7.8	37	79	0.1	136	●	136	●
7.9	37	79	0.1	379	●	379	●
8	37	79	0.1	139	●	139	●
8.1	37	79	0.1	381	●	381	●
8.2	37	79	0.1	382	●	382	●
8.3	37	79	0.1	383	●	383	●
8.4	37	79	0.1	145	●	145	●
8.5	37	79	0.11	146	●	146	●
8.6	40	84	0.11	386	●	386	●
8.7	40	84	0.11	387	●	387	●
8.8	40	84	0.11	151	●	151	●
8.9	40	84	0.11	388	●	388	●
9	40	84	0.11	153	●	153	●
9.1	40	84	0.11	391	●	391	●
9.2	40	84	0.11	392	●	392	●
9.3	40	84	0.11	393	●	393	●
9.4	40	84	0.11	394	●	394	●
9.5	40	84	0.12	395	●	395	●
9.6	43	89	0.12	396	●	396	●
9.7	43	89	0.12	397	●	397	●
9.8	43	89	0.12	398	●	398	●
9.9	43	89	0.12	399	●	399	●
10	43	89	0.12	168	●	168	●
10.2	43	89	0.12	170	●	170	●

Cutting material				HSSE		HSSE	
Surface				TiN		Uncoated	
mm	mm	mm	f steel 1300 ● (mm/U)	11052... Ident. No.		11053... Ident. No.	
10.5	43	89	0.13	175	●	175	●
11	47	95	0.13	182	●	182	●
11.5	47	95	0.14	188	●	188	●
12	51	102	0.14	195	●	195	●
12.5	51	102	0.15	201	●	201	●
13	51	102	0.15	207	●	207	●
13.5	54	107	0.16	435	●	435	●
14	54	107	0.16	440	●	440	●
14.5	56	111	0.17	445	●	445	●
15	56	111	0.17	450	●	450	●
15.5	58	115	0.18	455	●	455	●
15.75	58	115	0.18	457	●	-	-

Cutting material				HSSE		HSSE	
Surface				TiN		Uncoated	
mm	mm	mm	f steel 1300 ● (mm/U)	11052... Ident. No.		11053... Ident. No.	
16	58	115	0.18	460	●	460	●
16.5	60	119	0.18	465	●	465	●
17	60	119	0.18	470	●	470	●
17.5	62	123	0.18	475	●	475	●
17.75	62	123	0.18	477	●	-	-
18	62	123	0.18	480	●	480	●
18.5	64	127	0.19	485	●	485	●
19	64	127	0.19	490	●	490	●
19.5	66	131	0.19	495	●	495	●
19.75	66	131	0.19	497	●	-	-
20	66	131	0.19	500	●	500	●

Prod. Gr. 112

ATORN® Twist drill type NV HSSE 5xD (DIN 338)

for use in high-strength materials from 700 N/mm²

Application:
Geometry with reinforced core and increased thermal resistance for application from strengths upwards of 700 N/mm².

Execution:
- Twist drill with reinforced geometry

Advantage:
- excellent cutting durability owing to reinforced core geometry

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11026	30	20	10	20	10			45	35	40	30			30	7	6	6		

Cutting material			HSSE Co8		
Surface			Uncoated		
mm	mm	mm	f steel 1300 ● (mm/U)	11026... Ident. No.	
1	12	34	0.03	081	●
1.1	14	36	0.03	091	●
1.2	16	38	0.03	101	●
1.3	16	38	0.03	111	●
1.4	18	40	0.03	121	●
1.5	18	40	0.03	131	●
1.6	20	43	0.03	141	●
1.7	20	43	0.03	151	●
1.8	22	46	0.03	161	●
1.9	22	46	0.03	171	●
2	24	49	0.03	181	●
2.1	24	49	0.03	192	●
2.2	27	53	0.04	202	●
2.3	27	53	0.04	210	●
2.4	30	57	0.04	220	●
2.5	30	57	0.04	230	●
2.6	30	57	0.04	240	●
2.7	33	61	0.04	250	●
2.8	33	61	0.04	260	●
2.9	33	61	0.04	270	●
3	33	61	0.04	280	●
3.1	36	65	0.04	282	●
3.2	36	65	0.04	286	●
3.3	36	65	0.04	289	●
3.4	39	70	0.05	291	●
3.5	39	70	0.05	293	●
3.6	39	70	0.05	296	●
3.7	39	70	0.05	299	●
3.8	43	75	0.05	302	●
3.9	43	75	0.05	305	●
4	43	75	0.05	310	●
4.1	43	75	0.05	314	●
4.2	43	75	0.05	316	●
4.3	47	80	0.06	319	●
4.4	47	80	0.06	324	●
4.5	47	80	0.06	326	●
4.6	47	80	0.06	329	●
4.7	47	80	0.06	332	●
4.8	52	86	0.06	335	●
4.9	52	86	0.06	337	●
5	52	86	0.06	341	●
5.1	52	86	0.07	344	●
5.2	52	86	0.07	349	●
5.3	52	86	0.07	352	●
5.4	57	93	0.07	355	●
5.5	57	93	0.07	358	●
5.6	57	93	0.07	361	●
5.7	57	93	0.07	364	●
5.8	57	93	0.07	367	●

Cutting material			HSSE Co8		
Surface			Uncoated		
mm	mm	mm	f steel 1300 ● (mm/U)	11026... Ident. No.	
5.9	57	93	0.08	369	●
6	57	93	0.08	371	●
6.1	63	101	0.08	373	●
6.2	63	101	0.08	375	●
6.3	63	101	0.08	377	●
6.4	63	101	0.08	379	●
6.5	63	101	0.08	381	●
6.6	63	101	0.08	383	●
6.7	63	101	0.08	385	●
6.8	69	109	0.09	387	●
6.9	69	109	0.09	389	●
7	69	109	0.09	391	●
7.1	69	109	0.09	393	●
7.2	69	109	0.09	396	●
7.3	69	109	0.09	398	●
7.4	69	109	0.09	400	●
7.5	69	109	0.09	402	●
7.6	75	117	0.1	405	●
7.7	75	117	0.1	407	●
7.8	75	117	0.1	409	●
7.9	75	117	0.1	411	●
8	75	117	0.1	414	●
8.1	75	117	0.1	416	●
8.2	75	117	0.1	418	●
8.3	75	117	0.1	420	●
8.4	75	117	0.1	423	●
8.5	75	117	0.11	425	●
8.6	81	125	0.11	427	●
8.7	81	125	0.11	429	●
8.8	81	125	0.11	432	●
8.9	81	125	0.11	434	●
9	81	125	0.11	436	●
9.1	81	125	0.11	438	●
9.2	81	125	0.11	441	●
9.3	81	125	0.11	443	●
9.4	81	125	0.11	445	●
9.5	81	125	0.12	447	●
9.6	87	133	0.12	450	●
9.7	87	133	0.12	452	●
9.8	87	133	0.12	454	●
9.9	87	133	0.12	456	●
10	87	133	0.12	459	●
10.1	87	133	0.12	460	●
10.2	87	133	0.12	461	●
10.5	87	133	0.13	466	●
11	94	142	0.13	473	●
11.5	94	142	0.14	480	●
11.8	94	142	0.14	485	●
12	101	151	0.14	488	●

			Cutting material	HSSE Co8	
			Surface	Uncoated	
mm	mm	mm	f steel 1300 ● (mm/U)	11026... Ident. No.	
12.1	101	151	0.14	489	●
12.5	101	151	0.15	494	●

			Cutting material	HSSE Co8	
			Surface	Uncoated	
mm	mm	mm	f steel 1300 ● (mm/U)	11026... Ident. No.	
13	101	151	0.15	500	●

Prod. Gr. 112

Twist drill type TLP
for universal use up to 1300 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, (stainless steel), non-ferrous metals, cast iron and special alloy material groups up to a strength of 1300 N/mm².

advantage:
- deep hole profile with large chipping spaces for optimised chip removal with larger drilling depths without venting
- favourable removal of chips owing to high chipping space volume



Typ TLP

ATORN® Twist drill type TLP HSS(E) 5xD (DIN 338)
With deep-hole profile for long-chipping materials

HSS | HSSE | TiAlN | 5xD | Typ TLP | 130° | HA

Application:
No. 11021: Geometry with deep-hole profile for application up to a strength of 1000 N/mm².
No. 11027–11033: Geometry with deep-hole profile for application up to a strength of 1300 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- Deep-hole profile for optimised chip removal at greater drilling depths without venting
- effective removal of chips thanks to large chipping spaces
- **No. 11033:** TiAlN coating for increased service life demands

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

Notes:
No. 11021–11027: Chamfer-nitrated >2.36


No. 11021


No. 11027


No. 11033

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11021	30	20		10		40	60	45	35	40	30	20		20					
11027	30	20	10	15	10	50	70	45	35	40	30	20	10	30	10	10	10		
11033	40	20	10	10	20	60	80	60	45	40	30	30	10	30	10	10	10		

			Cutting material	HSS	HSSE	HSSE
			Surface	Uncoated	Uncoated	TiAlN
mm	mm	mm	f steel 700 ● (mm/U)	11021... Ident. No.	11027... Ident. No.	11033... Ident. No.
1	12	34	0.03	081 ●	081 ●	081 ●
1.1	14	36	0.03	091 ●	091 ●	091 ●
1.2	16	38	0.03	101 ●	101 ●	101 ●
1.3	16	38	0.03	111 ●	111 ●	111 ●
1.35	16	38	0.03	114 ●	116 ●	- -
1.4	18	40	0.03	121 ●	121 ●	121 ●
1.5	18	40	0.03	131 ●	131 ●	131 ●
1.55	18	40	0.03	136 ●	136 ●	- -
1.6	20	43	0.03	141 ●	141 ●	141 ●
1.65	20	43	0.03	- -	146 ●	- -
1.7	20	43	0.03	151 ●	151 ●	151 ●
1.8	22	46	0.03	161 ●	161 ●	161 ●
1.9	22	46	0.03	171 ●	171 ●	171 ●
2	24	49	0.03	181 ●	181 ●	181 ●
2.1	24	49	0.03	192 ●	192 ●	192 ●
2.2	27	53	0.04	202 ●	202 ●	202 ●
2.3	27	53	0.04	210 ●	210 ●	210 ●
2.4	30	57	0.04	220 ●	220 ●	220 ●
2.5	30	57	0.04	230 ●	230 ●	230 ●
2.6	30	57	0.04	240 ●	240 ●	240 ●
2.65	30	57	0.04	- -	245 ●	- -
2.7	33	61	0.04	250 ●	250 ●	250 ●
2.8	33	61	0.04	260 ●	260 ●	260 ●
2.9	33	61	0.04	270 ●	270 ●	270 ●
3	33	61	0.04	280 ●	280 ●	280 ●
3.1	36	65	0.04	282 ●	282 ●	282 ●
3.2	36	65	0.04	286 ●	286 ●	286 ●
3.25	36	65	0.05	287 ●	287 ●	287 ●
3.3	36	65	0.05	289 ●	289 ●	289 ●
3.4	39	70	0.05	291 ●	291 ●	291 ●
3.45	39	70	0.05	292 ●	292 ●	- -
3.5	39	70	0.05	293 ●	293 ●	293 ●
3.6	39	70	0.05	296 ●	296 ●	296 ●
3.7	39	70	0.06	299 ●	299 ●	299 ●
3.8	43	75	0.06	302 ●	302 ●	302 ●

			Cutting material	HSS	HSSE	HSSE
			Surface	Uncoated	Uncoated	TiAlN
mm	mm	mm	f steel 700 ● (mm/U)	11021... Ident. No.	11027... Ident. No.	11033... Ident. No.
3.9	43	75	0.06	305 ●	305 ●	305 ●
4	43	75	0.06	310 ●	310 ●	310 ●
4.1	43	75	0.06	314 ●	314 ●	314 ●
4.2	43	75	0.07	316 ●	316 ●	316 ●
4.3	47	80	0.07	319 ●	319 ●	319 ●
4.4	47	80	0.07	324 ●	324 ●	324 ●
4.5	47	80	0.07	326 ●	326 ●	326 ●
4.6	47	80	0.08	329 ●	329 ●	329 ●
4.65	47	80	0.08	330 ●	331 ●	330 ●
4.7	47	80	0.08	332 ●	332 ●	332 ●
4.8	52	86	0.08	335 ●	335 ●	335 ●
4.9	52	86	0.08	337 ●	337 ●	337 ●
5	52	86	0.08	341 ●	341 ●	341 ●
5.1	52	86	0.09	344 ●	344 ●	344 ●
5.2	52	86	0.09	349 ●	349 ●	349 ●
5.3	52	86	0.09	352 ●	352 ●	352 ●
5.4	57	93	0.09	355 ●	355 ●	355 ●
5.5	57	93	0.1	358 ●	358 ●	358 ●
5.55	57	93	0.1	359 ●	- -	359 ●
5.6	57	93	0.1	361 ●	361 ●	361 ●
5.7	57	93	0.1	364 ●	364 ●	364 ●
5.8	57	93	0.1	367 ●	367 ●	367 ●
5.9	57	93	0.1	369 ●	369 ●	369 ●
6	57	93	0.11	371 ●	371 ●	371 ●
6.1	63	101	0.11	373 ●	373 ●	373 ●
6.2	63	101	0.11	375 ●	375 ●	375 ●
6.3	63	101	0.11	377 ●	377 ●	377 ●
6.35	63	101	0.11	378 ●	378 ●	- -
6.4	63	101	0.12	379 ●	379 ●	379 ●
6.5	63	101	0.12	381 ●	381 ●	381 ●
6.6	63	101	0.12	383 ●	383 ●	383 ●
6.7	63	101	0.12	385 ●	385 ●	385 ●
6.8	69	109	0.12	387 ●	387 ●	387 ●
6.9	69	109	0.13	389 ●	389 ●	389 ●
7	69	109	0.13	391 ●	391 ●	391 ●

Cutting material				HSS		HSSE		HSSE	
Surface				Uncoated		Uncoated		TiAlN	
mm	mm	mm	f steel 700 ● (mm/U)	11021... Ident. No.		11027... Ident. No.		11033... Ident. No.	
7.1	69	109	0.13	393	●	393	●	393	●
7.2	69	109	0.13	396	●	396	●	396	●
7.3	69	109	0.14	398	●	398	●	398	●
7.4	69	109	0.14	400	●	400	●	400	●
7.5	69	109	0.14	402	●	402	●	402	●
7.6	75	117	0.14	405	●	405	●	405	●
7.7	75	117	0.14	407	●	407	●	407	●
7.8	75	117	0.15	409	●	409	●	409	●
7.9	75	117	0.15	411	●	411	●	411	●
8	75	117	0.15	414	●	414	●	414	●
8.1	75	117	0.15	416	●	416	●	416	●
8.2	75	117	0.15	418	●	418	●	418	●
8.3	75	117	0.15	420	●	420	●	420	●
8.4	75	117	0.15	423	●	423	●	423	●
8.5	75	117	0.15	425	●	425	●	425	●
8.6	81	125	0.15	427	●	427	●	427	●
8.7	81	125	0.15	429	●	429	●	429	●
8.8	81	125	0.16	432	●	432	●	432	●
8.9	81	125	0.16	434	●	434	●	434	●
9	81	125	0.16	436	●	436	●	436	●
9.1	81	125	0.16	438	●	438	●	438	●
9.2	81	125	0.16	441	●	441	●	441	●
9.3	81	125	0.16	443	●	443	●	443	●
9.4	81	125	0.16	445	●	445	●	445	●
9.5	81	125	0.16	447	●	447	●	447	●
9.6	87	133	0.16	450	●	450	●	450	●
9.7	87	133	0.16	452	●	452	●	452	●
9.8	87	133	0.16	454	●	454	●	454	●
9.9	87	133	0.16	456	●	456	●	456	●
10	87	133	0.16	459	●	459	●	459	●
10.2	87	133	0.16	461	●	461	●	461	●
10.5	87	133	0.17	466	●	466	●	466	●
11	94	142	0.17	473	●	473	●	473	●
11.2	94	142	0.17	476	●	476	●	476	●
11.5	94	142	0.17	480	●	480	●	480	●
12	101	151	0.18	488	●	488	●	488	●
15	114	169	0.19	528	●	528	●	528	●
16	114	169	0.19	560	●	543	●	-	-

Prod. Gr. 110

ATORN® Twist drill type TLP HSS/HSSE 10xD

With deep-hole profile for long-chipping materials

HSS | HSSE | TiN | TiAlN | 10xD | Typ TLP | 130° | HA

No. 11055

No. 11057

No. 11060

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Application:
No. 11055: Geometry with deep-hole profile for application up to a strength of 1000 N/mm².
No. 11057–11060: Geometry with deep-hole profile for application up to a strength of 1300 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- Deep-hole profile to optimise chip removal at greater drilling depths without venting
- effective removal of chips thanks to large chipping spaces
- **No. 11060:** TiAlN coating for increased service life requirements

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

Notes:
No. 11057–11060: Chamfer-nitrated >2.36

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11055	30	20				40	60	45	35	40	30	20	10	20					
11057	40	20	10	12	10	50	70	45	35	40	30	20	10	25	6	6	6		
11060	40	20	10	12	10	50	70	45	35	40	30	20	10	25	6	6	6		

Cutting material				HSS		HSSE		HSSE	
Surface				TiN		Uncoated		TiAlN	
mm	mm	mm	f steel 700 ● (mm/U)	11055... Ident. No.		11057... Ident. No.		11060... Ident. No.	
1	33	56	0.03	030	●	030	●	030	●
1.1	37	60	0.03	031	●	031	●	031	●
1.2	41	65	0.03	033	●	333	●	333	●
1.3	41	65	0.03	035	●	335	●	335	●
1.4	45	70	0.03	037	●	337	●	337	●
1.5	45	70	0.03	039	●	039	●	039	●
1.6	50	76	0.03	042	●	042	●	042	●
1.7	50	76	0.03	044	●	344	●	344	●
1.8	53	80	0.03	046	●	046	●	046	●
1.9	53	80	0.03	048	●	048	●	048	●
2	56	85	0.03	051	●	051	●	051	●
2.1	56	85	0.03	053	●	353	●	353	●
2.2	59	90	0.04	055	●	355	●	355	●
2.3	59	90	0.04	057	●	357	●	357	●
2.4	62	95	0.04	060	●	360	●	360	●
2.5	62	95	0.04	062	●	062	●	062	●
2.6	62	95	0.04	064	●	364	●	364	●
2.7	66	100	0.04	066	●	366	●	366	●
2.8	66	100	0.04	069	●	369	●	369	●
2.9	66	100	0.04	071	●	071	●	071	●
3	66	100	0.04	073	●	073	●	073	●
3.1	69	106	0.04	075	●	375	●	375	●
3.2	69	106	0.04	078	●	078	●	078	●
3.3	69	106	0.05	080	●	080	●	080	●
3.4	73	112	0.05	082	●	382	●	382	●
3.5	73	112	0.05	084	●	084	●	084	●
3.6	73	112	0.05	087	●	387	●	387	●
3.7	73	112	0.06	089	●	089	●	089	●
3.8	78	119	0.06	091	●	391	●	391	●
3.9	78	119	0.06	093	●	093	●	093	●
4	78	119	0.06	096	●	096	●	096	●
4.1	78	119	0.06	098	●	398	●	398	●
4.2	78	119	0.07	100	●	100	●	100	●
4.3	82	126	0.07	102	●	402	●	402	●
4.4	82	126	0.07	105	●	405	●	405	●
4.5	82	126	0.07	107	●	107	●	107	●
4.6	82	126	0.08	109	●	109	●	109	●
4.7	82	126	0.08	111	●	411	●	411	●
4.8	87	132	0.08	114	●	114	●	114	●
4.9	87	132	0.08	116	●	416	●	416	●
5	87	132	0.08	118	●	118	●	118	●
5.1	87	132	0.09	119	●	419	●	419	●
5.2	87	132	0.09	121	●	421	●	421	●
5.3	87	132	0.09	123	●	423	●	423	●
5.4	91	139	0.09	124	●	424	●	424	●
5.5	91	139	0.1	125	●	125	●	125	●
5.6	91	139	0.1	127	●	427	●	427	●
5.7	91	139	0.1	128	●	428	●	428	●
5.8	91	139	0.1	130	●	130	●	130	●
5.9	91	139	0.1	131	●	431	●	431	●
6	91	139	0.11	133	●	133	●	133	●
6.1	97	148	0.11	134	●	434	●	434	●
6.2	97	148	0.11	135	●	435	●	435	●
6.3	97	148	0.11	137	●	436	●	436	●
6.35	97	148	0.11	138	●	-	-	-	-
6.4	97	148	0.12	139	●	437	●	437	●
6.5	97	148	0.12	140	●	140	●	140	●
6.6	97	148	0.12	141	●	438	●	438	●
6.7	97	148	0.12	142	●	439	●	439	●
6.8	102	156	0.12	144	●	144	●	144	○
6.9	102	156	0.13	145	●	440	●	440	●
7	102	156	0.13	146	●	146	●	146	●
7.1	102	156	0.13	147	●	441	●	441	●
7.2	102	156	0.13	148	●	442	●	442	●
7.3	102	156	0.14	149	●	443	●	443	●
7.4	102	156	0.14	150	●	444	●	444	●
7.5	102	156	0.14	153	●	153	●	153	●
7.6	109	165	0.14	154	●	445	●	445	●
7.7	109	165	0.14	155	●	446	●	446	●
7.8	109	165	0.15	156	●	158	●	158	●
7.9	109	165	0.15	157	●	447	●	447	●
8	109	165	0.15	161	●	161	●	161	●
8.1	109	165	0.15	162	●	448	●	448	●
8.2	109	165	0.15	163	●	449	●	449	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Cutting material				HSS		HSSE		HSSE	
Surface				TiN		Uncoated		TiAlN	
mm	mm	mm	f steel 700 ● (mm/U)	11055... Ident. No.		11057... Ident. No.		11060... Ident. No.	
8.3	109	165	0.15	164	●	450	●	450	●
8.4	109	165	0.15	165	●	451	●	451	●
8.5	109	165	0.15	168	●	168	●	168	●
8.6	109	165	0.15	169	●	-	-	-	-
9	115	175	0.16	175	●	175	●	175	●
9.5	115	175	0.16	182	●	182	●	182	○
9.7	121	184	0.16	186	●	-	-	-	-
9.8	121	184	0.16	187	●	187	●	187	●
10	121	184	0.16	190	●	190	●	190	●
10.2	121	184	0.16	192	●	192	●	192	○
10.5	121	184	0.16	197	●	197	●	197	●
11	128	197	0.16	204	●	204	●	204	●
11.5	128	197	0.16	207	●	207	●	207	●
12	134	205	0.16	211	●	211	●	211	●
12.5	134	205	0.18	214	●	525	●	-	-
13	134	205	0.18	219	●	530	●	-	-
13.5	140	214	0.18	-	-	535	●	-	-
14	140	214	0.19	230	●	540	●	-	-
14.5	144	220	0.19	-	-	545	●	-	-
15	144	220	0.19	-	-	550	●	-	-
15.5	149	227	0.2	-	-	555	●	-	-
16	149	227	0.2	-	-	560	●	-	-

Prod. Gr. 112

ATORN® Twist drills type TLP HSS 15xD-25xD (DIN 1869)

for universal use up to 1000 N/mm² in long-chipping materials

Application:
Geometry with deep-hole profile for application up to a strength of 1000 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- Deep-hole profile to optimise chip removal at greater drilling depths without venting
- effective removal of chips thanks to large chipping spaces

Delivery:
Box quantity: Drill Ø 1.0–6.0 mm = 10 units
(price per unit)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11061	25	10				40	50	45	35	40	30	10		20					

Cutting material			HSS	
			Surface	Uncoated
mm	mm	mm	f steel 700 ● (mm/U)	11061... Ident. No.
2	85	125	0.05	020 ●
2.5	95	140	0.05	025 ●
3	100	150	0.06	030 ●
3	130	190	0.06	035 ●
3.5	115	165	0.07	040 ●
4	120	175	0.09	050 ●
4	150	220	0.09	055 ●
4	190	280	0.09	060 ●
4.5	125	185	0.1	065 ●
5	135	195	0.12	080 ●
5	170	245	0.12	085 ●
5	210	315	0.12	090 ●
5.5	140	205	0.13	095 ●
6	140	205	0.14	110 ●
6	180	260	0.14	115 ●
6	225	330	0.14	120 ●
6.5	150	215	0.16	122 ●
7	155	225	0.17	135 ●
7	200	290	0.17	140 ●
8	165	240	0.2	165 ●
8	210	305	0.2	170 ●
8	265	390	0.2	175 ●
8.5	165	240	0.21	180 ●
9	175	250	0.21	195 ●
10	185	265	0.22	225 ●
10	235	340	0.22	230 ●
10	295	430	0.22	235 ●

Prod. Gr. 1AA

Twist drill type VA

For use in stainless steel and special alloys

Application:
Series and single-part production on conventional and CNC machines in the stainless steel, special alloy and (steel) material groups up to a strength of 1300 N/mm².

advantage:
- special geometry with aggressive cutter design and free geometry for very smooth cutting in stainless steel and special alloys
- long service life owing to increased cobalt content



ATORN® ORION® Twist drill type stainless steel HSSE 5xD (DIN 338)

For use in stainless steel and special alloys

HSSE | 5xD | Typ VA | 130° | HA

Application:
For use in stainless steel, special alloys up to a strength of 1300 N/mm².

Execution:
- **No. 11028:** twist drill with stainless steel profile
- **No. 11029:** Twist drill with stainless steel profile

Advantage:
- **No. 11028:** Special geometry with aggressive cutter design and free geometry for very smooth cutting
- **No. 11029:** special geometry with aggressive flute design and free geometry for very smooth cutting

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)


No. 11028


No. 11029

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11028	30	20	10	10	20	50	70	70	45	40	30				10	10	10		
11029	30	20	10	10	20	50	70	70	45	40	30				10	10	10		

				ATORN®		ORION®	
			Cutting material	HSSE		HSSE	
			Surface	Uncoated		Uncoated	
mm	mm	mm	f steinl. st. ● (mm/U)	11029... Ident. No.		11028... Ident. No.	
0.3	3	19	0.02	011	●	-	-
0.4	5	20	0.02	021	●	-	-
0.5	6	22	0.02	031	●	-	-
0.6	7	24	0.02	041	●	-	-
0.7	9	28	0.03	051	●	-	-
0.8	10	30	0.03	061	●	-	-
0.9	11	32	0.03	071	●	-	-
1	12	34	0.03	081	●	081	●
1.1	14	36	0.03	091	●	091	●
1.2	16	38	0.03	101	●	101	●
1.3	16	38	0.03	111	●	-	-
1.4	18	40	0.03	121	●	121	●
1.45	18	40	0.03	125	●	-	-
1.5	18	40	0.03	131	●	131	●
1.6	20	43	0.03	141	●	141	●
1.7	20	43	0.03	151	●	151	●
1.8	22	46	0.03	161	●	161	●
1.9	22	46	0.03	171	●	171	●
2	24	49	0.03	181	●	181	●
2.1	24	49	0.03	192	●	192	●
2.2	27	53	0.04	202	●	202	●
2.3	27	53	0.04	210	●	210	●
2.4	30	57	0.04	220	●	220	●
2.5	30	57	0.04	230	●	230	●
2.6	30	57	0.04	240	●	240	●
2.7	33	61	0.04	250	●	250	●
2.8	33	61	0.04	260	●	260	●
2.9	33	61	0.04	270	●	270	●
3	33	61	0.04	280	●	280	●
3.1	36	65	0.04	282	●	282	●
3.17	36	65	0.04	285	●	-	-
3.2	36	65	0.04	286	●	286	●
3.25	36	65	0.04	287	●	-	-
3.26	36	65	0.04	288	●	-	-
3.3	36	65	0.04	289	●	289	●
3.4	39	70	0.05	291	●	291	●
3.5	39	70	0.05	293	●	293	●
3.6	39	70	0.05	296	●	296	●
3.7	39	70	0.05	299	●	299	●
3.8	43	75	0.05	302	●	302	●
3.9	43	75	0.05	305	●	305	●
3.97	43	75	0.05	306	●	-	-
4	43	75	0.05	310	●	310	●
4.1	43	75	0.05	314	●	314	●
4.2	43	75	0.05	316	●	316	●
4.3	47	80	0.06	319	●	319	●
4.4	47	80	0.06	324	●	324	●
4.5	47	80	0.06	326	●	326	●
4.6	47	80	0.06	329	●	329	●
4.65	47	80	0.06	330	●	-	-
4.7	47	80	0.06	332	●	332	●
4.8	52	86	0.06	335	●	335	●
4.9	52	86	0.06	337	●	337	●
5	52	86	0.06	341	●	341	●
5.1	52	86	0.07	344	●	344	●
5.2	52	86	0.07	349	●	349	●
5.3	52	86	0.07	352	●	352	●
5.4	57	93	0.07	355	●	355	●
5.5	57	93	0.07	358	●	358	●
5.55	57	93	0.07	359	●	-	-

				ATORN®		ORION®	
			Cutting material	HSSE		HSSE	
			Surface	Uncoated		Uncoated	
mm	mm	mm	f steinl. st. ● (mm/U)	11029... Ident. No.		11028... Ident. No.	
5.6	57	93	0.07	361	●	361	●
5.7	57	93	0.07	364	●	364	●
5.8	57	93	0.07	367	●	367	●
5.9	57	93	0.08	369	●	369	●
6	57	93	0.08	371	●	371	●
6.1	63	101	0.08	373	●	373	●
6.2	63	101	0.08	375	●	375	●
6.3	63	101	0.08	377	●	377	●
6.35	63	101	0.08	378	●	-	-
6.4	63	101	0.08	379	●	379	●
6.5	63	101	0.08	381	●	381	●
6.6	63	101	0.08	383	●	383	●
6.7	63	101	0.08	385	●	385	●
6.8	69	109	0.09	387	●	387	●
6.9	69	109	0.09	389	●	389	●
7	69	109	0.09	391	●	391	●
7.1	69	109	0.09	393	●	393	●
7.2	69	109	0.09	396	●	396	●
7.3	69	109	0.09	398	●	398	●
7.4	69	109	0.09	400	●	400	●
7.5	69	109	0.09	402	●	402	●
7.6	75	117	0.09	-	-	405	●
7.6	75	117	0.1	405	●	-	-
7.7	75	117	0.09	-	-	407	●
7.7	75	117	0.1	407	●	-	-
7.8	75	117	0.1	409	●	409	●
7.9	75	117	0.1	411	●	411	●
8	75	117	0.1	414	●	414	●
8.1	75	117	0.1	416	●	416	●
8.2	75	117	0.1	418	●	-	-
8.3	75	117	0.1	420	●	420	●
8.4	75	117	0.1	423	●	423	●
8.5	75	117	0.11	425	●	425	●
8.6	81	125	0.11	427	●	427	●
8.7	81	125	0.11	429	●	429	●
8.8	81	125	0.11	432	●	432	●
8.9	81	125	0.11	434	●	434	●
9	81	125	0.11	436	●	436	●
9.1	81	125	0.11	438	●	438	●
9.2	81	125	0.11	441	●	441	●
9.3	81	125	0.11	443	●	443	●
9.4	81	125	0.11	445	●	445	●
9.5	81	125	0.12	447	●	447	●
9.6	87	133	0.12	450	●	-	-
9.7	87	133	0.12	452	●	-	-
9.8	87	133	0.12	454	●	454	●
9.9	87	133	0.12	456	●	456	●
10	87	133	0.12	459	●	459	●
10.2	87	133	0.12	461	●	461	●
10.3	87	133	0.13	463	●	-	-
10.5	87	133	0.13	466	●	466	●
11	94	142	0.13	473	●	473	●
11.2	94	142	0.13	476	●	-	-
11.5	94	142	0.14	480	●	480	●
11.8	94	142	0.14	485	●	-	-
12	101	151	0.14	488	●	488	●
12.2	101	151	0.14	490	●	-	-
12.5	101	151	0.15	494	●	494	●
12.7	101	151	0.15	496	●	-	-
13	101	151	0.15	500	●	500	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

				ATORN®		ORION®	
			Cutting material	HSSE		HSSE	
			Surface	Uncoated		Uncoated	
mm	mm	mm	f steinl. st. ● (mm/U)	11029... Ident. No.		11028... Ident. No.	
13.5	108	160	0.15	507	●	-	-
14	108	160	0.15	514	●	-	-
14.5	114	169	0.15	521	●	-	-
15	114	169	0.17	528	●	-	-
15.5	120	178	0.17	536	●	-	-
16	120	178	0.17	543	●	-	-

ORION = Prod. Gr. 102
ATORN® = Prod. Gr. 112

ATORN® Twist drill type stainless steel HSSE 10xD, uncoated (DIN 340)

For application in stainless steel and special alloys

Application:
For use in stainless steel, special alloys up to a strength of 1300 N/mm².

Advantage:
- Special geometry with aggressive cutter design and free geometry for very smooth cutting

Execution:
- Twist drill with stainless steel profile

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11058	30	20	10	15	10	50	70	45	35	40	30				7	6	6		

			Cutting material	HSSE	
			Surface	Uncoated	
mm	mm	mm	f steinl. st. ● (mm/U)	11058... Ident. No.	
1	33	56	0.03	030	●
1.1	37	60	0.03	031	●
1.2	41	65	0.03	033	●
1.3	41	65	0.03	035	●
1.4	45	70	0.03	037	●
1.5	45	70	0.03	039	●
1.6	50	76	0.03	042	●
1.7	50	76	0.03	044	●
1.8	53	80	0.03	046	●
1.9	53	80	0.03	048	●
2	56	85	0.03	051	●
2.1	56	85	0.03	053	●
2.2	59	90	0.04	055	●
2.3	59	90	0.04	057	●
2.4	62	95	0.04	060	●
2.5	62	95	0.04	062	●
2.6	62	95	0.04	064	●
2.7	66	100	0.04	066	●
2.8	66	100	0.04	069	●
2.9	66	100	0.04	071	●
3	66	100	0.04	073	●
3.1	69	106	0.04	075	●
3.2	69	106	0.04	078	●
3.3	69	106	0.04	080	●
3.4	73	112	0.05	082	●
3.5	73	112	0.05	084	●
3.6	73	112	0.05	087	●
3.7	73	112	0.05	089	●
3.8	78	119	0.05	091	●
3.9	78	119	0.05	093	●
4	78	119	0.05	096	●
4.1	78	119	0.05	098	●
4.2	78	119	0.05	100	●
4.3	82	126	0.06	102	●
4.4	82	126	0.06	105	●
4.5	82	126	0.06	107	●
4.7	82	126	0.06	111	●
4.8	87	132	0.06	114	●
4.9	87	132	0.06	116	●
5	87	132	0.06	118	●
5.1	87	132	0.07	119	●
5.2	87	132	0.07	121	●
5.3	87	132	0.07	123	●
5.4	91	139	0.07	124	●
5.5	91	139	0.07	125	●
5.6	91	139	0.07	127	●
5.7	91	139	0.07	128	●
5.8	91	139	0.07	130	●
5.9	91	139	0.08	131	●
6	91	139	0.08	133	●
6.1	97	148	0.08	134	●
6.2	97	148	0.08	135	●
6.3	97	148	0.08	137	●
6.4	97	148	0.08	139	●
6.5	97	148	0.08	140	●
6.6	97	148	0.08	141	●
6.7	97	148	0.08	142	●
6.8	102	156	0.09	144	●
7	102	156	0.09	146	●
7.5	102	156	0.09	153	●
7.7	109	165	0.1	156	●
8	109	165	0.1	161	●
8.1	109	165	0.1	162	●
8.4	109	165	0.1	167	●
8.5	109	165	0.11	168	●
9	115	175	0.11	175	●
9.5	115	175	0.12	182	●
9.8	121	184	0.12	187	●
10	121	184	0.12	190	●
10.2	121	184	0.12	192	●
10.5	121	184	0.13	197	●
12	134	205	0.14	211	●

Prod. Gr. 110

Twist drill type X
for universal use up to 1300 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1300 N/mm².

advantage:
- very high wear resistance and heat resistance owing to high-quality HSSE-PM cutting material
- high cutting edge stability owing to special point thinning and cutting angle adjustment
- very long service life in higher-alloyed steels and materials



Typ X

ATORN® Twist drill type X HSSE-PM TiN 3xD (DIN 1897)
for universal use up to 1300 N/mm²

HSSE-PM | TiN | 3xD | Typ X | 118° | HA

Application:
Universal use in all material groups up to a strength of 1300 N/mm2.

Execution:
- Twist drill with special point thinning

Advantage:
- high wear resistance and increased heat resistance
- high cutting edge stability owing to special point thinning and cutting angle adjustment
- ideal for machining higher-alloyed and higher-strength steels and materials

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11080	50	35	15	12	10	80	90	80	50	50	45	40	15	40	12	12	12		

Cutting material				HSSE-PM	
Surface				TiN	
mm	mm	mm	f steel 1000 ● (mm/U)	11080... Ident. No.	
1	6	26	0.03	015	●
1.1	7	28	0.03	017	●
1.2	8	30	0.03	020	●
1.3	8	30	0.03	022	●
1.4	9	32	0.03	024	●
1.5	9	32	0.03	026	●
1.6	10	34	0.03	029	●
1.7	10	34	0.03	031	●
1.8	11	36	0.03	033	●
1.9	11	36	0.03	035	●
2	12	38	0.03	038	●
2.1	12	38	0.03	040	●
2.2	13	40	0.04	042	●
2.3	13	40	0.04	044	●
2.4	14	43	0.04	047	●
2.5	14	43	0.04	049	●
2.6	14	43	0.04	051	●
2.7	16	46	0.04	053	●
2.8	16	46	0.04	056	●
2.9	16	46	0.04	058	●
3	16	46	0.04	060	●
3.1	18	49	0.04	062	●
3.2	18	49	0.04	065	●
3.3	18	49	0.05	067	●
3.4	20	52	0.05	069	●
3.5	20	52	0.05	071	●
3.6	20	52	0.05	074	●
3.7	20	52	0.06	076	●
3.8	22	55	0.06	078	●
3.9	22	55	0.06	080	●
4	22	55	0.06	083	●
4.1	22	55	0.06	084	●
4.2	22	55	0.07	085	●
4.3	24	58	0.07	087	●
4.4	24	58	0.07	089	●
4.5	24	58	0.07	090	●
4.6	24	58	0.08	091	●
4.7	24	58	0.08	092	●
4.8	26	62	0.08	095	●
4.9	26	62	0.08	096	●
5	26	62	0.08	097	●
5.1	26	62	0.09	098	●
5.2	26	62	0.09	099	●
5.3	26	62	0.09	101	●
5.4	28	66	0.09	102	●
5.5	28	66	0.1	103	●

Cutting material				HSSE-PM	
Surface				TiN	
mm	mm	mm	f steel 1000 ● (mm/U)	11080... Ident. No.	
5.6	28	66	0.1	105	●
5.7	28	66	0.1	106	●
5.8	28	66	0.1	108	●
5.9	28	66	0.1	109	●
6	28	66	0.11	111	●
6.1	31	70	0.11	112	●
6.2	31	70	0.11	113	●
6.3	31	70	0.11	115	●
6.4	31	70	0.12	117	●
6.5	31	70	0.12	118	●
6.6	31	70	0.12	119	●
6.7	31	70	0.12	120	●
6.8	34	74	0.12	122	●
6.9	34	74	0.13	123	●
7	34	74	0.13	124	●
7.1	34	74	0.13	125	●
7.2	34	74	0.13	127	●
7.3	34	74	0.14	129	●
7.4	34	74	0.14	130	●
7.5	34	74	0.14	131	●
7.6	37	79	0.14	133	●
7.7	37	79	0.14	134	●
7.8	37	79	0.15	136	●
7.9	37	79	0.15	137	●
8	37	79	0.15	139	●
8.1	37	79	0.15	140	●
8.2	37	79	0.15	141	●
8.3	37	79	0.15	143	●
8.4	37	79	0.15	145	●
8.5	37	79	0.15	146	●
8.8	40	84	0.16	151	●
9	40	84	0.16	153	●
9.3	40	84	0.16	158	●
9.5	40	84	0.16	160	●
9.8	43	89	0.16	165	●
10	43	89	0.16	168	●
10.2	43	89	0.16	170	●
10.5	43	89	0.17	175	●
11	47	95	0.17	182	●
11.5	47	95	0.17	188	●
12	51	102	0.18	195	●
12.5	51	102	0.18	201	●
13	51	102	0.18	207	●
13.5	54	107	0.18	214	●
14	54	107	0.19	221	●

Prod. Gr. 1AG

ATORN® Twist drill type X HSSE-PM TIN 5xD (DIN 338)

for universal use up to 1300 N/mm²

HSSE-PM | TiN | 5xD | Typ X | 118° | HA

Application:
Universal use in all material groups up to a strength of 1300 N/mm2.

Execution:
- Twist drill with special point thinning

Advantage:
- high wear resistance and increased heat resistance
- high cutting edge stability owing to special point thinning and cutting angle adjustment
- ideal for machining higher-alloyed and higher-strength steels and materials

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11025	50	35	15	12	10	80	90	80	50	50	45	40	15	40	12	12	12		

Cutting material			HSSE-PM	
Surface			TiN	
mm	mm	mm	f steel 1000 ● (mm/U)	11025... Ident. No.	
1	12	34	0.03	081	●
1.1	14	36	0.03	091	●
1.2	16	38	0.03	101	●
1.3	16	38	0.03	111	●
1.4	18	40	0.03	121	●
1.5	18	40	0.03	131	●
1.6	20	43	0.03	141	●
1.7	20	43	0.03	151	●
1.8	22	46	0.03	161	●
1.9	22	46	0.03	171	●
2	24	49	0.03	181	●
2.1	24	49	0.03	192	●
2.2	27	53	0.04	202	●
2.3	27	53	0.04	210	●
2.4	30	57	0.04	220	●
2.5	30	57	0.04	230	●
2.6	30	57	0.04	240	●
2.7	33	61	0.04	250	●
2.8	33	61	0.04	260	●
2.9	33	61	0.04	270	●
3	33	61	0.04	280	●
3.1	36	65	0.04	282	●
3.2	36	65	0.04	286	●
3.3	36	65	0.05	289	●
3.4	39	70	0.05	291	●
3.5	39	70	0.05	293	●
3.6	39	70	0.05	296	●
3.7	39	70	0.06	299	●
3.8	43	75	0.06	302	●
3.9	43	75	0.06	305	●
4	43	75	0.06	310	●
4.1	43	75	0.06	314	●
4.2	43	75	0.07	316	●
4.3	47	80	0.07	319	●
4.4	47	80	0.07	324	●
4.5	47	80	0.07	326	●
4.6	47	80	0.08	329	●
4.7	47	80	0.08	332	●
4.8	52	86	0.08	335	●
4.9	52	86	0.08	337	●
5	52	86	0.08	341	●
5.1	52	86	0.09	344	●
5.2	52	86	0.09	349	●
5.3	52	86	0.09	352	●
5.4	57	93	0.09	355	●
5.5	57	93	0.1	358	●
5.6	57	93	0.1	361	●

Cutting material			HSSE-PM	
Surface			TiN	
mm	mm	mm	f steel 1000 ● (mm/U)	11025... Ident. No.	
5.7	57	93	0.1	364	●
5.8	57	93	0.1	367	●
5.9	57	93	0.1	369	●
6	57	93	0.11	371	●
6.1	63	101	0.11	373	●
6.2	63	101	0.11	375	●
6.3	63	101	0.11	377	●
6.4	63	101	0.12	379	●
6.5	63	101	0.12	381	●
6.6	63	101	0.12	383	●
6.7	63	101	0.12	385	●
6.8	69	109	0.12	387	●
6.9	69	109	0.13	389	●
7	69	109	0.13	391	●
7.1	69	109	0.13	393	●
7.2	69	109	0.13	396	●
7.3	69	109	0.14	398	●
7.4	69	109	0.14	400	●
7.5	69	109	0.14	402	●
7.6	75	117	0.14	405	●
7.7	75	117	0.14	407	●
7.8	75	117	0.15	409	●
7.9	75	117	0.15	411	●
8	75	117	0.15	414	●
8.1	75	117	0.15	416	●
8.2	75	117	0.15	418	●
8.3	75	117	0.15	420	●
8.4	75	117	0.15	423	●
8.5	75	117	0.15	425	●
8.8	81	125	0.16	432	●
9	81	125	0.16	436	●
9.3	81	125	0.16	443	●
9.5	81	125	0.16	447	●
9.8	87	133	0.16	454	●
10	87	133	0.16	459	●
10.2	87	133	0.16	461	●
10.3	87	133	0.16	463	●
10.5	87	133	0.17	466	●
11	94	142	0.17	473	●
11.5	94	142	0.17	480	●
12	101	151	0.18	488	●
12.3	101	151	0.18	492	●
12.5	101	151	0.18	494	●
12.7	101	151	0.18	496	●
13	101	151	0.18	500	●
13.5	108	160	0.18	507	●
14	108	160	0.19	514	●

Prod. Gr. 1AG

twist drill type UNI/VA HSSE V3
for high-strength and stainless steel processing

application:
problem solver on conventional machines without internal cooling in the following material groups: steel, stainless steel and high-strength materials

advantage:
- special geometry in conjunction with HSSE-V3 cutting material makes the drill the ultimate problem solver
- very high cutting speeds achievable
- very long service life in high-alloyed steels and stainless steels
- for low-performance machines without internal cooling in stainless steel



TiAlN | Typ VA

micro twist drill HSSE-PM
for universal use up to 1300 N/mm²

Application:
for machining micro holes up to a strength of 1300 N/mm².

advantage:
- high-quality HSSE PM cutting material provides maximum toughness and is therefore less susceptible to breakage
- diameter from 0.05 mm–1.50 mm
- cost-effective alternative to solid carbide range




Typ N

ATORN® HSSE-PM micro drill (DIN 1899)
for universal use up to 1300 N/mm²

HSSE-PM | 5xD | Typ N | 118° | HA

Application:
Standard geometry for universal use up to a strength of 1300 N/mm².

Execution:
- profile-ground
- Ø=0.05-0.8 mm shaft diameter = 1.0 mm
- Ø=0.85–1.50 mm shaft diameter = 1.5 mm

Advantage:
- excellent all-round properties and precise cutting pattern
- HSSE-PM cutting material ensures a long service life with a high degree of resilience at the same time

Delivery:
Packaging unit = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11054	30	20	10	10	10	50	60	50	45	40	30	30	10	30	7	6	6		

Cutting material			HSSE-PM		
Surface			Uncoated		
mm	mm	mm	f steel 1000 ● (mm/U)	11054... Ident. No.	
0.05	0.4	25	0.006	005	●
0.08	0.5	25	0.006	008	●
0.1	0.7	25	0.006	010	●
0.15	1	25	0.007	015	●
0.2	1.8	25	0.008	020	●
0.25	2.2	25	0.009	025	●
0.3	2.2	25	0.01	030	●
0.35	2.8	25	0.011	035	●
0.4	3.6	25	0.012	040	●
0.45	3.6	25	0.013	045	●
0.5	4	25	0.014	050	●
0.55	4.5	25	0.015	055	●
0.6	4.5	25	0.016	060	●

Cutting material			HSSE-PM		
Surface			Uncoated		
mm	mm	mm	f steel 1000 ● (mm/U)	11054... Ident. No.	
0.65	5	25	0.017	065	●
0.7	5.6	25	0.018	070	●
0.75	5.6	25	0.019	075	●
0.8	6.3	25	0.022	080	●
0.85	6.3	25	0.025	085	●
0.9	7.1	25	0.028	090	●
0.95	7.1	25	0.031	095	●
1	8	25	0.034	100	●
1.1	9	25	0.037	110	●
1.2	10	25	0.04	120	●
1.3	10	25	0.043	130	●
1.4	11.2	25	0.046	140	●
1.5	12.5	25	0.049	150	●

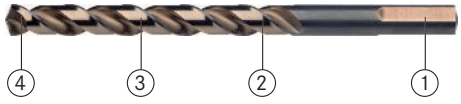
Prod. Gr. 112

Multi-twist drill
Straight shank with 3-surface cut

Application:
The multi-twist drill was specially developed for mobile use on cordless drill screwdrivers (plates up to 5 mm) and electronic drills.

advantage:
- Three-faced polished section on the shank ensures optimum power transmission and fastening in drill chuck. Slippage is a thing of the past. Less effort when opening or closing in drill chuck.
- 40° twist angle ensures reliable removal of chippings during universal use. Higher cutting speeds with increased stability and accuracy.
- Special coating in connection with relief grinding provides for maximum adhesion of the lubricant and reliable chip removal.
- In the case of hand-held applications with a cordless drill screwdriver in particular, the 135° tip angle provides for a very high precision of the bore hole, a reduced cutting edge (extension of the battery life) and optimum centring precision, thanks to the innovative centre grinding.





ATORN® Multi-twist drills (DIN 338)

For universal use up to 1300 N/mm² in portable drills

HSSE | 5xD | UNI | 135° | HA

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Application:
Multi-spiral drill for portable use on cordless drill screwdrivers and drilling machines engineered up to a plate thickness of 5 mm.

Execution:
- Twist drill with special geometry for mobile use

Advantage:
- Three-faced polished section on the shank ensures optimum force transmission and fastening in drill chuck (no slipping through)
- 135° tip angle ensures very high degree of precision of the bore hole, in particular with hand-held applications in the cordless drill screwdriver thanks to the innovative centre cutting, reduced cutting forces (longer battery life) and optimum centring precision
- Special coating in conjunction with relief grinding ensures maximum adhesion of the lubricant and reliable chip removal

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

Notes:
drill Ø <4.00 mm without three-faced polished section

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11032020-130	30	20	10	10	10	50	60	50	45	40	30	20	15	30	10	10	10		

Cutting material			HSSE		
Surface			Uncoated		
mm	mm	mm	f steinl. st. ● (mm/U)	11032... Ident. No.	
2	24	49	0.03	020	●
2.5	30	57	0.04	025	●
3	33	61	0.04	030	●
3.2	36	65	0.04	032	●
3.3	36	65	0.04	033	●
3.5	39	70	0.05	035	●
4	43	75	0.05	040	●
4.2	43	75	0.05	042	●
4.5	47	80	0.06	045	●
5	52	86	0.06	050	●
5.5	57	93	0.07	055	●
6	57	93	0.08	060	●
6.5	63	101	0.08	065	●
6.8	69	109	0.09	068	●

Cutting material			HSSE		
Surface			Uncoated		
mm	mm	mm	f steinl. st. ● (mm/U)	11032... Ident. No.	
7	69	109	0.09	070	●
7.5	69	109	0.09	075	●
8	75	117	0.1	080	●
8.5	75	117	0.11	085	●
9	81	125	0.11	090	●
9.5	81	125	0.12	095	●
10	87	133	0.12	100	●
10.2	87	133	0.12	102	●
10.5	87	133	0.13	105	●
11	94	142	0.13	110	●
11.5	94	142	0.14	115	●
12	101	151	0.14	120	●
12.5	101	151	0.15	125	●
13	101	151	0.15	130	●

Prod. Gr. 112

ATORN® Multi twist drill set (DIN 338)

For universal use up to 1300 N/mm² in portable drills

Application:
Multi-spiral drill for portable use on cordless drill screwdrivers and drilling machines engineered up to a plate thickness of 5 mm.

Execution:
- twist drill with special geometry for mobile use

Advantage:
- Three-faced polished section on the shank ensures optimum force transmission and fastening in drill chuck (no slipping through)
- 135° tip angle ensures very high degree of precision of the bore hole, in particular with hand-held applications in the cordless drill screwdriver thanks to the innovative centre cutting, reduced cutting forces (longer battery life) and optimum centring precision
- special coating in connection with relief grinding ensures maximum lubricant adhesion and safe chip removal

Notes:
Drill Ø <4.00 mm without three-faced polished section

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Surface	Uncoated	
Cutting material	HSSE	
Type	UNI	
Composition of set	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11032... Ident. No.	
2.0-8.0 mm (no. 11032)	1 mm	6	001	●
1.0-10.0 (no. 11032)	0.5 mm	19	002	●
1.0-13.0 (no. 11032)	0.5 mm	25	003	●

Prod. Gr. 112

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11032001-003	30	20	10	10	10	50	60	50	45	40	30	20	15	30	10	10	10		

ATORN® HSS core drill (DIN 344)

for universal use up to 1000 N/mm²

HSS | Z 3

Application:
For core drilling pre-drilled, pre-cast or punched holes.

Execution:
- 3-blade design

Advantage:
- stable grinding combined with the three blades ensure that any mis-alignments and run-out of the pre-made holes are corrected

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11410	22	20	10	6	4	40	50	40	35	30	25	40		20					

Cutting edge Ø (mm)	Cutting edge length (mm)	Length (mm)	f steel 700 ● (mm/U)	11410... Ident. No.	
4.8	74	108	0.05	048	●
5	74	108	0.05	050	●
5.8	80	116	0.05	058	●
6	80	116	0.06	060	●
6.8	93	133	0.06	068	●
7	93	133	0.06	070	●
7.8	100	142	0.07	078	●
8	100	142	0.07	080	●
8.8	107	151	0.07	088	●
9	107	151	0.08	090	●
9.8	116	162	0.08	098	●
10	116	162	0.08	100	●
11	125	173	0.08	110	●
11.75	134	184	0.08	117	●
12	134	184	0.08	120	●

Prod. Gr. 117

ATORN® Twist drill set HSS/E 5xD (DIN 338)

in metal box

No. 11037 900, 11042 051, 11042 251, 11049 051
D = 1–10 mm, increasing by 0.5 mm

No. 11037 920, 11042 061, 11042 261, 11049 061
D = 1–10.5 mm, increasing by 0.5 mm + core drill

No. 11037 930, 11042 071, 11042 271, 11049 071
D = 1-13 mm, increasing by 0.5 mm

No. 11042 011, 11042 111, 11049 011

No. 11042 021, 11042 121, 11049 021
D = 6–10 mm, increasing by 0.1 mm

No. 11042 081
D = 1-5.9 mm, increasing by 0.1 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11037900-930	40	20	10	10	8	60	80	70	45	40	30	30	10	30	10	10	10		
11042011-081	30	20		10		40	60	70	45	40	30	20	10	25					
11042111-271	30	20		10		40	60	70	45	40	30	20	10	25					
11049011-071	40	20	10	10	10	50	45	40	35	40	30	20	10	30	6	6	6		

			Surface	TiNALOX		Vaporised		TiN		TiN	
			Cutting material	HSSE		HSS		HSS		HSSE	
			Type	U4 (no. 11037)		N (no. 11020)		N (no. 11022)		TLP (no. 11030)	
Composition of set	Pitch of drill Ø	Number of pieces in assort-ment/set (PCS)		11037... Ident. No.		11042... Ident. No.		11042... Ident. No.		11049... Ident. No.	
1,0-10,0	0.5 mm	19		900	●	051	●	251	●	051	●
1,0-10,5	0.5 mm + core-hole drill	24		920	●	061	●	261	●	061	●
1,0-13,0	0.5 mm	25		930	●	071	●	271	●	071	●
6,0-10,0	0.1 mm	41		-	-	021	●	121	●	021	●
1,0-10,0	0.1 mm	91		-	-	081	●	-	-	-	-
1,0-5,9	0.1 mm	50		-	-	011	●	111	●	011	●

11042... = Prod. Gr. 1AA
11037... = Prod. Gr. 1AG
11042... = Prod. Gr. 112
11049... = Prod. Gr. 112

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

ORION® Twist drill set HSS/E 5xD (DIN 338)

In metal or plastic box

No. 11043 011, 11044 011, 11047 011, 11050 011
D = 1.0–5.9 mm, increasing by 0.1 mm

No. 11043 021, 11044 021, 11047 021, 11050 021
D = 6.0-10.0 mm, increasing by 0.1 mm

No. 11043 051, 11044 051, 11047 051, 11050 051
D = 1.0-10.0 mm, increasing by 0.5 mm

No. 11043 061, 11044 061, 11047 061, 11050 061
D = 1.0–10.5 mm, increasing by 0.5 mm

No. 11043 071, 11044 071, 11047 071, 11050 071
D = 1.0-13.0 mm, increasing by 0.5 mm

No. 11043 081, 11044 081, 11047 081, 11050 081
D = 1.0-10.0 mm, increasing by 0.1 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11043011-081	30	20		10		40	60	70	45	40	30	20	10	25					
11044011-081	30	20		10		50	45	40	35	40	30	20	10	25					
11047011-081	40	20	10	10		50	45	40	35	40	30	20	10	30	10				
11050011-081	30	20	10	15	10	50	70	45	35	40	30				7	6	6		

		Surface	Vaporised		Vaporised		TiN		Uncoated	
		Cutting material	HSS		HSS		HSS		HSSE	
		Type	N (no. 11040)		N (no. 11041)		N (no. 11031)		VA (no. 11028)	
Composition of set	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11043... Ident. No.		11044... Ident. No.		11047... Ident. No.		11050... Ident. No.	
1,0-5,9	0.1 mm	50	011	●	011	●	011	●	011	●
6,0-10,0	0.1 mm	41	021	●	021	●	021	●	021	●
1,0-10,0	0.5 mm	19	051	●	051	●	051	●	051	●
1,0-10,5	0.5 mm + core-hole drill	24	061	●	061	●	061	●	061	●
1,0-13,0	0.5 mm	25	071	●	071	●	071	●	071	●
1,0-10,0	0.1 mm	91	081	●	081	●	081	●	081	●

11043... = Prod. Gr. 1AP
11044... = Prod. Gr. 1AP
11047... = Prod. Gr. 1AP
11050... = Prod. Gr. 102

ATORN® ORION® Twist drill set HSS/HSSE 5xD

Without box

		ATORN®		ORION®		ORION®	
		Surface	Vaporised		Vaporised		TiN	
		Cutting material	HSS		HSS		HSS	
		Type	N (no. 11020)		N (no. 11040)		N (no. 11031)	
Composition of set	Pitch of drill Ø		11042... Ident. No.		11043... Ident. No.		11047... Ident. No.	
1,0-5,0	0.1 mm		010	●	010	●	010	●
5,1-10,0	0.1 mm		020	●	020	●	-	-
1,0-10,0	0.5 mm		050	●	050	●	-	-
1,0-10,5	0.5 mm + core-hole drill		060	●	060	●	-	-
1,0-13,0	0.5 mm		070	●	070	●	070	●

No. 11042–11043

No. 11047

ORION = Prod. Gr. 1AP
ATORN® = Prod. Gr. 112

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11042010-070	30	20		10		50	45	40	35	40	30	20	10	25					
11043010-070	30	20		10		50	45	40	35	40	30	20	10	25					
11047010-070	40	20	10	10		50	45	40	35	40	30	20	10	30	10				

ATORN® Twist drill set 3xD (DIN 1897)

In metal box

			Surface	Vaporised		TiNALOX	
			Cutting material	HSS		HSSE	
			Type	N (no. 11051)		U4 (no. 11086)	
Composition of set	Pitch of drill Ø	Number of pieces in assortment/set (PCS)		11051... Ident. No.		11086... Ident. No.	
1,0-10,0	1 mm	10		910	●	910	●
1,0-10,0	0.5 mm + core-hole drill	23		920	●	920	●

11051... = Prod. Gr. 1AA
11086... = Prod. Gr. 1AG

No. 11051 910, 11086 910
Ident. No. 910

No. 11051 920, 11086 920
Ident. No. 920

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11051910-920	30	20	10	10		40	60	50	35	35	20	20	10	20	8				
11086910-920	40	20	10	10	8	60	80	70	45	40	30	30	10	30	10	10	10		

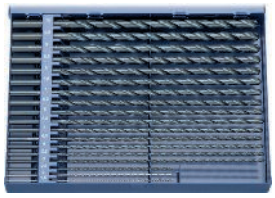
ATORN® Twist drill set type N HSS 15xD-25xD steam-treated

for universal use up to 1000 N/mm²

Application:
Proven standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry
- **Ident. No. 900:**
  - Ø 1.5 mm-2.5 mm cutting length 100 mm, overall length 160 mm
  - Ø 3.0 mm–10.0 mm cutting length 200 mm, overall length 250 mm
- **Ident. No. 910:**
  - Ø 2.0 mm cutting length 100 mm, overall length 160 mm
  - Ø 3.0 mm–10.0 mm cutting length 200 mm, overall length 250 mm

Advantage:
- Excellent all-round properties and precise cutting pattern
- Steam treatment increases service life



Pitch of drill Ø					0.5 mm	1 mm
Number of pieces in assortment/set (PCS)					19	9
	Surface	Cutting material	Type			
11063...	Vaporised	HSS	N	Ident. No.	900	910
					●	●

Prod. Gr. 112

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11063900	20	10				40	50	40	30	30	20	10		20					
11063910	20	10				40	50	40	30	30	20	10		20					

ATORN® ORION® Twist drill type N HSS with offset shank

for universal use up to 1000 N/mm²

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- Steam treatment ensures favourable adherence of coolant
- Diameter-independent straight shank of uniform length for clamping and tool advantages
- **No. 11068:** Inexpensive tool, very good value for money

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11067	30	20	10	10	8	40	60	50	30	30	20	20	10	20	4				
11068	30	20	10	10	8	40	60	50	30	30	20	20	10	20	4				

					ATORN®		ORION®	
mm	mm	mm	Shaft Ø (mm)	f steel 700 ● (mm/U)	11067... Ident. No.		11068... Ident. No.	
13.5	76	152	12.7	0.26	135	●	135	●
14	76	152	12.7	0.26	140	●	140	●
14.5	76	152	12.7	0.27	145	●	145	●
15	76	152	12.7	0.27	150	●	150	●
15.5	76	152	12.7	0.28	155	●	155	●
16	76	152	12.7	0.28	160	●	160	●

mm	mm	mm	Shaft Ø (mm)	f steel 700 ● (mm/U)	ATORN® 11067... Ident. No.		ORION® 11068... Ident. No.	
16.5	76	152	12.7	0.28	165	●	165	●
17	76	152	12.7	0.29	170	●	170	●
17.5	76	152	12.7	0.29	175	●	175	●
18	76	152	12.7	0.3	180	●	180	●
18.5	76	152	12.7	0.3	185	●	185	●
19	76	152	12.7	0.3	190	●	190	●
19.5	76	152	12.7	0.31	195	●	195	●
20	76	152	12.7	0.31	200	●	200	●
21	76	152	12.7	0.32	210	●	210	●
22	76	152	12.7	0.33	220	●	220	●
23	76	152	12.7	0.33	230	●	230	●
24	76	152	12.7	0.34	240	●	240	●
25	76	152	12.7	0.35	250	●	250	●

ATORN® = Prod. Gr. 1AA
ORION = Prod. Gr. 1AP

ATORN® Twist drill set, type N HSS with offset shank

for universal use up to 1000 N/mm²

Application:
Standard geometry for universal use up to a strength of 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- Steam treatment ensures favourable adherence of coolant
- Diameter-independent straight shank of uniform length for clamping and tooling advantages

Composition of set		Ø 13.5-20 mm	Ø 14-25 mm
Pitch of drill Ø		0.5 mm	1 mm
Number of pieces in assortment/set (PCS)		14	12
11067...	Ident. No.	900	910
		●	●

Prod. Gr. 1AA

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11067900-910	30	20	10	10	8	40	60	50	30	30	20	20	10	20	4				

Plastic drill stands

For twist drills

Application:
For storing twist drills.

Execution:
- plastic version

Advantage:
- Sturdy block ensures safe and tidy storage of twist drills

Composition of set		1.0-5.0	5.1-10.0	1.0-10.0	1.0-13.0
Pitch of drill Ø		0.1 mm	0.1 mm	0.5 mm	0.5 mm
Number of pieces in assortment/set (PCS)		41	50	19	25
11045...	Ident. No.	010	020	050	070
		●	●	●	●

Prod. Gr. 1AY

Metal box for twist drills

For twist drills

Application:
For storing twist drills.

Execution:
- steel

Advantage:
- Sturdy metal box ensures safe and tidy storage of twist drills

Composition of set	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11048... Ident. No.	
1.0-5.0	0.1 mm	41	010	●
5.1-10.0	0.1 mm	50	020	●
1.0-10.0	0.5 mm	19	050	●
1.0-10.5	0.5 mm	24	060	●
1.0-13.0	0.5 mm	25	070	●
1.0-10.0	0.1 mm	91	080	●

Prod. Gr. 1AY

ATORN® ORION® Twist drill type N HSS 5xD (DIN 345)

for universal use up to 1000 N/mm²

HSS | 5xD | Typ N | 118° | MK

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Steam treatment ensures favourable adherence of coolant

No. 11070

No. 11071

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11070	30	20		10		50	45	40	35	40	30	20	10	25					
11071	30	20		10		50	45	40	35	40	30	20	10	25					

					ATORN®		ORION®	
				Cutting material	HSS		HSS	
				Surface	Vaporised		Vaporised	
mm	mm	mm		f steel 700 ● (mm/U)	11070... Ident. No.		11071... Ident. No.	
5	52	133	MK 1	0.11	031	●	-	-
6	57	138	MK 1	0.12	046	●	-	-
7	69	150	MK 1	0.12	059	●	-	-
8	75	156	MK 1	0.12	074	●	-	-
8.5	75	156	MK 1	0.13	081	●	-	-
9	81	162	MK 1	0.13	088	●	-	-
9.5	81	162	MK 1	0.14	095	●	-	-
10	87	168	MK 1	0.22	103	●	103	●
10.2	87	168	MK 1	0.22	105	●	-	-
10.5	87	168	MK 1	0.23	110	●	110	●
11	94	175	MK 1	0.23	117	●	117	●
11.5	94	175	MK 1	0.24	124	●	124	●
11.75	94	175	MK 1	0.24	128	●	128	●
11.8	94	175	MK 1	0.24	129	●	-	-
12	101	182	MK 1	0.24	132	●	132	●
12.1	101	182	MK 1	0.24	133	●	-	-
12.2	101	182	MK 1	0.24	134	●	-	-
12.5	101	182	MK 1	0.25	138	●	138	●
12.75	101	182	MK 1	0.25	141	●	-	-
13	101	182	MK 1	0.25	144	●	144	●
13.25	108	189	MK 1	0.25	-	-	147	●
13.5	108	189	MK 1	0.26	151	●	151	●
13.75	108	189	MK 1	0.26	154	●	154	●
14	108	189	MK 1	0.26	158	●	158	●
14.25	114	212	MK 2	0.26	161	●	161	●
14.5	114	212	MK 2	0.27	165	●	165	●
14.75	114	212	MK 2	0.27	169	●	169	●
15	114	212	MK 2	0.27	172	●	172	●
15.25	120	218	MK 2	0.27	176	●	176	●
15.5	120	218	MK 2	0.28	180	●	180	●
15.75	120	218	MK 2	0.28	183	●	183	●
16	120	218	MK 2	0.28	187	●	187	●
16.25	125	223	MK 2	0.28	190	●	190	●
16.5	125	223	MK 2	0.28	194	●	194	●
16.75	125	223	MK 2	0.29	198	●	198	●
17	125	223	MK 2	0.29	201	●	201	●
17.25	130	228	MK 2	0.29	205	●	205	●
17.5	130	228	MK 2	0.29	209	●	209	●
17.75	130	228	MK 2	0.29	212	●	212	●
18	130	228	MK 2	0.3	216	●	216	●
18.25	135	233	MK 2	0.3	-	-	219	●
18.5	135	233	MK 2	0.3	223	●	223	●
18.75	135	233	MK 2	0.3	227	●	227	●
19	135	233	MK 2	0.3	230	●	230	●
19.25	140	238	MK 2	0.31	-	-	234	●
19.5	140	238	MK 2	0.31	238	●	238	●
19.75	140	238	MK 2	0.31	241	●	241	●
20	140	238	MK 2	0.31	245	●	245	●
20.25	145	243	MK 2	0.31	-	-	249	●
20.5	145	243	MK 2	0.32	252	●	252	●
20.75	145	243	MK 2	0.32	-	-	256	●
21	145	243	MK 2	0.32	259	●	259	●
21.25	150	248	MK 2	0.32	-	-	263	●
21.5	150	248	MK 2	0.32	267	●	267	●
21.75	150	248	MK 2	0.33	270	●	270	●
22	150	248	MK 2	0.33	274	●	274	●
22.25	150	248	MK 2	0.33	-	-	278	●
22.5	155	253	MK 2	0.33	281	●	281	●
22.75	155	253	MK 2	0.33	-	-	285	●
23	155	253	MK 2	0.33	288	●	288	●
23.25	155	276	MK 3	0.34	-	-	290	●
23.5	155	276	MK 3	0.34	292	●	292	●
23.75	160	281	MK 3	0.34	-	-	293	●
24	160	281	MK 3	0.34	295	●	295	●
24.25	160	281	MK 3	0.34	-	-	297	●
24.5	160	281	MK 3	0.35	298	●	298	●
24.75	160	281	MK 3	0.35	300	●	300	●
25	160	281	MK 3	0.35	301	●	301	●
25.25	165	286	MK 3	0.35	-	-	302	●
25.4	165	286	MK 3	0.35	303	●	-	-
25.5	165	286	MK 3	0.35	304	●	304	●
25.75	165	286	MK 3	0.35	-	-	305	●
26	165	286	MK 3	0.35	307	●	307	●
26.25	165	286	MK 3	0.36	-	-	309	●
26.5	165	286	MK 3	0.36	310	●	310	●
26.75	170	291	MK 3	0.36	-	-	312	●
27	170	291	MK 3	0.36	314	●	314	●
27.5	170	291	MK 3	0.36	317	●	317	●
27.75	170	291	MK 3	0.36	-	-	318	●
28	170	291	MK 3	0.36	320	●	320	●
28.5	175	296	MK 3	0.37	323	●	323	●
28.75	175	296	MK 3	0.37	-	-	325	●
29	175	296	MK 3	0.37	327	●	327	●
29.5	175	296	MK 3	0.37	330	●	330	●
29.75	175	296	MK 3	0.37	-	-	331	●
30	175	296	MK 3	0.37	333	●	333	●
30.5	180	301	MK 3	0.37	336	●	336	●
30.75	180	301	MK 3	0.37	338	●	-	-
31	180	301	MK 3	0.38	340	●	340	●
31.5	180	301	MK 3	0.38	-	-	343	●
32	185	334	MK 4	0.38	345	●	345	●
32.5	185	334	MK 4	0.38	347	●	-	-
33	185	334	MK 4	0.38	350	●	350	●
33.5	185	334	MK 4	0.39	-	-	352	●
34	190	339	MK 4	0.39	354	●	354	●
34.5	190	339	MK 4	0.39	-	-	356	●
35	190	339	MK 4	0.39	359	●	359	●
35.5	190	339	MK 4	0.4	-	-	361	●
36	195	344	MK 4	0.4	363	●	363	●
36.5	195	344	MK 4	0.4	-	-	365	●
37	195	344	MK 4	0.4	-	-	368	●
37.5	195	344	MK 4	0.4	369	●	370	●
38	200	349	MK 4	0.41	372	●	372	●
38.5	200	349	MK 4	0.41	-	-	374	●
39	200	349	MK 4	0.41	376	●	376	●
39.5	200	349	MK 4	0.41	378	●	378	●
40	200	349	MK 4	0.41	380	●	380	●
41	205	354	MK 4	0.42	-	-	385	●
42	205	354	MK 4	0.42	389	●	389	●
43	210	359	MK 4	0.43	394	●	394	●
44	210	359	MK 4	0.43	-	-	398	●
45	210	359	MK 4	0.44	403	●	403	●
46	215	364	MK 4	0.44	-	-	407	●
47	215	364	MK 4	0.44	-	-	412	●
48	220	369	MK 4	0.45	413	●	416	●
49	220	369	MK 4	0.45	-	-	421	●
50	220	369	MK 4	0.46	425	●	425	●
52	230	417	MK 5	0.48	430	●	-	-
54	230	417	MK 5	0.48	442	●	-	-
55	230	417	MK 5	0.48	444	●	444	●
60	235	460	MK 5	0.5	460	●	460	●
65	235	460	MK 5	0.5	471	●	-	-

ATORN® = Prod. Gr. 1AA
ORION = Prod. Gr. 1AP

ATORN® Twist drill, type VA HSSE 5xD, uncoated (DIN 345)

For use in stainless steel and special alloys

HSSE | 5xD | Typ VA | 130° | MK

Application:
For use in stainless steel, special alloys up to a strength of 1300 N/mm².

Advantage:
- Special geometry with aggressive cutter design and free geometry for very smooth cutting

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Execution:
- twist drill with stainless steel profile

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11074	30	20	10	10	20	50	70	70	45	40	30			20	10	10	10		

				Cutting material	HSSE
				Surface	Uncoated
mm	mm	mm		f steel 700 ● (mm/U)	11074... Ident. No.	
11	94	175	MK 1	0.23	117	●
11.5	94	175	MK 1	0.24	124	●
12	101	182	MK 1	0.24	132	●
12.5	101	182	MK 1	0.25	138	●
13	101	182	MK 1	0.25	144	●
13.5	108	189	MK 1	0.26	151	●
14	108	189	MK 1	0.26	158	●
14.5	114	212	MK 2	0.27	165	●
15	114	212	MK 2	0.27	172	●
15.5	120	218	MK 2	0.28	180	●
16	120	218	MK 2	0.28	187	●
16.5	125	223	MK 2	0.28	194	●
17	125	223	MK 2	0.29	201	●

				Cutting material	HSSE
				Surface	Uncoated
mm	mm	mm		f steel 700 ● (mm/U)	11074... Ident. No.	
17.5	130	228	MK 2	0.29	209	●
18	130	228	MK 2	0.3	216	●
18.5	135	233	MK 2	0.3	223	●
19	135	233	MK 2	0.3	230	●
19.5	140	238	MK 2	0.31	238	●
20	140	238	MK 2	0.31	245	●
20.5	145	243	MK 2	0.32	252	●
21	145	243	MK 2	0.32	259	●
21.5	150	248	MK 2	0.32	267	●
22	150	248	MK 2	0.33	274	●
22.5	155	253	MK 2	0.33	281	●
23	155	253	MK 2	0.33	288	●

Prod. Gr. 112

ATORN® Twist drill, type N HSS 10xD-20xD, steam-treated (DIN 345)

for universal use up to 1000 N/mm²

HSS | 10xD | Typ N | 118° | MK

Application:
Standard geometry for universal use up to 1000 N/mm².

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Steam treatment ensures favourable adherence of coolant

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Execution:
- Twist drill with universal standard geometry

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11084	22	14				40	50	45	30	30	20	10		20	5				

				Cutting material	HSS
				Surface	Vaporised
mm	mm	mm		f steel 700 ● (mm/U)	11084... Ident. No.	
14	142	223	MK 1	0.26	140	●
14	220	325	MK 1	0.26	141	●
14	275	410	MK 1	0.26	142	●
15	147	245	MK 2	0.27	150	●
15	220	340	MK 2	0.27	151	●
15	275	425	MK 2	0.27	152	●
16	153	251	MK 2	0.28	160	●
16	230	355	MK 2	0.28	161	●
16	295	445	MK 2	0.28	162	●
17	159	257	MK 2	0.29	170	●
17	230	355	MK 2	0.29	171	●
18	165	263	MK 2	0.3	180	●

				Cutting material	HSS
				Surface	Vaporised
mm	mm	mm		f steel 700 ● (mm/U)	11084... Ident. No.	
18	245	370	MK 2	0.3	181	●
18	310	465	MK 2	0.3	182	●
20	177	275	MK 2	0.31	200	●
20	260	385	MK 2	0.31	201	●
21	184	282	MK 2	0.32	210	●
21	260	385	MK 2	0.32	211	●
22	270	405	MK 2	0.33	221	●
24	206	327	MK 3	0.34	240	●
24	290	440	MK 3	0.34	241	●
25	206	327	MK 3	0.35	250	●
25	290	440	MK 3	0.35	251	●
25	365	555	MK 3	0.35	252	●

ATORN® Twist drill, type TLP HSS 10xD-20xD, uncoated (DIN 345)

For universal use up to 1300 N/mm² in long-chipping materials

Application:
Geometry with deep-hole profile for application up to a strength of 1000 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- Deep-hole profile for optimised chip removal at greater drilling depths without venting
- effective removal of chips thanks to large chipping spaces

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Notes:
chamfer nitrated < Ø16; steam treated > Ø16

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11085	30	20				40	60	45	35	40	30	20	10	20					

Cutting material				HSS	
				Surface	
				Uncoated	
mm	mm	mm		f steel 1000 ● (mm/U)	11085... Ident. No.	
8	100	181	MK 1	0.15	080	●
8	165	265	MK 1	0.15	081	●
8	210	330	MK 1	0.15	082	●
8	420	500	MK 1	0.15	083	●
9	107	188	MK 1	0.16	090	●
9	175	275	MK 1	0.16	091	●
9	220	345	MK 1	0.16	092	●
9	420	500	MK 1	0.16	093	●
10	116	197	MK 1	0.16	100	●
10	185	285	MK 1	0.16	101	●
10	235	360	MK 1	0.16	102	●
10	420	500	MK 1	0.16	103	●
11	125	206	MK 1	0.17	110	●
11	195	300	MK 1	0.17	111	●
11	420	500	MK 1	0.17	113	●
12	134	215	MK 1	0.18	120	●
12	205	310	MK 1	0.18	121	●
12	260	395	MK 1	0.18	122	●
12	420	500	MK 1	0.18	123	●
13	134	215	MK 1	0.18	130	●
13	205	310	MK 1	0.18	131	●
13	260	395	MK 1	0.18	132	●
14	142	223	MK 1	0.19	140	●
14	220	325	MK 1	0.19	141	●
14	275	410	MK 1	0.19	142	●
14	420	500	MK 1	0.19	143	●
14	500	600	MK 1	0.19	144	●
14	650	750	MK 1	0.19	145	●
15	147	245	MK 2	0.19	150	●
15	220	340	MK 2	0.19	151	●
15	275	425	MK 2	0.19	152	●

Cutting material				HSS	
				Surface	
				Uncoated	
mm	mm	mm		f steel 1000 ● (mm/U)	11085... Ident. No.	
15	500	600	MK 2	0.19	154	●
15	650	750	MK 2	0.19	155	●
15	850	1000	MK 2	0.19	156	●
16	153	251	MK 2	0.2	160	●
16	230	355	MK 2	0.2	161	●
16	295	445	MK 2	0.2	162	●
16	400	500	MK 2	0.2	163	●
16	500	600	MK 2	0.2	164	●
17	159	257	MK 2	0.21	170	●
17	230	355	MK 2	0.21	171	●
18	165	263	MK 2	0.21	180	●
18	245	370	MK 2	0.21	181	●
18	310	465	MK 2	0.21	182	●
18	400	500	MK 2	0.21	183	●
18	500	600	MK 2	0.21	184	●
18	650	750	MK 2	0.21	185	●
20	177	275	MK 2	0.22	200	●
20	260	385	MK 2	0.22	201	●
20	325	490	MK 2	0.22	202	●
20	400	500	MK 2	0.22	203	●
20	500	600	MK 2	0.22	204	●
21	184	282	MK 2	0.23	210	●
21	260	385	MK 2	0.23	211	●
21	500	600	MK 2	0.23	214	●
22	270	405	MK 2	0.23	221	●
22	500	600	MK 2	0.23	224	●
24	290	440	MK 3	0.24	241	●
24	475	600	MK 3	0.24	244	●
25	206	327	MK 3	0.25	250	●
25	475	600	MK 3	0.25	254	●

Prod. Gr. 112

Stepped drill bit for thread cutting (core hole and counterbore)

Application:
series and single-part production on conventional and CNC machines.

advantage:
- high profitability as core hole and 90°counterbore produced in single work step
- precise alignment of drill diameter and counterbore diameter

ATORN® Stepped drill bit, short, type N solid carbide/TiAlN, 90°

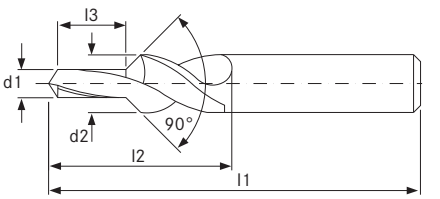
for thread core hole with countersink

VHM | TiAlN | Typ N | 140° | HA

Application:
Countersink and thread core holes are manufactured in one machining step. Sturdy short design in particular for using in NC machines and automatic machines.

Execution:
- Heavy-duty stepped drill bit with universal precision grinding

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11134	70	60	40	35	25	170	200	180	120	140	110			100	30				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 1300 ● (mm/U)	11134... Ident. No.	
M3	2.5	6.0	8.8	28	66	6	0.05	030	●
M4	3.3	6.0	11.4	28	66	6	0.06	040	●
M5	4.2	6.0	13.6	28	66	6	0.09	050	●
M6	5	8.0	16.5	41	79	8	0.11	060	●
M8	6.8	10	21	47	89	10	0.14	080	●
M10	8.5	12	25.5	55	102	12	0.15	100	●
M12	10.2	14	30	60	107	14	0.16	120	●

Prod. Gr. 113

ATORN® Stepped drill bit, short, type N HSSE

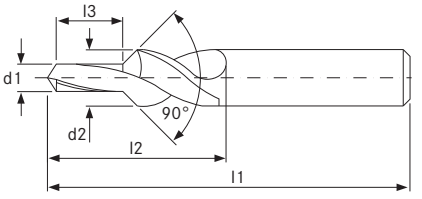
For thread core hole with countersink

HSSE | Typ N | 118° | HA

Application:
Countersink and thread core holes are manufactured in one machining step. Sturdy short design in particular for using in NC machines and automatic machines.

Execution:
- profile-ground

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- Special geometry for outstanding centring and positional accuracy



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11117	35	25	10	10	8	40	50	40	35	20	15			20	10				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 1000 ● (mm/U)	11117... Ident. No.	
M3	2.5	3.4	8	15	52	3.4	0.04	003	●
M4	3.3	4.5	11	19	58	4.5	0.05	004	●
M5	4.2	5.5	13	23	66	5.5	0.07	005	●
M6	5	6.6	16	27	70	6.6	0.08	006	●
M8	6.8	9	20	35	84	9	0.1	008	●
M10	8.5	11	24	44	95	11	0.12	010	●
M12	10.2	14	29	49	107	14	0.14	012	●

Prod. Gr. 112

ORION® HSS Subland stepped drill bit type N (DIN 8378)

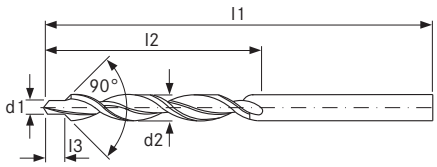
For thread core hole with countersink

HSS | Typ N | 118° | HA

Application:
For thread core holes in accordance with DIN 336 and 90° free countersink equivalent to through holes in accordance with DIN EN 20273. Countersink and thread core holes are manufactured in one machining step.

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11106	30	20				40	50	40	35	20	15			20					

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 700 ● (mm/U)	11106... Ident. No.	
M3	2.5	3.4	8.8	39	70	3.4	0.03	003	●
M4	3.3	4.5	11.4	47	80	4.5	0.04	004	●
M5	4.2	5.5	13.6	57	93	5.5	0.06	005	●
M6	5	6.6	16.5	63	101	6.6	0.08	006	●
M8	6.8	9	21	81	125	9	0.1	008	●

Prod. Gr. 1AR

Stepped drill bit for 90° countersunk screw heads

Application:
series and single-part production on conventional and CNC machines.

advantage:
- high profitability as drill hole and 90° counterbore produced in single work step.
- precise alignment of drill diameter and countersink diameter

ATORN® HSSE stepped drill bit short type N, fine quality grade

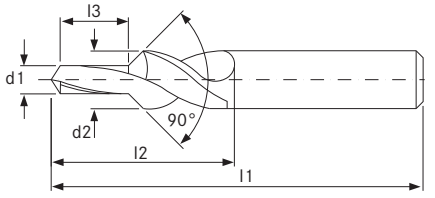
For 90° countersunk screws

HSSE | Typ N | 118° | HA

Application:
For through holes in accordance with DIN/ISO 273 and countersinking in accordance with DIN 74 for countersunk screws in accordance with ISO 2009-2010 and DIN 963-964. Sturdy short design in particular for using in NC machines and automatic machines.

Execution:
- profile-ground

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- Special geometry for outstanding centring and positional accuracy



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11119	35	25	10	10	8	40	50	40	35	20	15			20	10				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 1000 ● (mm/U)	11119... Ident. No.	
M2	2.2	4.6	6	11	45	4.6	0.04	002	●
M3	3.2	6.5	9	15	45	6.5	0.05	003	●
M4	4.3	8.6	11	19	50	8.6	0.07	004	●
M5	5.3	10.4	13	23	55	10.4	0.08	005	●
M6	6.4	12.4	15	27	63	12.4	0.1	006	●
M8	8.4	16.4	19	35	100	12.5	0.12	008	●
M10	10.5	20.4	23	44	110	12.5	0.14	010	●

Prod. Gr. 112

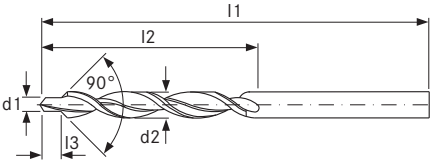
ORION® HSS Subland stepped drill bit type N, fine quality grade (DIN 8374)

For 90° countersunk screws

Application:
For through holes in accordance with DIN EN 20273 and screw head countersinking 90°.

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11100	30	20				40	50	40	35	20	15			20					

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 1000 ● (mm/U)	11100... Ident. No.	
M3	3.2	6	9	57	93	6	0.15	003	●
M4	4.3	8	11	75	117	8	0.18	004	●
M5	5.3	10	13	87	133	10	0.2	005	●
M6	6.4	11.5	15	94	142	11.5	0.21	006	●
M8	8.4	15	19	114	169	15	0.23	008	●

Prod. Gr. 1AR

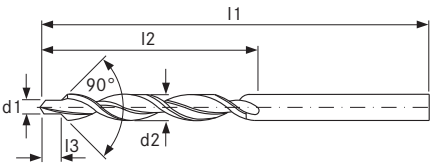
ORION® HSS Subland stepped drill bit type N, medium quality grade (DIN 8374)

For 90° countersunk screws

Application:
For through holes in accordance with DIN EN 20273 and 90° countersunk screw heads, form A and B, in accordance with DIN 74. For screws in accordance with DIN 963 and 964.

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11101	30	20				40	50	40	35	20	15			20					

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 700 ● (mm/U)	11101... Ident. No.	
M3	3.4	6.6	9	63	101	6.6	0.05	003	●

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 700 ● (mm/U)	11101... Ident. No.	
M4	4.5	9	11	81	125	9	0.07	004	●
M5	5.5	11	13	94	142	11	0.08	005	●
M6	6.6	13	15	101	151	13	0.09	006	●
M8	9	17.2	19	130	191	17.2	0.1	008	●

Prod. Gr. 1AR

Stepped drill bit for 180° countersunk screw heads

Application:
series and single-part production on conventional and CNC machines.
advantage:

- high profitability as drill hole and 180° counterbore produced in single work step
- precise alignment of drill diameter and countersink diameter

ATORN® Solid carbide TiAlN stepped drill bit short type N

For 180° cylinder head screws

VHM | TiAlN | Typ N | 140° | HA

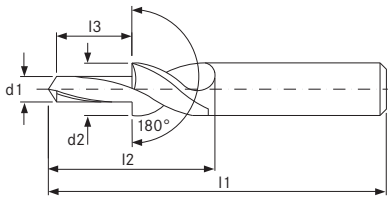
Application:
Drill diameter and countersink diameter are manufactured in one machining step. Sturdy short design in particular for using in NC machines and automatic machines.

Execution:

- Heavy-duty stepped drill bit with universal precision grinding

Advantage:

- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased
- Hole and countersink are manufactured in one machining step



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11135	70	60	40	35	25	170	200	180	120	140	110			100	30				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 1300 ● (mm/U)	11135... Ident. No.	
M3	3.4	6	9	28	64	6	0.05	030	●
M4	4.5	8	11	37	79	8	0.06	040	●
M5	5.5	10	13	43	89	10	0.09	050	●
M6	6.6	11	15	55	102	12	0.11	060	●
M8	9	15	19	60	115	16	0.14	080	●
M10	11	18	23	62	123	18	0.15	100	●

Prod. Gr. 113

ATORN® HSSE step drills type N, medium quality grade

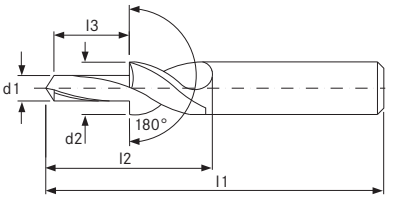
For 180° cylinder head screws

HSSE | Typ N | 118° | HA

Application:
According to DIN/ISO 273 and countersinking according to DIN 74, for cylinder head screws according to DIN 912, 6912, 7984 and ISO 1207. Hole and countersink produced in one machining step.

Execution:
- profile-ground

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- Special geometry for outstanding centring and positional accuracy



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11118	35	25	10	10	8	40	50	40	35	20	15			20	10				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 1000 ● (mm/U)	11118... Ident. No.	
M3	3.4	6	9	15	45	6	0.04	003	●
M4	4.5	8	11	19	50	8	0.05	004	●
M5	5.5	10	13	23	55	10	0.07	005	●
M6	6.6	11	15	26	63	11	0.08	006	●
M8	9	15	19	34	100	12.5	0.1	008	●
M10	11	18	23	41	110	12.5	0.12	010	●
M12	14	20	28	46	110	12.5	0.14	012	●

Prod. Gr. 112

ORION® HSS Subland stepped drill bit type N, medium quality grade (DIN 8376)

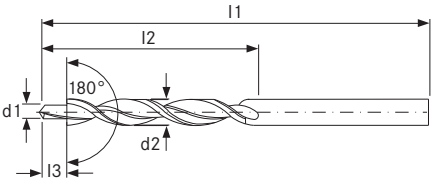
For 180° cylinder head screws

HSS | Typ N | 118° | HA

Application:
For through holes in accordance with DIN EN 20273 and screw head countersinking 180° in accordance with DIN 974-1, series 1. For screws in accordance with DIN 6912, 7984, 34821, DIN EN ISO 1207, 4762, 14579, 14580

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11112	30	20				40	50	40	35	20	15			20					

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shaft Ø (mm)	f steel 700 ● (mm/U)	11112... Ident. No.	
M3	3.4	6	9	57	93	6	0.03	003	●
M4	4.5	8	11	75	117	8	0.04	004	●
M5	5.5	10	13	87	133	10	0.05	005	●
M6	6.6	11	15	94	142	11	0.07	006	●
M8	9	15	19	114	169	15	0.08	008	●
M10	11	18	23	130	191	18	0.1	010	●

Prod. Gr. 1AR

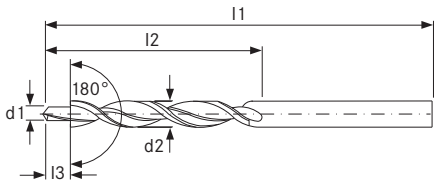
ORION® HSS Subland stepped drill bit type N, medium quality grade (DIN 8377)

For 180° cylinder head screws

Application:
For through holes in accordance with DIN EN 20273 and screw head countersinking 180° in accordance with DIN 974-1, series 1. For screws in accordance with DIN 6912, 7984, 34821, DIN EN ISO 1207, 4762, 14579, 14580

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11115	30	20				40	50	40	35	20	15			20					

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Morse taper size	f steel 700 ● (mm/U)	11115... Ident. No.	
M6	6.6	11	15	94	175	MK 1	0.1	006	●
M8	9	15	19	114	212	MK 2	0.12	008	●
M10	11	18	23	130	228	MK 2	0.13	010	●
M12	13.5	20	27	140	238	MK 2	0.16	012	●
M16	17.5	26	35	165	286	MK 3	0.18	016	●

Prod. Gr. 1AR

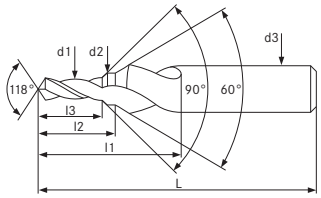
ATORN® HSS stepped drill bit short type N

For core hole centrings

Application:
Drilling of thread core holes in accordance with DIN 332-2, form D/DR. Simultaneous, precisely aligned insertion of centre hole, inlet for screw tap and thread core hole.

Execution:
- profile-ground

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11121	30	20				40	50	40	35	20	15			20					
11122	30	20				40	50	40	35	20	15			20					

								Tool holding device	HA parallel shank		HB parallel shank	
Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l1 (mm)	l2 (mm)	L (mm)	d3 (mm)	f steel 700 ● (mm/U)	11121... Ident. No.		11122... Ident. No.	
M4	3.3	4.3	11	23	12.6	63	8	0.04	004	●	004	●
M5	4.2	5.3	13	27	15.1	67	10	0.05	005	●	005	●
M6	5	6.4	16	33	18.9	71	12.5	0.07	006	●	006	●
M8	6.8	8.4	19	41	23	88	14	0.08	008	●	008	●
M10	8.5	10.5	23	47	27.7	90	16	0.1	010	●	010	●
M12	10.2	13	28	59	34.5	105	22	0.12	012	●	012	●
M16	14	17	35	67	41.3	132	25	0.16	-	-	016	●
M20	17.5	21	38	77	48.3	145	31.5	0.18	-	-	020	●

Prod. Gr. 112

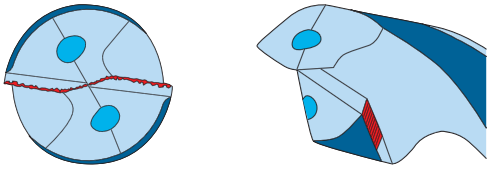
troubleshooting for solid carbide/HSSE drills

flank wear

flank wear is the preferred type of wear, if it is even.

problem
- cutting speed too high
- oil content in coolant too low
- cooling inadequate
- concentricity error

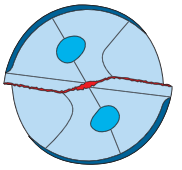
counter-measures
- reduce cutting speed
- increase oil content in coolant
- increase coolant quantity
- check concentricity



flank wear on chisel edge

problem
- cutting speed too low
- feed rate too high
- concentricity error

counter-measure
- reduce cutting speed
- reduce feed rate
- check concentricity



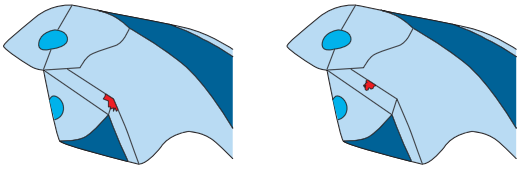
the hole quality decreases, since the self-centring capability is no longer guaranteed.

chipping

chipping occurs mainly when machining pre-drilled holes, when the tip angle of the pilot hole is smaller.

problem
- tip angles do not match each other
- unstable conditions
- concentricity error
- cooling inadequate

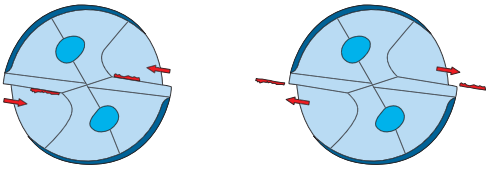
counter-measure
- check tip angles
- check clamping
- check concentricity
- increase cooling



built-up edges

problem
- cutting speed too high/too low
- oil content in coolant too low

counter-measure
- increase cutting speed so that the build-up edge moves to the middle
- reduce cutting speed so that the built-up edge moves to the exterior or is avoided
- increase oil content in coolant



drill breakage

problem
- cutting speed too low
- unstable conditions
- concentricity error
- feed rate too high
- chips building up

counter-measure
- increase cutting speed
- check clamping
- check concentricity
- reduce feed rate
- increase cooling