



TiefbohrSysteme[®] GmbH

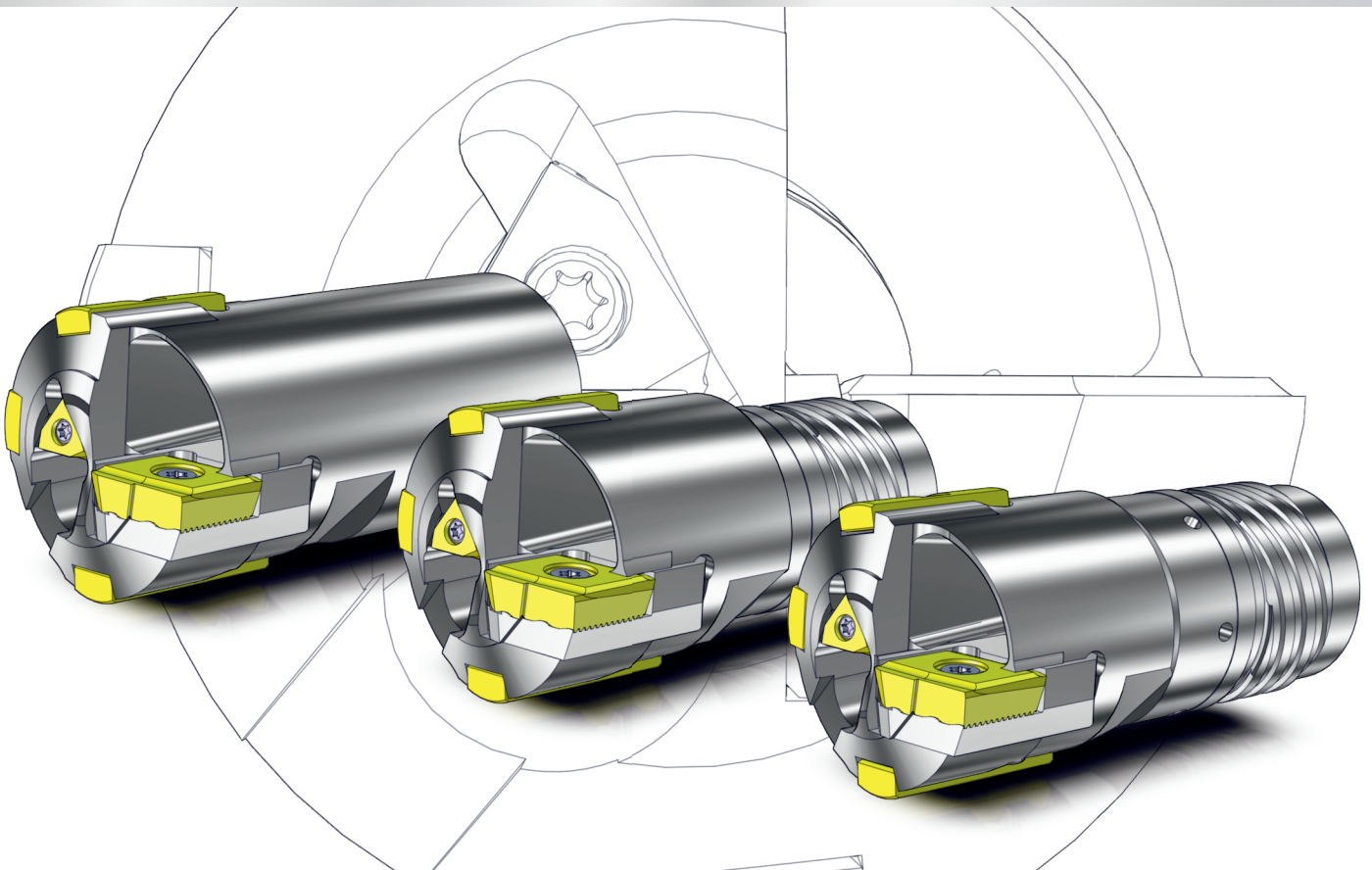
DEEP HOLE BORING TECHNOLOGY | EQUIPMENT

Solid Drilling Tools

Type 1455 / 1456 / 1458

DEEP HOLE DRILLING TOOLS

BORING RANGE Ø28,00 - 74,99 mm



Deep Hole Boring - An Inaccessible World

In today's production world, precision and production strategies are a significant constituent for success. The more complex the production process, the more important are these two factors. Deep hole boring our company, **BTA-Tiefbohrsysteme GmbH**, is the essential partner for implementation even under difficult marginal conditions with high requirements. We are the only company in the world capable of offering our customers everything from inserts to complete, suitable equipment for deep hole boring machines. Our experienced experts are always at your side to ensure proper support from planning your deep hole boring project up to tool services. All this is aimed at your success.

In the company-owned application and research department we can test innovations and special designed tools, customize the tools to user-specific material and train their operators. You will receive tools customized for your application and benefit from our experience.

Our tool systems offer you the following advantages:

- Tools designed for various processes (solid boring, trepanning, counter boring and skiving) with the same effective elements, especially such as inserts and guides. This results in extremely low stocks and simple handling.
- Suitable selection possibilities for tools, corresponding to required boring quality, from simple solid boring to form boring.
- Custom layout of tools for various production requirements to straightness, surface, material and constant wall thickness.
- Equipment matched to the deep hole boring process - from workpiece clamping to vibration damping.
- Production-optimized machinery layout for reducing setup and conversion times.

Here are a few results from production boring with our tools:

- Surface $R_a < 0.1 \mu\text{m}$ e.g. by skiving and roller burnishing
- Mismatch of axes $< 0.1\text{mm/m}$ e.g. by pull counter boring
- Hole accuracy $< IT8$ e.g. by skiving

Benefit from these advantages by cooperating with a strong partner.

BTA-Tiefbohrsysteme GmbH





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Tool description

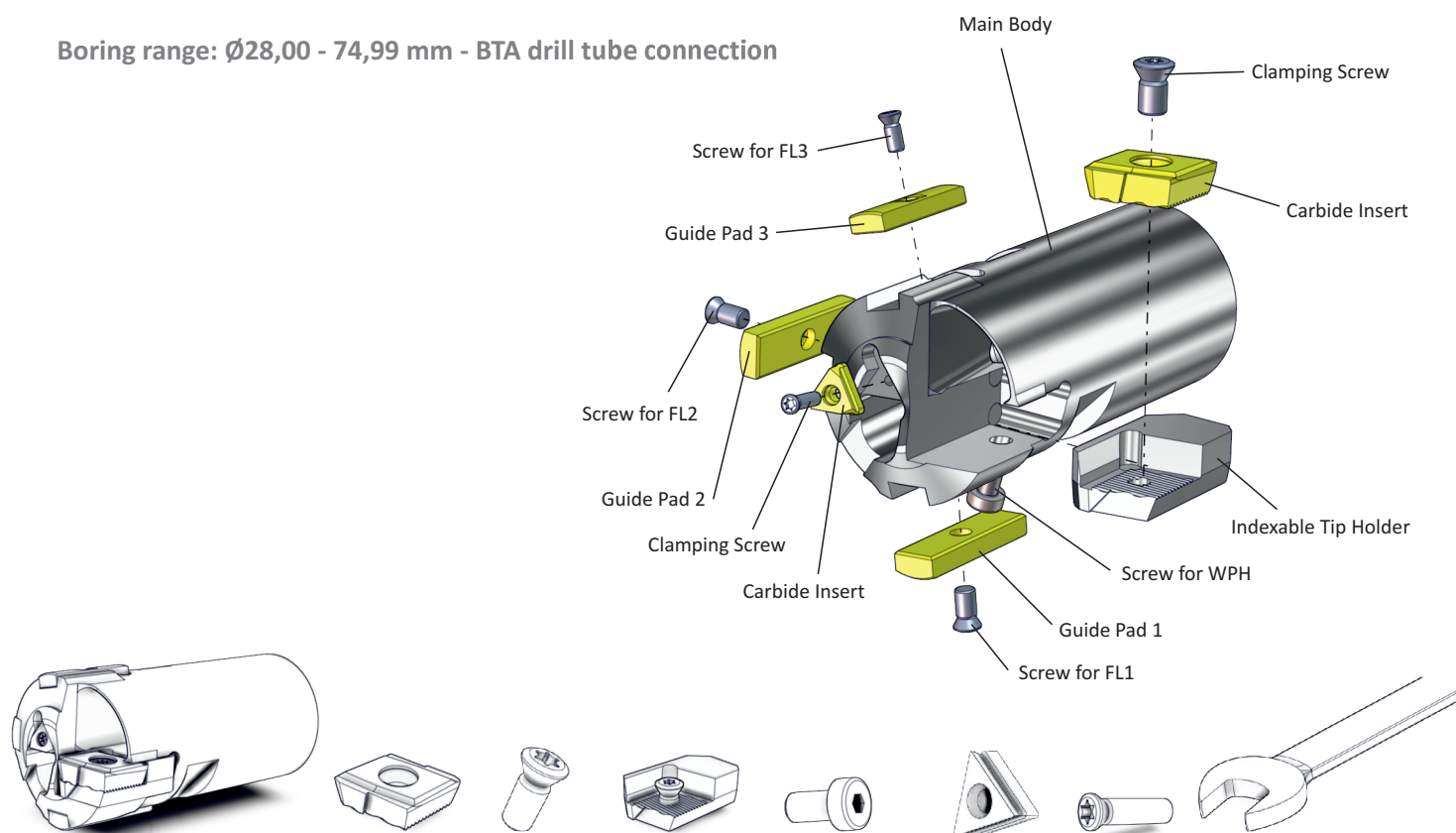
- Solid drilling tool with two indexable inserts and three guide pads
- The drill diameter is fixed
- Available as bta- and ejector-tool

Tool characteristics

- drilling depth $\leq 200 \times$ tool diameter
- surface $\geq R_a 1,25 \mu\text{m}$
- mismatch $\geq 0,2 \text{ mm/m}$
- drilling accuracy $\geq \text{IT9}$

Solid Drilling Tools Type 1455

Boring range: Ø28,00 - 74,99 mm - BTA drill tube connection



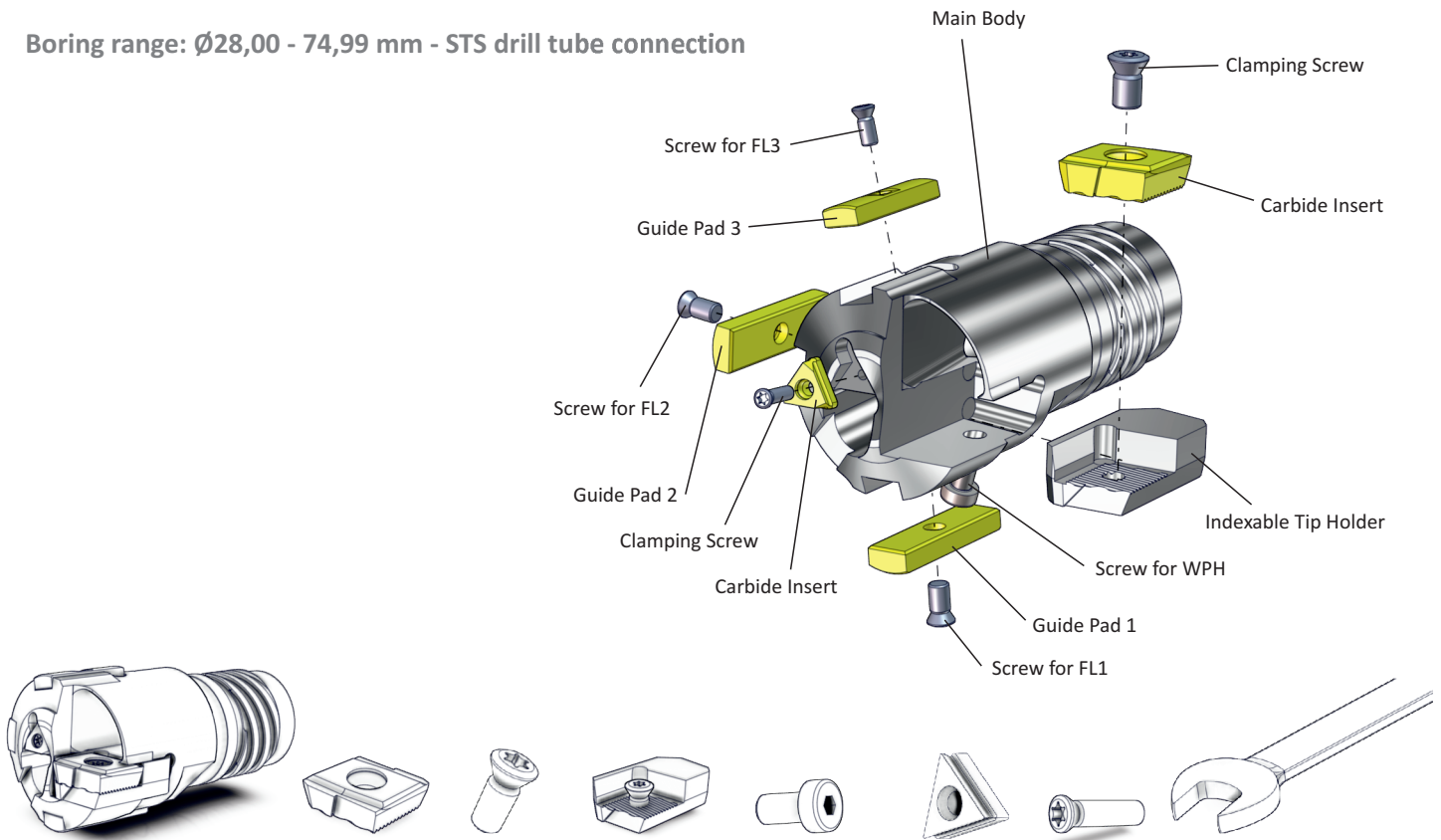
Boring Range	Drill Tube Connection	Peripheral Carbide Insert	Clamping Screw	Indexable Tip Holder	Screw for WPH	Centre Insert	Screw for Centre Insert	Wrench Size	Ident-No.
Ø 28,00 - Ø 29,00	24			-	-	Z0.6	M3x7,4 T9	SW 22	008.6762.K
Ø 29,01 - Ø 29,99						Z0.75	M3x10 T9		
Ø 30,00 - Ø 31,00	26	A1,5a						SW 24	008.6754.X
Ø 32,00 - Ø 33,99	28								
Ø 34,00 - Ø 35,00	30		M4x8,2 T15	020.1517.C	M3x6 DIN912			SW 27	010.8929.H
Ø 35,01 - Ø 36,99									
Ø 37,00 - Ø 38,50	33					Z1³		SW 30	008.7638.F
Ø 38,51 - Ø 39,99									
Ø 40,00 - Ø 42,00	36						M2,5x10 T8	SW 32	009.0006.F
Ø 42,01 - Ø 43,99									
Ø 44,00 - Ø 44,50	39				M4x8 DIN9784			SW 34	009.0007.G
Ø 44,51 - Ø 46,00									
Ø 46,01 - Ø 46,99		A3a	M5x9,5 T15	019.6562.N	M4x8 DIN912			SW 36	010.8030.N
Ø 47,00 - Ø 49,00									
Ø 49,01 - Ø 51,00	43				M4x10 DIN912	Z1,5³		SW 41	009.0008.H
Ø 51,01 - Ø 51,99									
Ø 52,00 - Ø 54,00	47	A3,5a		020.3028.N					
Ø 54,01 - Ø 56,99									
Ø 57,00 - Ø 60,99	51	A4a		020.1494.D					
Ø 61,00 - Ø 64,99	56								
Ø 65,00 - Ø 67,99	62	A5a	M6x12 T20	020.2789.P	M6x16 DIN912	Z2³	M3,5x15 T15		
Ø 68,00 - Ø 74,99									

See Page 7 for Cutting Inserts, Guide Pads and Screws/Wrench ordering data



Solid Drilling Tool Type 1456

Boring range: Ø28,00 - 74,99 mm - STS drill tube connection

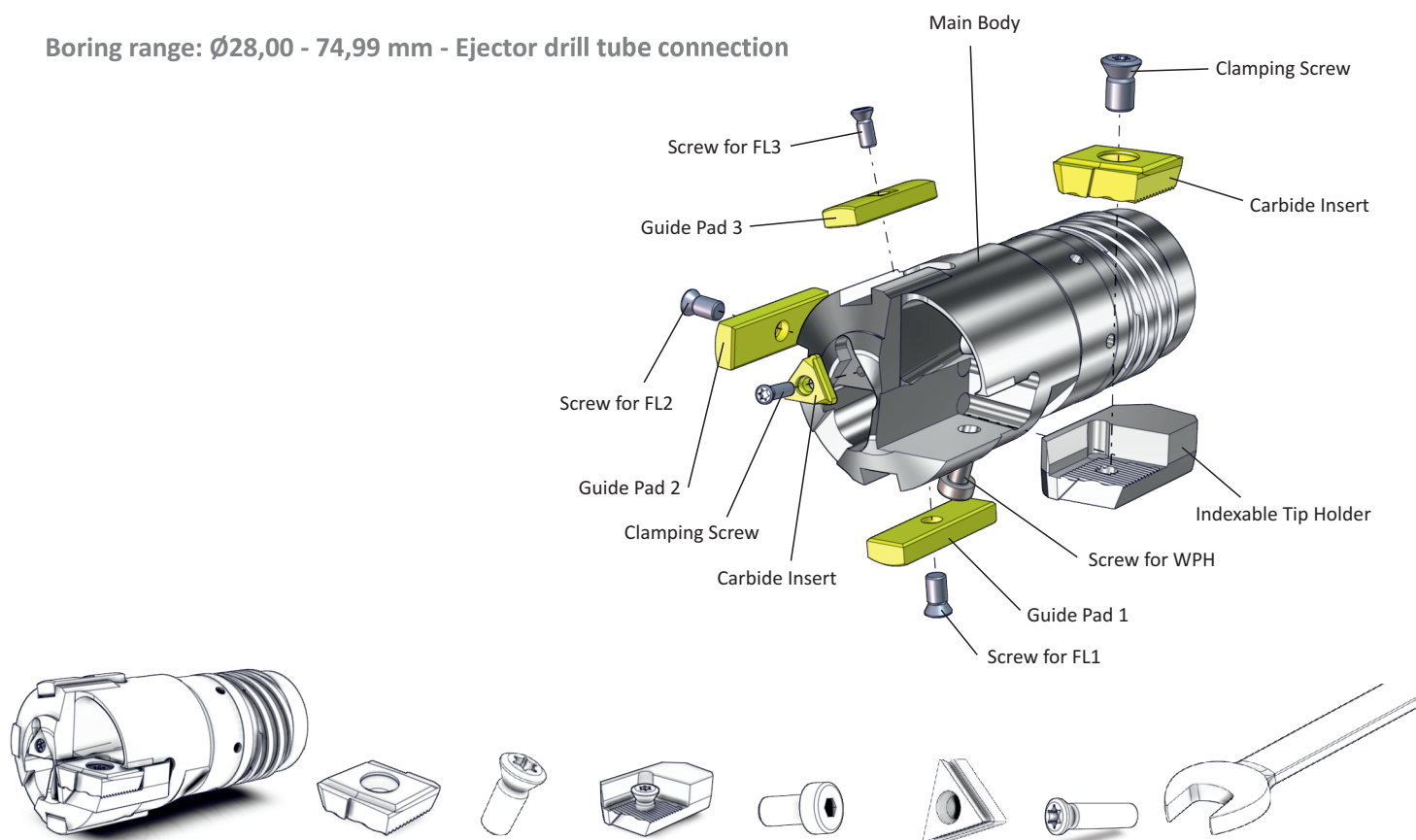


Boring Range	Drill Tube Connection	Peripheral Carbide Insert	Clamping Screw	Indexable Tip Holder	Screw for WPH	Centre Insert	Screw for Centre Insert	Wrench Size	Ident-No.
Ø 28,00 - Ø 28,70	24					Z0.6	M3x7,4 T9		
Ø 28,71 - Ø 30,00						Z0.75	M3x10 T9	SW 22	008.6762.K
Ø 30,01 - Ø 31,00	26	A1,5a		-	-				
Ø 31,01 - Ø 31,99								SW 24	008.6754.X
Ø 32,00 - Ø 33,30	28								
Ø 33,31 - Ø 35,00			M4x8,2 T15	020.1517.C	M3x6 DIN912			SW 27	010.8929.H
Ø 35,01 - Ø 36,20	30	A2a		019.6558.J		Z1³			
Ø 36,21 - Ø 38,50	33							SW 30	008.7638.F
Ø 38,51 - Ø 39,60		A2,5a		019.6560.L	M3x8 DIN912		M2,5x10 T8		
Ø 39,61 - Ø 42,00	36							SW 32	009.0006.F
Ø 42,01 - Ø 43,00									
Ø 43,01 - Ø 44,50					M4x8 DIN7984			SW 34	009.0007.G
Ø 44,51 - Ø 46,00	39	A3a	M5x9,5 T15	019.6562.N	M4x8 DIN912			SW 36	010.8030.N
Ø 46,01 - Ø 47,00									
Ø 47,01 - Ø 49,00					M4x10 DIN912				
Ø 49,01 - Ø 51,00	43					Z1,5³		SW 41	009.0008.H
Ø 51,01 - Ø 51,70		A3,5a		020.3028.N					
Ø 51,71 - Ø 54,00					M5x12 DIN912				
Ø 54,01 - Ø 56,20	47								
Ø 56,21 - Ø 61,00	51	A4a	M5x12 T15	020.1494.D				Groove for Hookwrench according worksheet 100.0011.M	
Ø 61,01 - Ø 64,99	56					Z2³	M3,5x15 T15		
Ø 65,00 - Ø 69,84		A5a	M6x12 T20	020.2789.P	M6x16 DIN912				
Ø 69,85 - Ø 74,99	62								

See Page 7 for Cutting Inserts, Guide Pads and Screws/Wrench ordering data

Solid Drilling Tools Type 1458

Boring range: Ø28,00 - 74,99 mm - Ejector drill tube connection



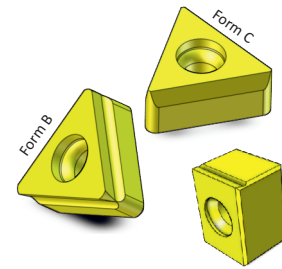
Boring Range	Drill Tube Connection	Peripheral Insert	Clamping Screw	Indexable Tip Holder	Screw for WPH	Centre Insert	Screw for Centre Insert	Wrench Size	Ident-No.				
Ø 28,00 - Ø 28,70	26	A1,5a	M4x8,2 T15	020.1517.C	M3x6 DIN912	Z0.6	M3x7,4 T9	SW 22	008.6762.K				
Ø 28,71 - Ø 30,00	28					Z0.75	M3x10 T9						
Ø 30,01 - Ø 31,00	30,5												
Ø 31,01 - Ø 31,99								SW 24	008.6754.X				
Ø 32,00 - Ø 33,30	33	A2a	M4x8,2 T15	019.6558.J	M3x6 DIN912	Z1³	M2,5x10 T8	SW 27	010.8929.H				
Ø 33,31 - Ø 35,00								35,5	A2,5a	019.6560.L	M3x8 DIN912	SW 30	008.7638.F
Ø 35,01 - Ø 36,20	39				SW 32							009.0006.F	
Ø 36,21 - Ø 38,50	42,5	A3a	M5x9,5 T15	019.6562.N	M4x8 DIN912			Z1,5³	M3,5x15 T15	SW 34	009.0007.G		
Ø 38,51 - Ø 39,60												SW 36	010.8030.N
Ø 39,61 - Ø 42,00	46,5	A3,5a	M5x9,5 T15	019.6562.N	M4x8 DIN912	Z1,5³	M3,5x15 T15			SW 41	009.0008.H		
Ø 42,01 - Ø 43,00													
Ø 43,01 - Ø 44,50	51	A4a	M5x12 T15	020.3028.N	M4x8 DIN912	Z2³	M3,5x15 T15	Nut für Hakenschlüssel n. Arbeitsblatt 100.0011.M					
Ø 44,51 - Ø 46,00													
Ø 46,01 - Ø 47,00	55,5	A5a	M6x12 T20	020.1494.D	M4x10 DIN912					Z2³	M3,5x15 T15	Nut für Hakenschlüssel n. Arbeitsblatt 100.0011.M	
Ø 47,01 - Ø 49,00													
Ø 49,01 - Ø 51,00	46,5	A3,5a	M5x9,5 T15	019.6562.N	M4x10 DIN912	Z1,5³	M3,5x15 T15	Nut für Hakenschlüssel n. Arbeitsblatt 100.0011.M					
Ø 51,01 - Ø 51,70													
Ø 51,71 - Ø 54,00	51	A4a	M5x12 T15	020.3028.N	M4x10 DIN912	Z2³	M3,5x15 T15	Nut für Hakenschlüssel n. Arbeitsblatt 100.0011.M					
Ø 54,01 - Ø 56,20													
Ø 56,21 - Ø 60,99	55,5	A5a	M6x12 T20	020.1494.D	M5x12 DIN912					Z2³	M3,5x15 T15	Nut für Hakenschlüssel n. Arbeitsblatt 100.0011.M	
Ø 61,00 - Ø 65,00													
Ø 65,01 - Ø 69,99	56	A5a	M6x12 T20	020.2789.P	M6x16 DIN912	Z2³	M3,5x15 T15	Nut für Hakenschlüssel n. Arbeitsblatt 100.0011.M					
Ø 70,00 - Ø 74,99	62												

See Page 7 for Cutting Inserts, Guide Pads and Screws ordering data



Spare and wear parts

For Solid Drilling Tools Type 1455 / 1456 / 1458



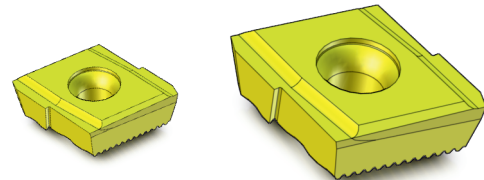
Indexable Inserts size A1,5a - A5a; Z0,6 - Z2³

Description	Chip Breakers	P25 TiN	Carbide P40 TiN	K20 TiN
A1,5a	Size 1 - 2,2x0,5	020.1451.X	020.1452.Y	020.1453.Z
	Size 2 - 2,5x0,7	020.0264.A	020.1454.A	020.1455.B
A2a	Size 1 - 2,2x0,5	018.9896.T	019.2603.P	019.2541.Z
	Size 2 - 2,5x0,7	019.2337.M	019.2607.T	019.2545.D
A2,5a	Size 1 - 2,2x0,6	019.5844.Q	019.6621.Z	019.6623.B
	Size 2 - 2,5x0,6	019.6620.Y	019.6622.A	019.6624.C
A3a	Size 1 - 2,5x0,7	018.9897.U	019.2604.Q	019.2542.A
	Size 2 - 2,7x0,8	019.2338.N	019.2608.U	019.2546.E
A3,5a	Size 1 - 2,5x0,7	020.3025.K	-	-
A4a	Size 1 - 2,5x0,7	018.9898.V	019.2605.R	019.2543.B
	Size 2 - 2,7x0,8	019.2348.Y	019.2609.V	019.2547.F
A5a	Size 1 - 2,7x0,8	018.9899.W	019.2606.S	019.2544.C
	Size 2 - 3,0x1,0	019.2349.Z	019.2610.W	019.2548.G

Description	Chip Breakers	Carbide B TiN	H TiN	Cutting edges
Z0,6	1,4 x 0,3 / form B	019.9256.U	-	2
Z0,75	1,4 x 0,3 / form B	020.1579.D	-	4
Z1 ³	2,1 x 0,5 / form B	019.6501.Z	019.6502.A	3
	negativ / form C	019.6503.B	019.6504.C	
Z1,5 ³	2,5 x 0,8 / form B	019.6711.T	019.6574.A	6
	negativ / form C	019.6713.V	019.6714.W	
Z2 ³	2,5 x 0,8 / form B	019.6497.V	019.6498.W	6
	negativ / form C	019.6499.X	019.6500.Y	

Carbide „B“ (hard) for structural steel

Carbide „H“ (tough) for alloyed and stainless steels

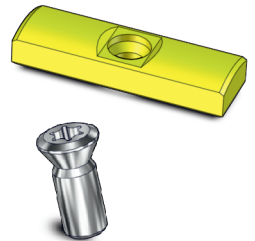


Chip breaker size 1 for unalloyed steels C > 0.2, alloyed steels, heat-treated steels, tool steel
Chip breaker size 2 for unalloyed steels C < 0.2, long chipping special purpose steel, stainless and acid-resistant steel

Additional chip breakers and coatings on request

Guide Pads

Position	Boring Range	Description	Radius	Carbide		Screws for Guide Pads
				TiN coated	ML coated	
Guide Pad 1 and 2	Ø 28,00 - Ø 35,00	FL 6	9	014.4756.J	019.6675.F	M3x7,4 T9
	Ø 35,01 - Ø 38,50	FL 8	10	014.4757.G	019.6676.G	
	Ø 38,51 - Ø 51,99	FL 9	12,5	014.4758.E	019.6678.J	M4x8,2 T15
	Ø 52,00 - Ø 64,99	FL 10	20	016.9223.G	019.6679.K	
	Ø 65,00 - Ø 74,99	FL 14	30	016.9229.T	019.6681.M	M6x12 T20
Guide Pad 3	Ø 28,00 - Ø 31,00	FL 5	6	019.6572.Y	019.6672.C	M2,5x5 T8
	Ø 31,01 - Ø 35,00	FL 6	9	014.4756.J	019.6675.F	M3x7,4 T9
	Ø 35,01 - Ø 64,99	FL 8	10	014.4757.G	019.6676.G	
	Ø 65,00 - Ø 74,99	FL 10	20	016.9223.G	019.6679.K	M4x8,2 T15



Screws and Wrenches



Size	Length	Ident-No. Clamping Screw	Torx Size	Ident-No. Torx-Screw
M2,5	5	010.8405.U	T8	010.8812.F
	10	010.8778.C		
M3	7,4	008.1065.L	T9	008.1104.D
	10	010.7674.V		
M3,5	15	010.8779.A	T15	008.7219.C
M4	8,2	008.1066.J		
M5	9,5	014.4779.V		
	12	008.1067.G		
M6	12	008.1068.E	T20	008.7220.T

Size	Length	Ident-No. Clamping Screw	SW Size	Ident-No. Hexagon-Wrench
M3 / DIN 912	6	010.8525.J	SW 2,5	008.5836.M
	8	008.5106.C		
M4 / DIN 7984	8	008.7044.M	SW 3	008.6741.T
M4 / DIN 912	8	008.5108.X		
M5 / DIN 912	10	008.5109.V	SW 4	008.5837.K
	12	008.5115.B		
M6 / DIN 912	16	008.5121.G	SW 5	008.5838.H



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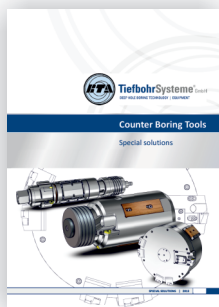
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