



TiefbohrSysteme® GmbH

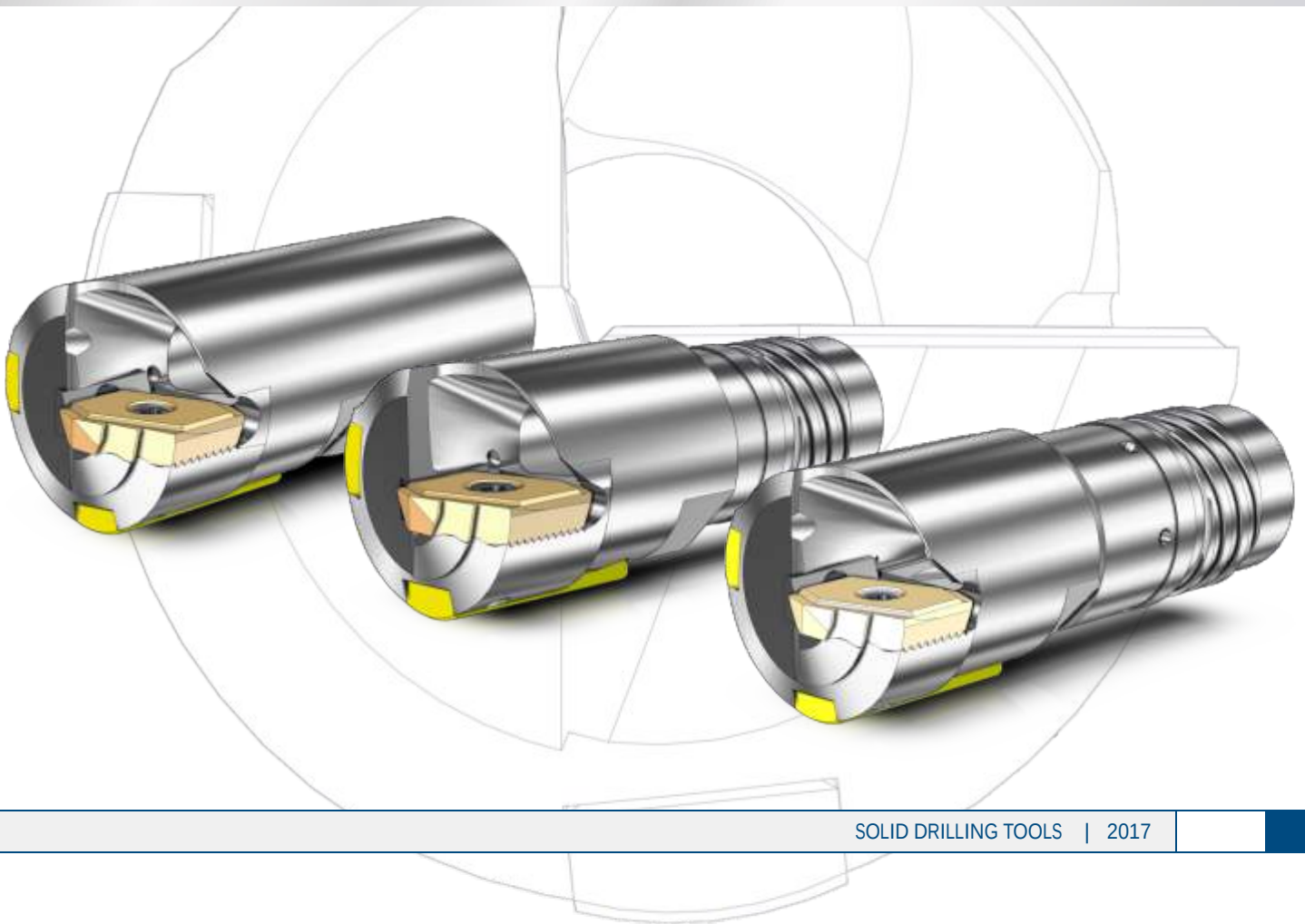
DEEP HOLE BORING TECHNOLOGY | EQUIPMENT

Solid Drilling Tools

Type 1465 / 1466 / 1467

DEEP HOLE DRILLING TOOLS

BORING RANGE Ø16,00 - 35,00 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

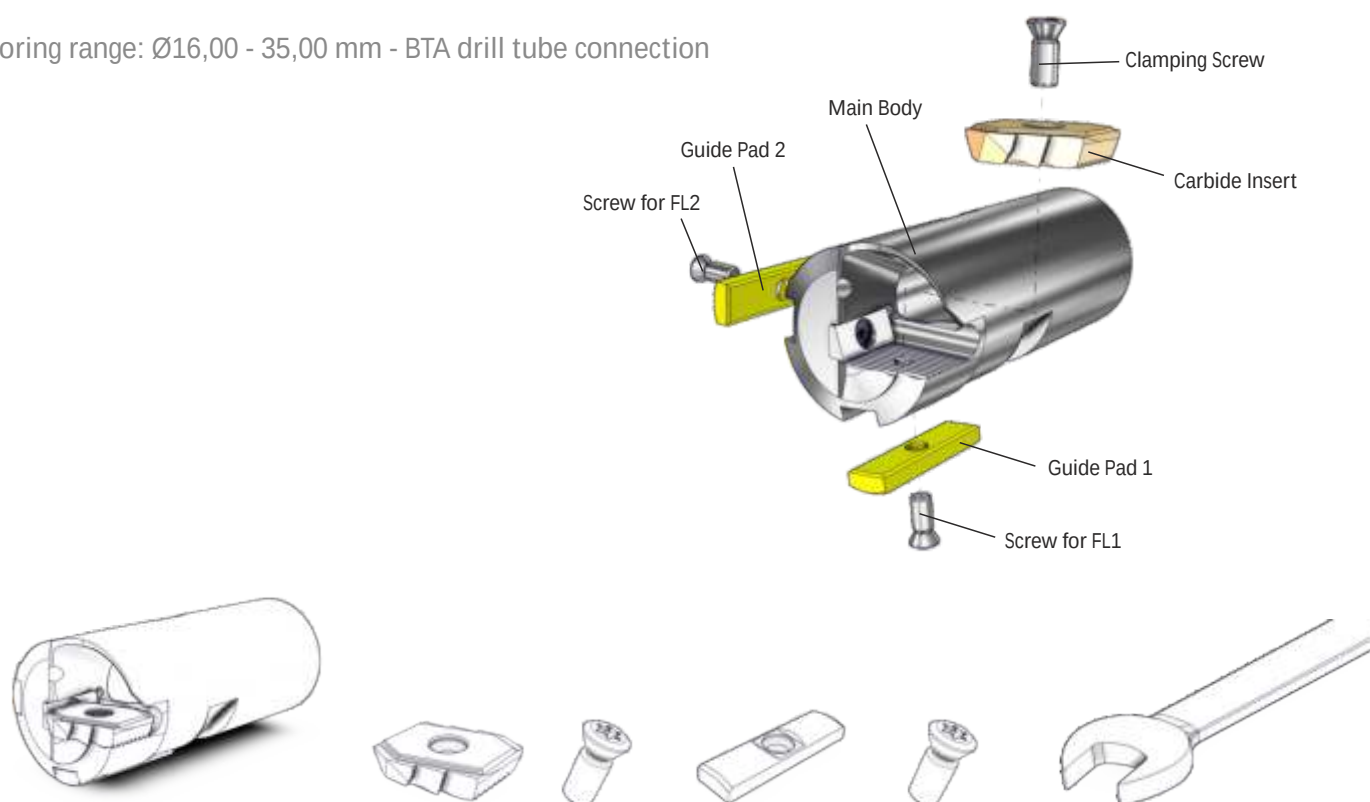
- Solid drilling tool with one indexable insert and two guide pads
- The drill diameter is fixed
- Available as bta- and ejector-tool

Tool characteristics

- drilling depth $\leq 100 \times$ tool diameter
- surface $\geq R_a 1,25 \mu\text{m}$
- mismatch of axes $\geq 0,2 \text{ mm/m}$
- drilling accuracy $\geq \text{IT9}$

Solid Drilling Tools Type 1465

Boring range: Ø16,00 - 35,00 mm - BTA drill tube connection

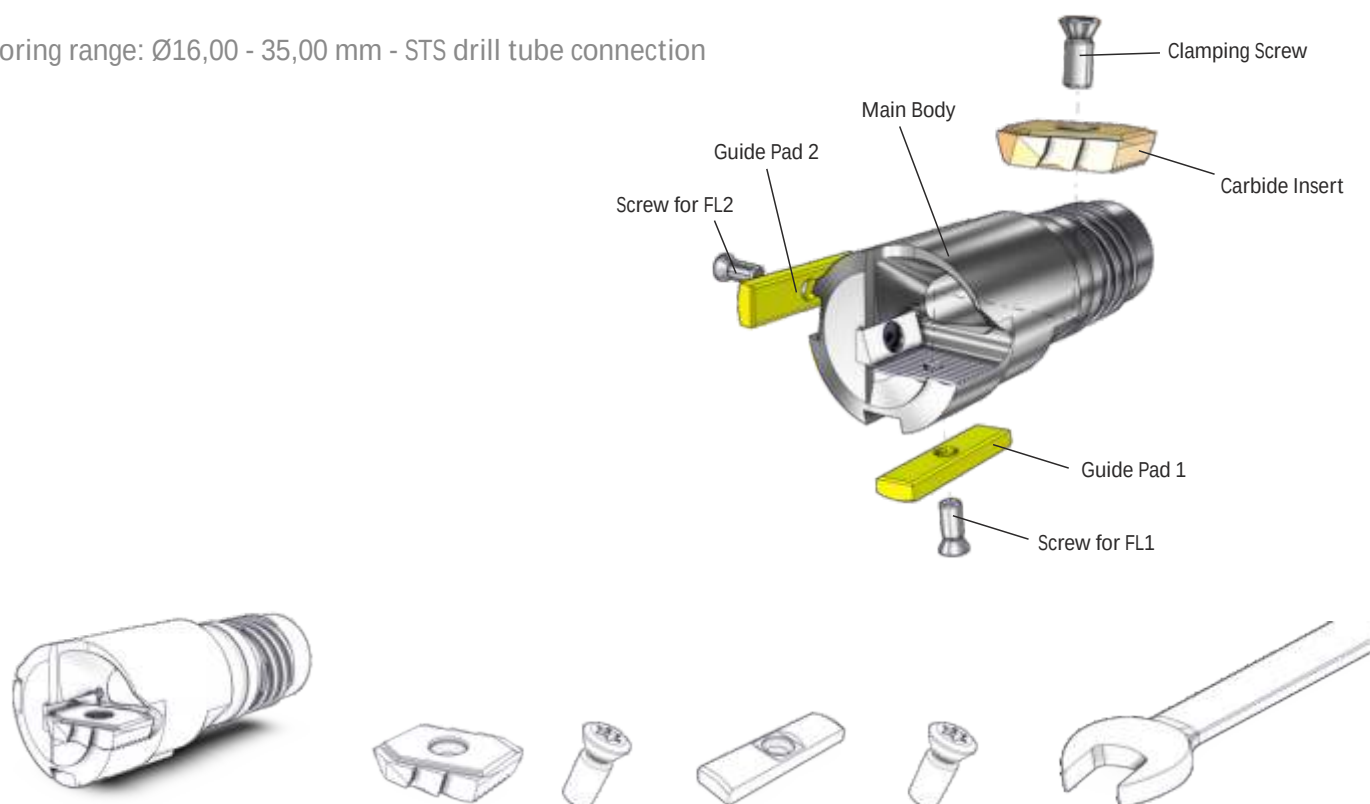


Boring Range	Drill Tube Connection	Carbide Insert	Clamping Screw	Guide Pad FL1 and FL2	Screw for FL1 and FL2	Wrench	
						Size	Ident-No.
Ø 16,00 - Ø 16,50	14	E 10	M2,5x5 T8	FL 5 / R6	M2,5x5 T8	SW 12	009.0003.C
Ø 16,51 - Ø 18,00	15					SW 13	008.7157.X
Ø 18,01 - Ø 19,99	16,5	E 20	M3x5,8 T9	FL 6 / R7	M3x5,1 T9	SW 14	008.0004.D
Ø 20,00	18						
Ø 20,01 - Ø 21,99		E 30	M3x7,4 T9	FL 6 / R9	M3x7,4 T9	SW 17	008.7821.Q
Ø 22,00 - Ø 23,00	20						
Ø 23,01 - Ø 24,99		22	E 50	M4x8,2 T15	FL 8 / R10	M3x7,4 T9	SW 22
Ø 25,00 - Ø 26,40	24						
Ø 26,41 - Ø 26,99		26	E 60	M4x10 T15	FL 8 / R10	M3x7,4 T9	SW 24
Ø 27,00 - Ø 29,99	28						
Ø 30,00 - Ø 31,00		30	E 60	M4x10 T15	FL 8 / R10	M3x7,4 T9	SW 24
Ø 31,01 - Ø 31,99	30						
Ø 32,00 - Ø 33,99		30	E 60	M4x10 T15	FL 8 / R10	M3x7,4 T9	SW 24
Ø 34,00 - Ø 35,00	30						

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

Solid Drilling Tools Type 1466

Boring range: Ø16,00 - 35,00 mm - STS drill tube connection

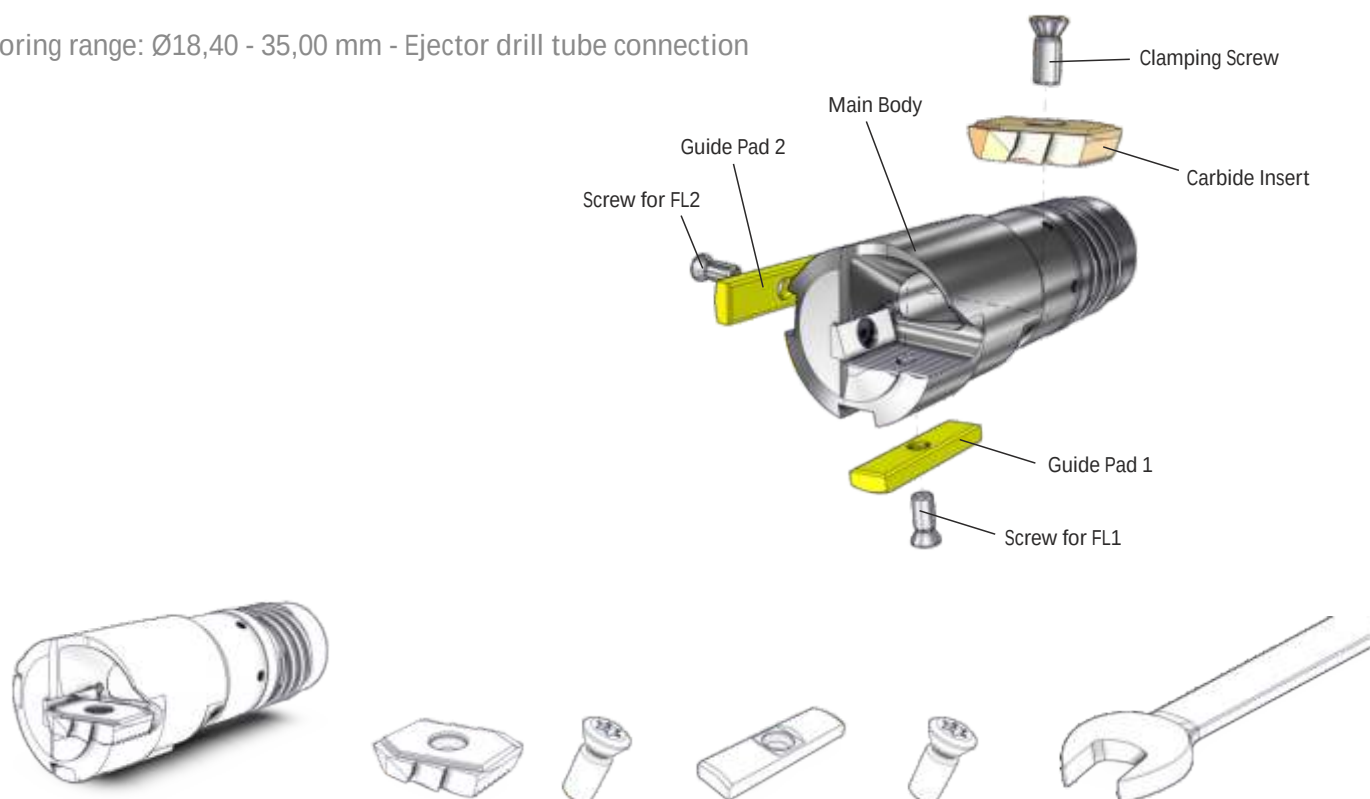


Boring Range	Drill Tube Connection	Carbide Insert	Clamping Screw	Guide Pad FL1 and FL2	Screw for FL1 and FL2	Wrench	
						Size	Ident-No.
Ø 16,00 - Ø 16,70	14					SW 12	009.0003.C
Ø 16,71 - Ø 17,70	15	E 10	M2,5x5 T8	FL 5 / R6	M2,5x5 T8	SW 13	008.7157.X
Ø 17,71 - Ø 18,00	16	E 20	M3x5,8 T9	FL 6 / R7	M3x5,1 T9	SW 14	009.0004.D
Ø 18,01 - Ø 18,90					M3x5,8 T9		
Ø 18,91 - Ø 20,00	17	E 30	M3x7,4 T9			SW 16	009.0005.E
Ø 20,01 - Ø 21,80	18					SW 17	008.7821.Q
Ø 21,81 - Ø 23,00	20	E 40	M3x7,4 T9	FL 6 / R9		SW 19	008.7471.R
Ø 23,01 - Ø 24,10							
Ø 24,11 - Ø 25,50	22	E 50	M4x8,2 T15			SW 22	008.6762.K
Ø 25,51 - Ø 26,40							
Ø 26,41 - Ø 28,70	24	E 60	M4x10 T15			SW 24	008.6754.X
Ø 28,71 - Ø 30,00	26						
Ø 30,01 - Ø 31,00							
Ø 31,01 - Ø 33,30	28						
Ø 33,31 - Ø 35,00	30						

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

Solid Drilling Tools Type 1467

Boring range: Ø18,40 - 35,00 mm - Ejector drill tube connection



Boring Range	Drill Tube Connection	Carbide Insert	Clamping Screw	Guide Pad FL1 and FL2	Screw for FL1 and FL2	Wrench	
						Size	Ident-No.
Ø 18,40 - Ø 18,90	18	E 20	M3x5,8 T9	FL 6 / R7	M3x5,1 T9	SW 14	009.0004.D
Ø 18,91 - Ø 20,00					M3x5,8 T9	SW 16	009.0005.E
Ø 20,01 - Ø 21,80	19,5	E 30	M3x7,4 T9	FL 6 / R9		SW 17	008.7821.Q
Ø 21,81 - Ø 23,00	21,5					SW 19	008.7471.R
Ø 23,01 - Ø 24,10	23,5	E 40				SW 22	008.6762.K
Ø 24,11 - Ø 25,50						SW 24	008.6754.X
Ø 25,51 - Ø 26,40	26	E 50	M4x8,2 T15	FL 8 / R10	M3x7,4 T9	SW 27	010.8929.H
Ø 26,41 - Ø 28,70	28						
Ø 28,71 - Ø 30,00	30,5	E 60	M4x10 T15				
Ø 30,01 - Ø 31,00							
Ø 31,01 - Ø 33,30	33						
Ø 33,31 - Ø 35,00							

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

Spare and wear parts

For Solid Drilling Tools Type 1465 / 1466 / 1467

Indexable Inserts size E 10 - E 60

Description	Chip Breaker	Carbide		
		P25 TiN	P40 TiN	K20 TiN
E 10	Size 1 - 1,2x0,45	019.3051.F	019.3586.N	019.3572.Y
	Size 2 - 1,5x0,45	019.3600.C	019.3628.G	019.3614.S
E 20	Size 1 - 1,2x0,45	019.3053.H	019.3588.Q	019.3574.A
	Size 2 - 1,5x0,45	019.3602.E	019.3630.J	019.3616.U
E 30	Size 1 - 1,4x0,45	019.3055.K	019.3590.S	019.3576.C
	Size 2 - 1,7x0,45	019.3604.G	019.3632.L	019.3618.W
E 40	Size 1 - 1,5x0,45	019.3057.M	019.3592.U	019.3578.E
	Size 2 - 1,8x0,45	019.3606.J	019.3634.N	019.3620.Y
E 50	Size 1 - 1,6x0,5	019.3059.P	019.3594.W	019.3580.G
	Size 2 - 1,9x0,5	019.3608.L	019.3636.Q	019.3622.A
E 60	Size 1 - 1,8x0,6	019.3061.R	019.3596.Y	019.3582.J
	Size 2 - 2,1x0,6	019.3610.N	019.3638.S	019.3624.C

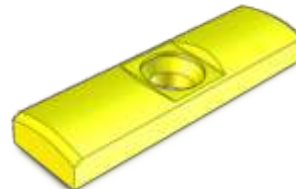


Chip breaker Size 1 for unalloyed steels $C > 0.2$, alloyed steels, heat-treated steels, tool steel
 Chip breaker Size 2 for unalloyed steels $C < 0.2$, long chipping special purpose steel, stainless and acid-resistant steel

Additional chip breakers and coatings on request

Guide Pads FL 5 - FL 8

Description	Radius	Carbide	
		TiN coated	ML coated
FL 5	6	019.6572.Y	019.6672.C
FL 6	7	014.4755.L	019.6674.E
	9	014.4756.J	019.6675.F
FL 8	10	014.4757.G	019.6676.G



Torx-Screw M2,5 - M4

Size	Length	Ident-No. Clamping Screw	Torx Size	Ident-No. Torx-Wrench
M2,5	5	010.8405.U	T8	010.8812.F
	10	010.8778.C		
M3	5,1	014.4771.N	T9	008.1104.D
	5,8	014.4772.L		
	6,2	014.4773.J		
	7,4	008.1065.L		
	9	010.7674.V		
M4	8,2	008.1066.J	T15	008.7219.C
	10	010.7499.M		
	12,5	010.8172.R		





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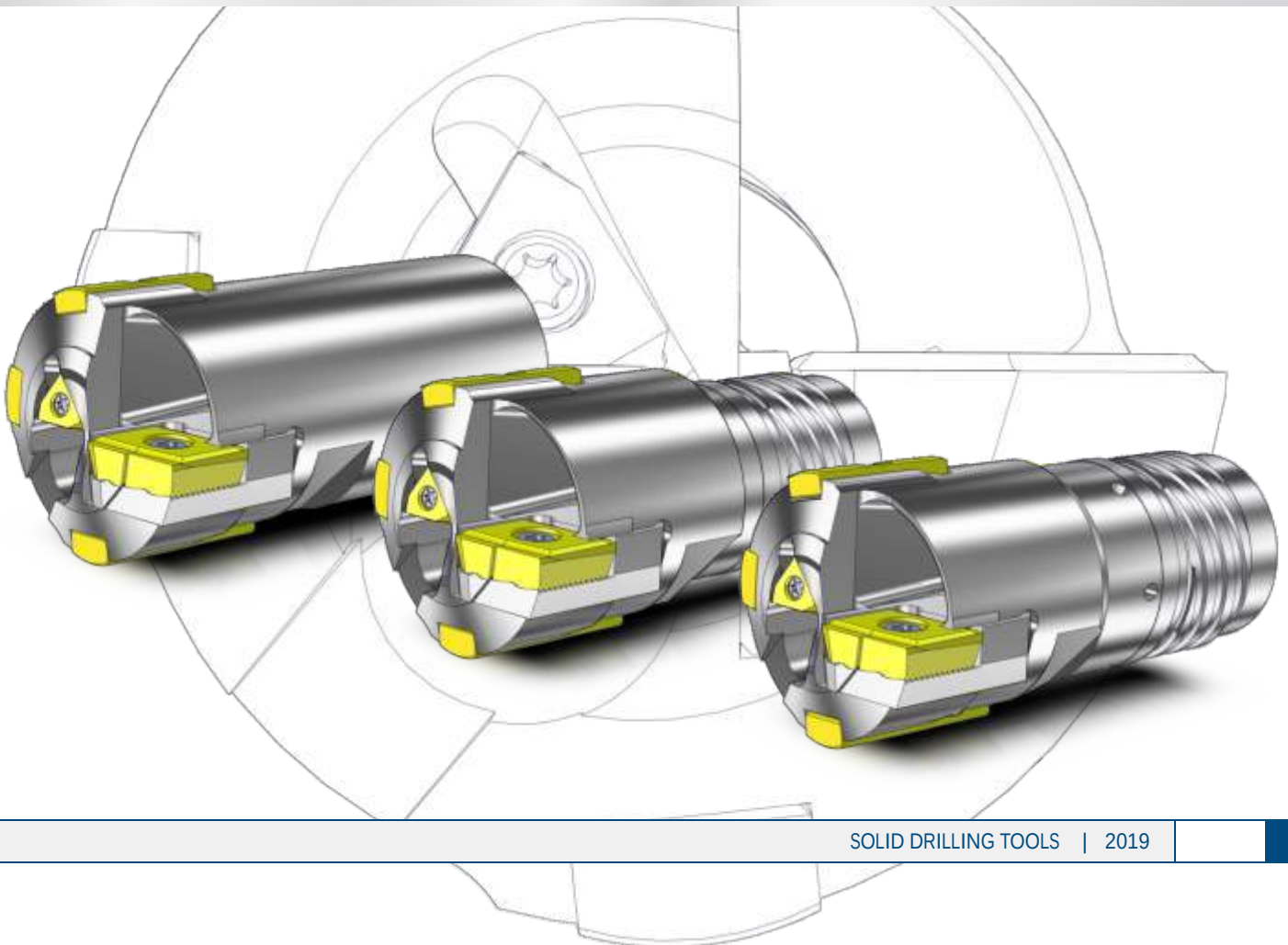
DEEP HOLE BORING TECHNOLOGY | EQUIPMENT

Solid Drilling Tools

Type 1455 / 1456 / 1458

DEEP HOLE DRILLING TOOLS

BORING RANGE Ø35,00 - 74,99 mm



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

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Tool description

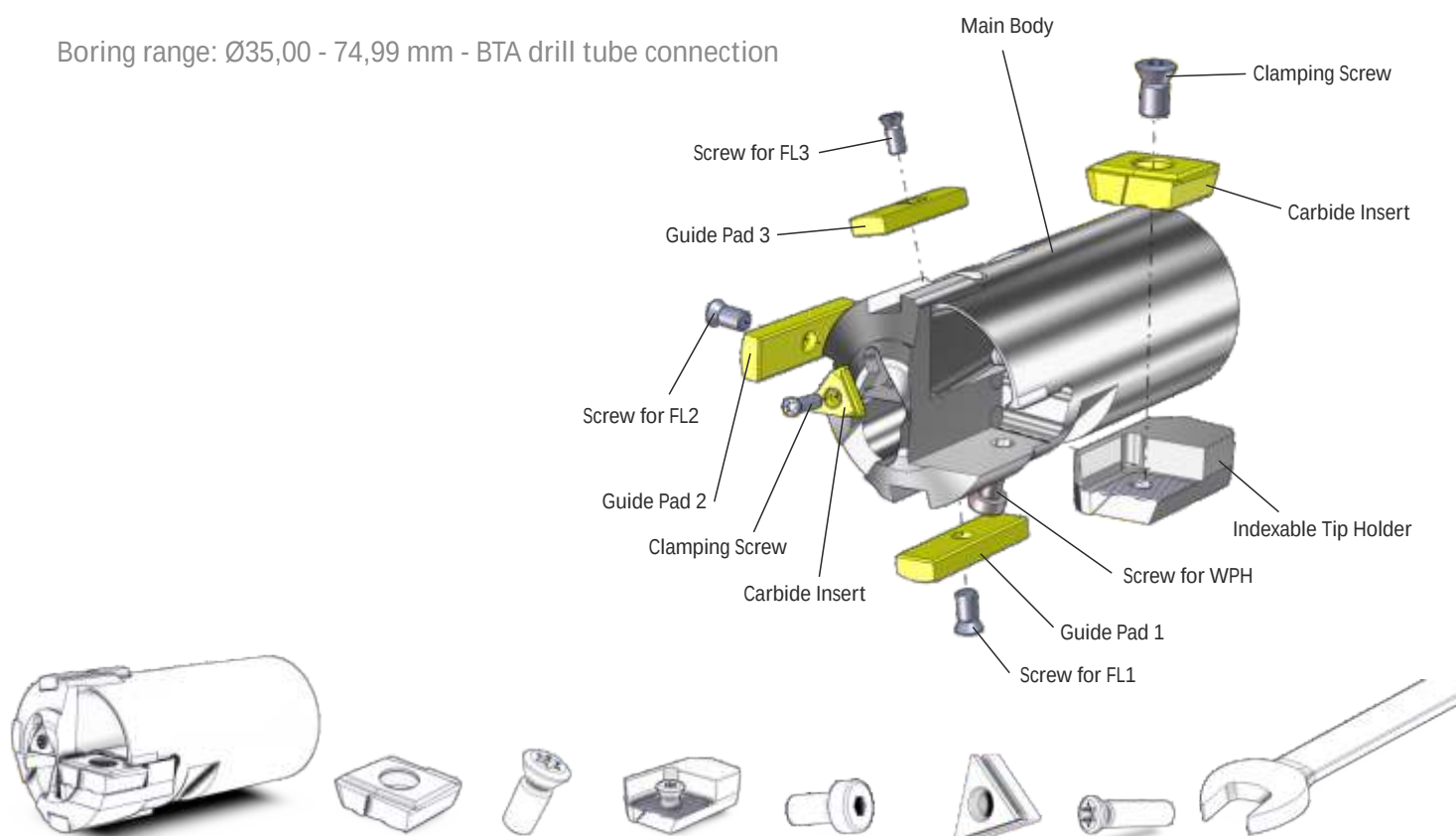
- Solid drilling tool with two indexable inserts and three guide pads
- The drill diameter is fixed
- Available as bta- and ejector-tool

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: Ø35,00 - 74,99 mm - BTA drill tube connection



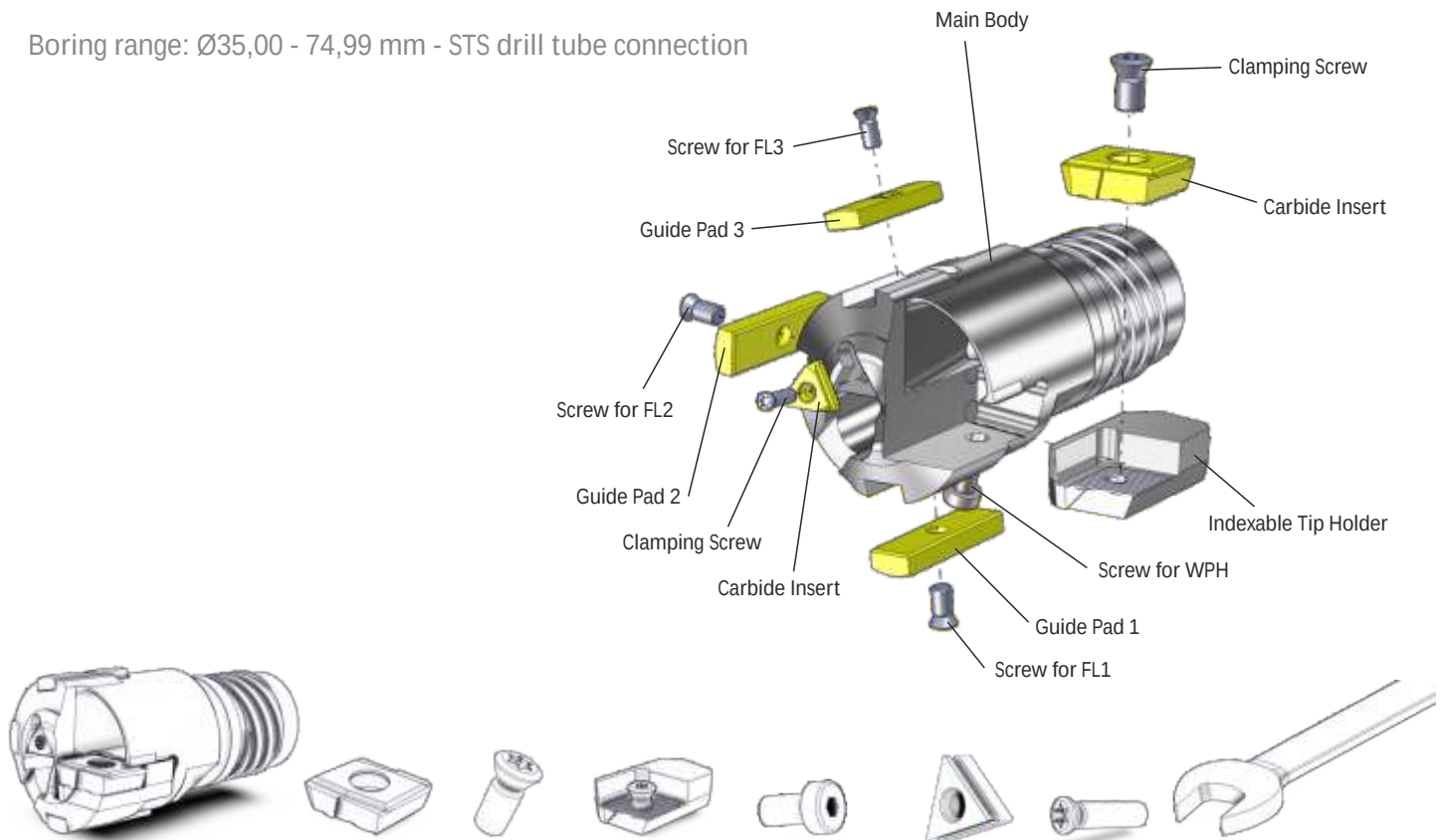
Boring Range	Drill Tube Connection	Peripheral Carbide Insert	Clamping Screw	Indexable Tip Holder	Screw for WPH	Centre Insert	Screw for Centre Insert	Wrench Size	Ident-No.
Ø 35,00 - Ø 36,99	30	A2a	M4x8,2 T15	019.6558.J	M3x6 DIN912	Z1³		SW 27	010.8929.H
Ø 37,00 - Ø 38,50	33			019.6560.L	M3x8 DIN912			SW 30	008.7638.F
Ø 38,51 - Ø 39,99	36	A2,5a						SW 32	009.0006.F
Ø 40,00 - Ø 42,00									
Ø 42,01 - Ø 43,99	39				M4x8 DIN7984		M2,5x10 T8	SW 34	009.0007.G
Ø 44,00 - Ø 44,50									
Ø 44,51 - Ø 46,00	43	A3a	M5x9,5 T15	019.6562.N	M4x8 DIN912	Z1,5³		SW 36	010.8030.N
Ø 46,01 - Ø 46,99					M4x10 DIN912				
Ø 47,00 - Ø 49,00	47	A3,5a		020.3028.N				SW 41	009.0008.H
Ø 49,01 - Ø 51,00									
Ø 51,01 - Ø 51,99	51	A4a	M5x12 T15		M5x12 DIN912			Groove for hookwrench according worksheet 100.0011.M	
Ø 52,00 - Ø 54,00									
Ø 54,01 - Ø 56,99	56	A5a	M6x12 T20	020.1494.D		Z2³	M3,5x15 T15		
Ø 57,00 - Ø 60,99									
Ø 61,00 - Ø 64,99	62			020.2789.P	M6x16 DIN912				
Ø 65,00 - Ø 67,99									
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: Ø35,00 - 74,99 mm - STS drill tube connection

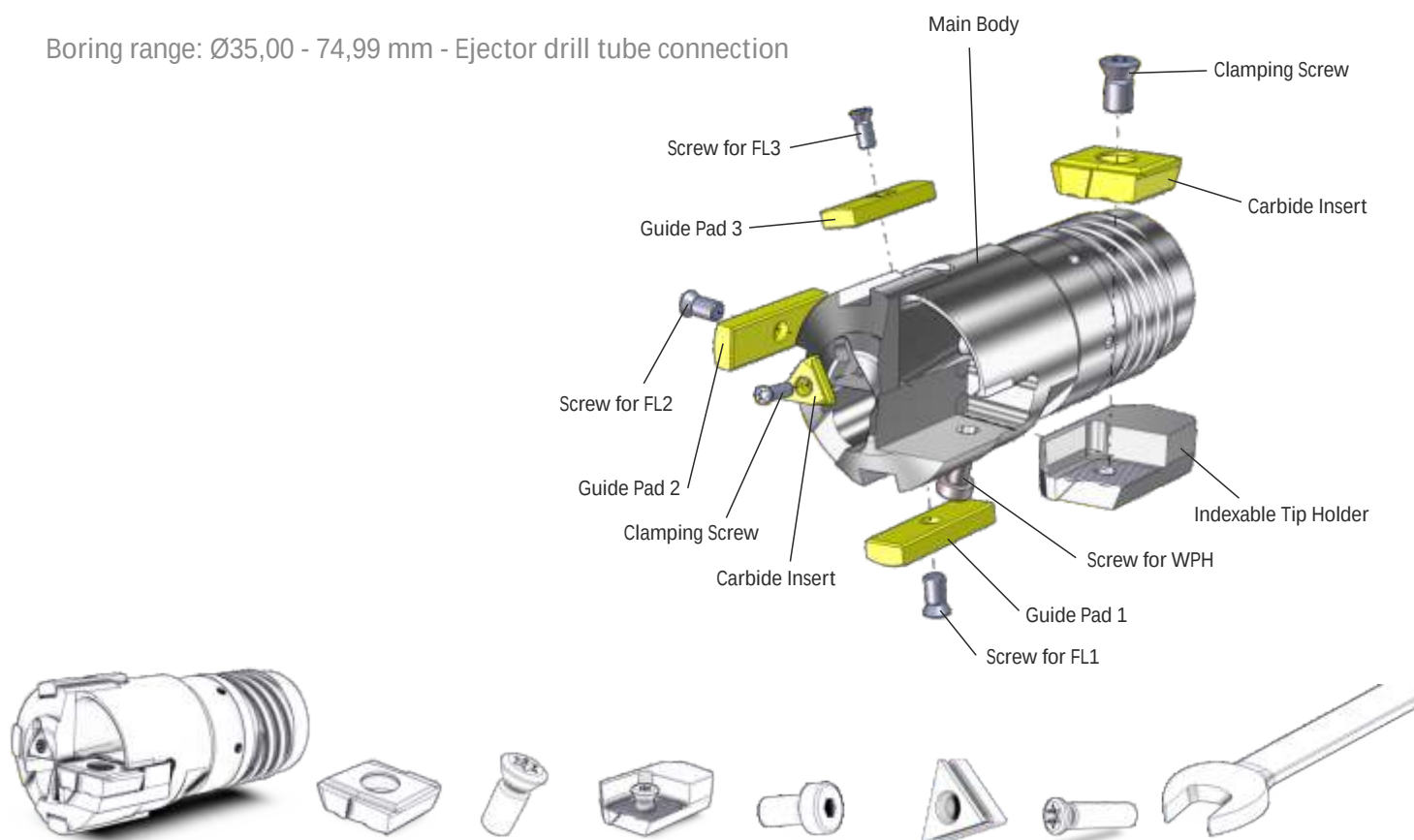


Boring Range	Drill Tube Connection	Peripheral Carbide Insert	Clamping Screw	Indexable Tip Holder	Screw for WPH	Centre Insert	Screw for Centre Insert	Wrench Size	Ident-No.
Ø 35,00 - Ø 36,20	33	A2a	M4x8,2 T15	019.6558.J	M3x6 DIN912	Z1³		SW 27	010.8929.H
Ø 36,21 - Ø 38,50		A2,5a		019.6560.L	M3x8 DIN912			SW 30	008.7638.F
Ø 38,51 - Ø 39,60									SW 32
Ø 39,61 - Ø 42,00	36								
Ø 42,01 - Ø 43,00									
Ø 43,01 - Ø 44,50									
Ø 44,51 - Ø 46,00	39	A3a	M5x9,5 T15	019.6562.N	M4x8 DIN7984		M2,5x10 T8	SW 34	009.0007.G
Ø 46,01 - Ø 47,00					M4x8 DIN912			SW 36	010.8030.N
Ø 47,01 - Ø 49,00									
Ø 49,01 - Ø 51,00	43		M4x10 DIN912	Z1,5³					
Ø 51,01 - Ø 51,70									
Ø 51,71 - Ø 54,00									
Ø 54,01 - Ø 56,20	47	A3,5a		020.3028.N	M5x12 DIN912				
Ø 56,21 - Ø 61,00									
Ø 61,01 - Ø 64,99									
Ø 65,00 - Ø 69,84	56	A4a	M5x12 T15	020.1494.D					
Ø 69,85 - Ø 74,99									
Ø 74,99 - Ø 77,00									
Ø 77,01 - Ø 80,00	62	A5a	M6x12 T20	020.2789.P	M6x16 DIN912				
Ø 80,01 - Ø 83,00									
Ø 83,01 - Ø 86,00									

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

Solid Drilling Tools Type 1458

Boring range: Ø35,00 - 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 35,00 - Ø 36,20	33	A2a	M4x8,2 T15	019.6558.J	M3x6 DIN912	Z1 ³		SW 27	010.8929.H
Ø 36,21 - Ø 38,50	35,5							SW 30	008.7638.F
Ø 38,51 - Ø 39,60	39	A2,5a		019.6560.L	M3x8 DIN912			SW 32	009.0006.F
Ø 39,61 - Ø 42,00									
Ø 42,01 - Ø 43,00	42,5				M4x8 DIN7984		M2,5x10 T8	SW 34	009.0007.G
Ø 43,01 - Ø 44,50									
Ø 44,51 - Ø 46,00	46,5	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	51	A3,5a		020.3028.N	M4x10 DIN912	Z1,5 ³		SW 41	009.0008.H
Ø 49,01 - Ø 51,00									
Ø 51,01 - Ø 51,70	55,5		M5x12 T15		M5x12 DIN912				
Ø 51,71 - Ø 54,00									
Ø 54,01 - Ø 56,20	56	A4a		020.1494.D		Z2 ³	M3,5x15 T15		
Ø 56,21 - Ø 60,99									
Ø 60,99 - Ø 65,00	62	A5a	M6x12 T20	020.2789.P	M6x16 DIN912				
Ø 65,01 - Ø 69,99									
Ø 70,00 - Ø 74,99									

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 A2a - A5a; Z1³ - Z2³

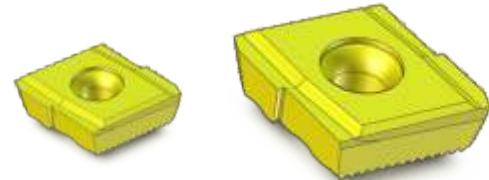
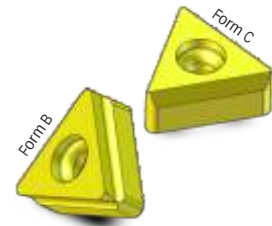
Description	Chip Breakers	Carbide		
		P25 TiN	P40 TiN	K20 TiN
A2a	Size 1 - 2,2x0,5	018.9896.T	019.2603.P	019.2541.Z
	Size 2 - 2,5x0,7	019.2337.M	019.2607.T	019.2545.D
A2,5a	Size 1 - 2,2x0,6	019.5844.Q	019.6621.Z	019.6623.B
	Size 2 - 2,5x0,6	019.6620.Y	019.6622.A	019.6624.C
A3a	Size 1 - 2,5x0,7	018.9897.U	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

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

Description	Chip Breakers	Carbide		Cutting edges
		B TiN	H TiN	
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 struktural steel
Carbide „H“ (tough) for alloyed and stainless steels



Guide Pads

Position	Boring Range	Description	Radius	Carbide		Screws for Guide Pads
				TiN coated	ML coated	
Guide Pad 1 and 2	Ø 35,00 - Ø 38,50	FL 8	10	014.4757.G	019.6676.G	M3x7,4 T9
	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 35,00 - Ø 64,99	FL 8	10	014.4757.G	019.6676.G	M3x7,4 T9
	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
	10	008.5108.X		
M4 / 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





TiefbohrSysteme® GmbH

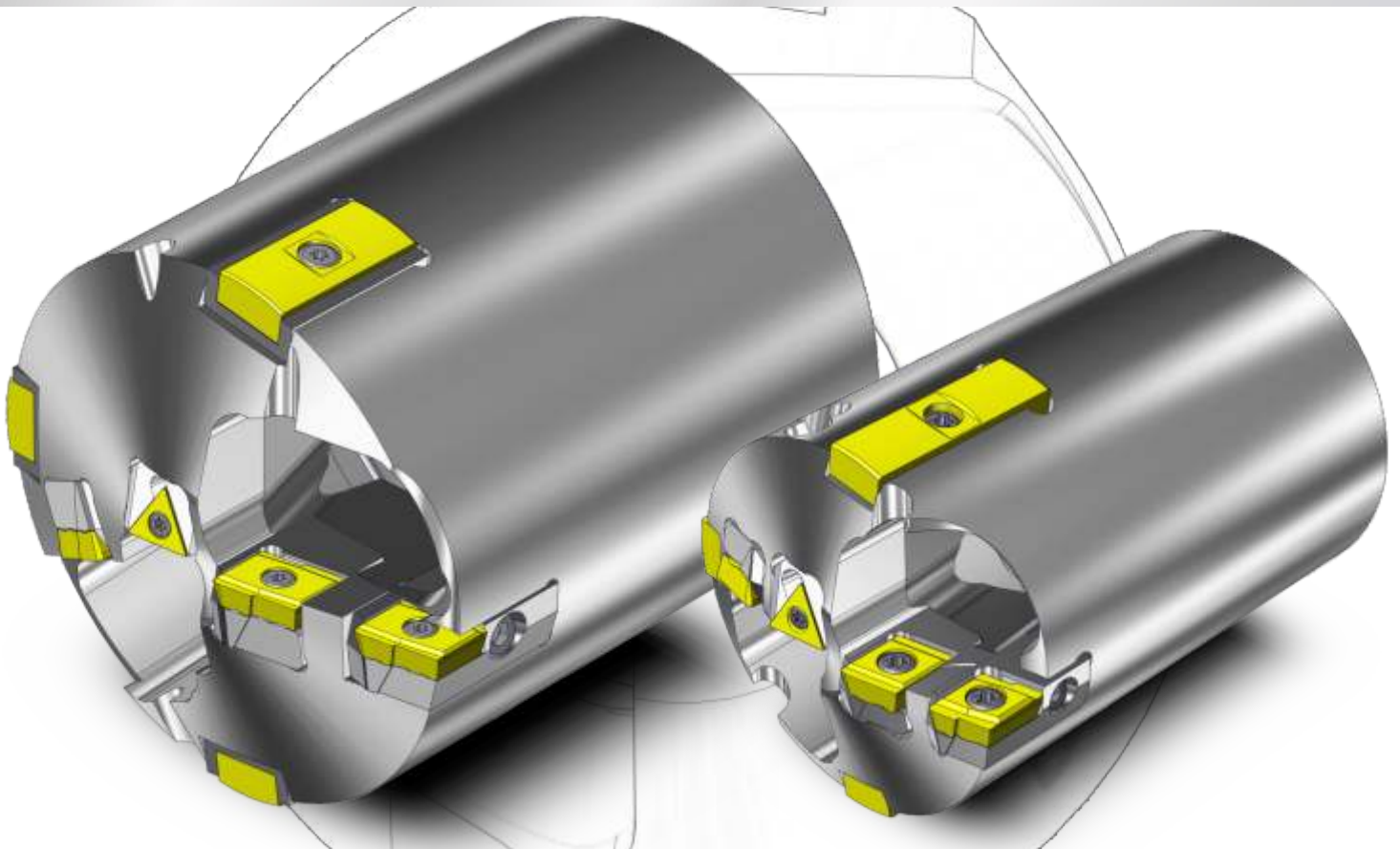
DEEP HOLE BORING TECHNOLOGY | EQUIPMENT

Solid Drilling Tools

Type 1475 / 1476

DEEP HOLE DRILLING TOOLS

BORING RANGE Ø65,00 - 161,99 mm



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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





Contents

Contents	3
Solid Drilling Tools Ø65,00 - 161,99 mm	4
Spare and wear parts	5

Tool description

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

Tool characteristics

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

Solid Drilling Tools Type 1475 / 1476

Boring range Ø 65,00 - 161,99 mm

Possible drill tube connection:



BTA-Thread
Type 1475



STS-Thread
Type 1476

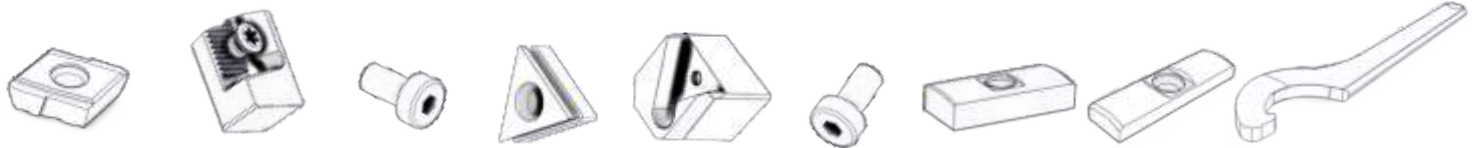
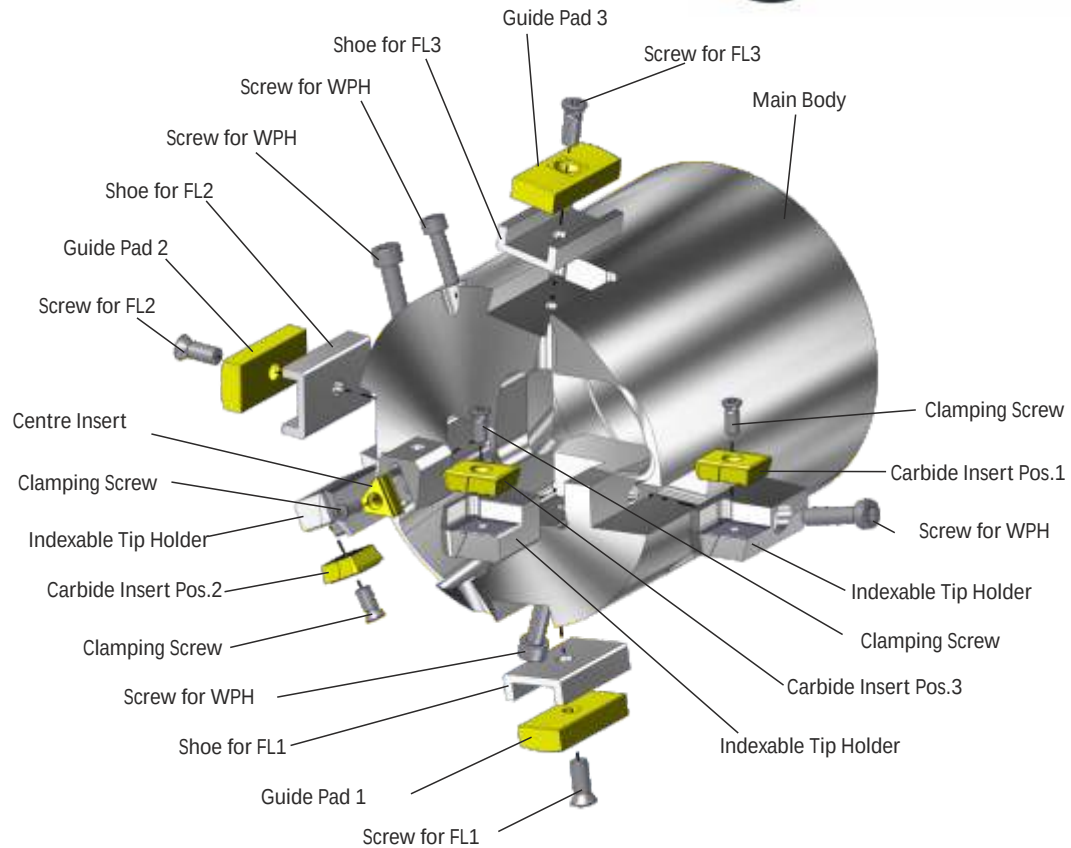


Boring Range	Drill Tube Connection	Carbide Insert Pos.1	Indexable Tip Holder	Screw for WPH	Carbide Insert Pos. 2	Indexable Tip Holder	Screw for WPH
Ø 65,00 - Ø 67,99	56	A1,5x	020.1434.E	M3x12 DIN 912	A1,5x	020.0874.R	M4x8 DIN 7984
Ø 68,00 - Ø 74,99	62	A2a	019.2212.G	M4x16 DIN 6912			
Ø 75,00 - Ø 80,99	68						
Ø 81,00 - Ø 90,99	75	A2,5a	020.0557.B	M4x20 DIN 6912	A2a	019.9494.S	M4x12 DIN 912
Ø 91,00 - Ø 98,99	82	A3a	019.1749.Z		A2,5a	019.9496.U	
Ø 99,00 - Ø 110,99	94				A3a	019.9498.W	M5x16 DIN 912
Ø 111,00 - Ø 117,99	106	A4a	019.2270.S	M6x25 DIN 6912	A4a	019.9500.Y	M6x20 DIN 912
Ø 118,00 - Ø 122,99							
Ø 123,00 - Ø 125,99	118						
Ø 126,00 - Ø 134,99							
Ø 135,00 - Ø 143,99	130	A5a	019.2251.X	M6x30 DIN 6912	A5a	019.9502.A	M4x25 DIN 912
Ø 144,00 - Ø 148,99							
Ø 149,00 - Ø 153,99	142						
Ø 154,00 - Ø 161,99							

Additional diameters on request

See Page 6/7 for spare and wear parts ordering data

Note: Please activate the two-sided view so that the table is displayed completely.



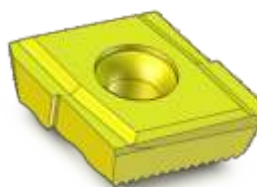
Carbide Insert Pos.3	Indexable Tip Holder	Screw for WPH	Centre- Insert	Indexable Tip Holder	Screw for WPH	Guide Pad 1 and 2	Guide Pad 3	Hook Wrench		
A1,5x	020.0874.R	M4x8 DIN 7984	Z1 ³	019.9488.L	M4x16 DIN 912	FL 10 - R28		006.2292.G		
A2a	019.9494.S	M4x12 DIN 912	Z1,5 ³	019.9490.N		FL 14 - R30		FL 10 - R28	006.2294.C	
A2,5a	019.9496.U							006.2296.X		
							FL 14 - R30			
A3a	019.9498.W	M5x16 DIN 912	Z2 ³	019.9492.Q	M5x20 DIN 912	FL 18 - R40	FL 18 - R40	006.2298.T		
										006.2300.L
A4a	019.9500.Y	M6x20 DIN 912								006.2302.G
						FL 18 - R65	FL 18 - R65			
A5a	019.9502.A	M4x25 DIN 912						006.2304.C		

Spare and wear parts

For Solid Drilling Type 1475 / 1476

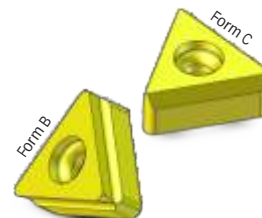
Indexable Inserts Size A1,5a - A5a; Z1³ - Z2³

Description	Chip Breaker	Carbide		
		P25 TiN	P40 TiN	K20 TiN
A1,5x	Size 1 - 2,1x0,5	020.1441.M	-	-
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
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



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

Description	Chip Breaker	Carbide		Cutting edges	Screw for Carbide Insert
		B TiN	H TiN		
Z1 ³	2,1x0,5 / form B	019.6501.Z	019.6502.A	3	M2,5x10 T8
	negativ / form C	019.6503.B	019.6504.C		
Z1,5 ³	2,5x0,8 / form B	019.6711.T	019.6574.A	3	M2,5x10 T8
	negativ / form C	019.6713.V	019.6714.W		
Z2 ³	2,5x0,8 / form B	019.6497.V	019.6498.W	6	M3,5x12 T15
	negativ / form C	019.6499.X	019.6500.Y		



Carbide „B“ (hard) for structural steel
 Carbide „H“ (tough) for alloyed and stainless steels

Additional chip breakers and coatings on request

Guide Pads 1 to 3



Description	Radius	Carbide		Shoe for Guide Pads	Screw for Guide Pads
		TiN coated	ML coated		
FL 10	28	016.9226.A	019.6680.L	-	M4x8,2 T15
FL 14	30	016.9229.T	019.6681.M	-	M6x12 T20
FL 18	40	014.4761.R	019.6682.N	015.2246.N	M6x16 T20
	65	016.9238.S	019.6683.P		

Spare and wear parts

For Solid Drilling Tools Type 1475 / 1476

Screws and Wrenches

Size	Length	Ident-No. Clamping Screw	Torx Size	Ident-No. Torx-Screw
M2,5	10	010.8778.C	T8	010.8812.F
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	T20	008.7220.T
M6	12	008.1068.E		
	16	010.7708.F		



Size	Length	Ident-No. Clamping Screw	SW Size	Ident-No. Hexagon-Wrench
M3 / DIN 912	12	008.5836.M	SW 2,5	008.5836.M
M4 / DIN 7984	8	008.7044.M		
M4 / DIN 912	12	008.5110.M	SW 3	008.6741.T
	25	T.-Nr. 4396		
M4 / DIN 6912	16	008.5002.Q		008.7213.Q
	20	008.5003.N		
M5 / DIN 912	16	008.5116.Z	SW 4	008.5837.K
	20	008.5117.W		
M6 / DIN 912	20	008.5122.E	SW 5	008.5838.H
M6 / DIN 6912	25	008.5023.G		008.6948.U
	30	008.5024.E		





TiefbohrSysteme® GmbH

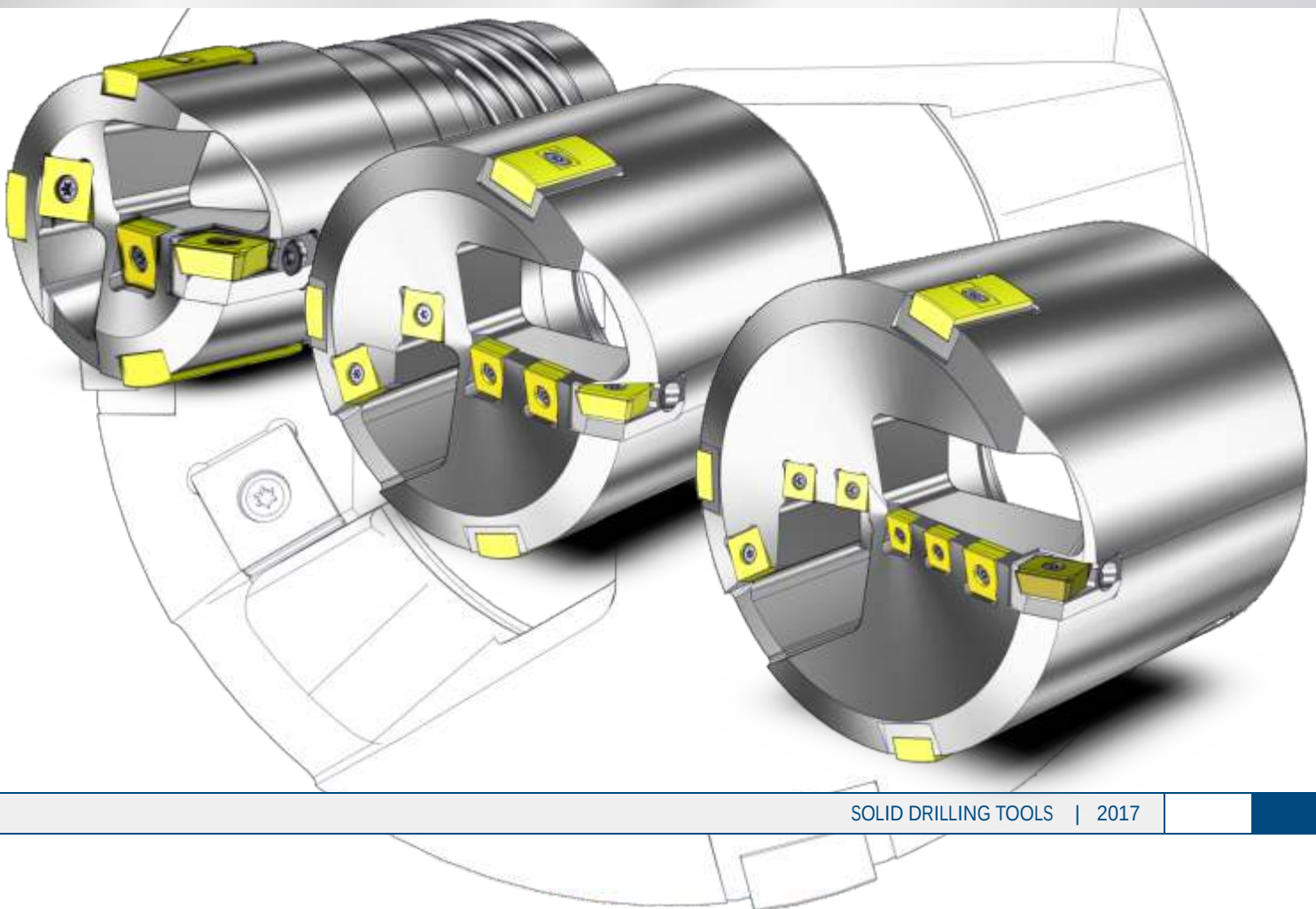
DEEP HOLE BORING TECHNOLOGY | EQUIPMENT

Solid Drilling Tools TAN

Type 1450 / 1451

DEEP HOLE DRILLING TOOLS

BORING RANGE Ø61,00 - 144,99 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.
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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

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BTA-Tiefbohrsysteme GmbH



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Tool description

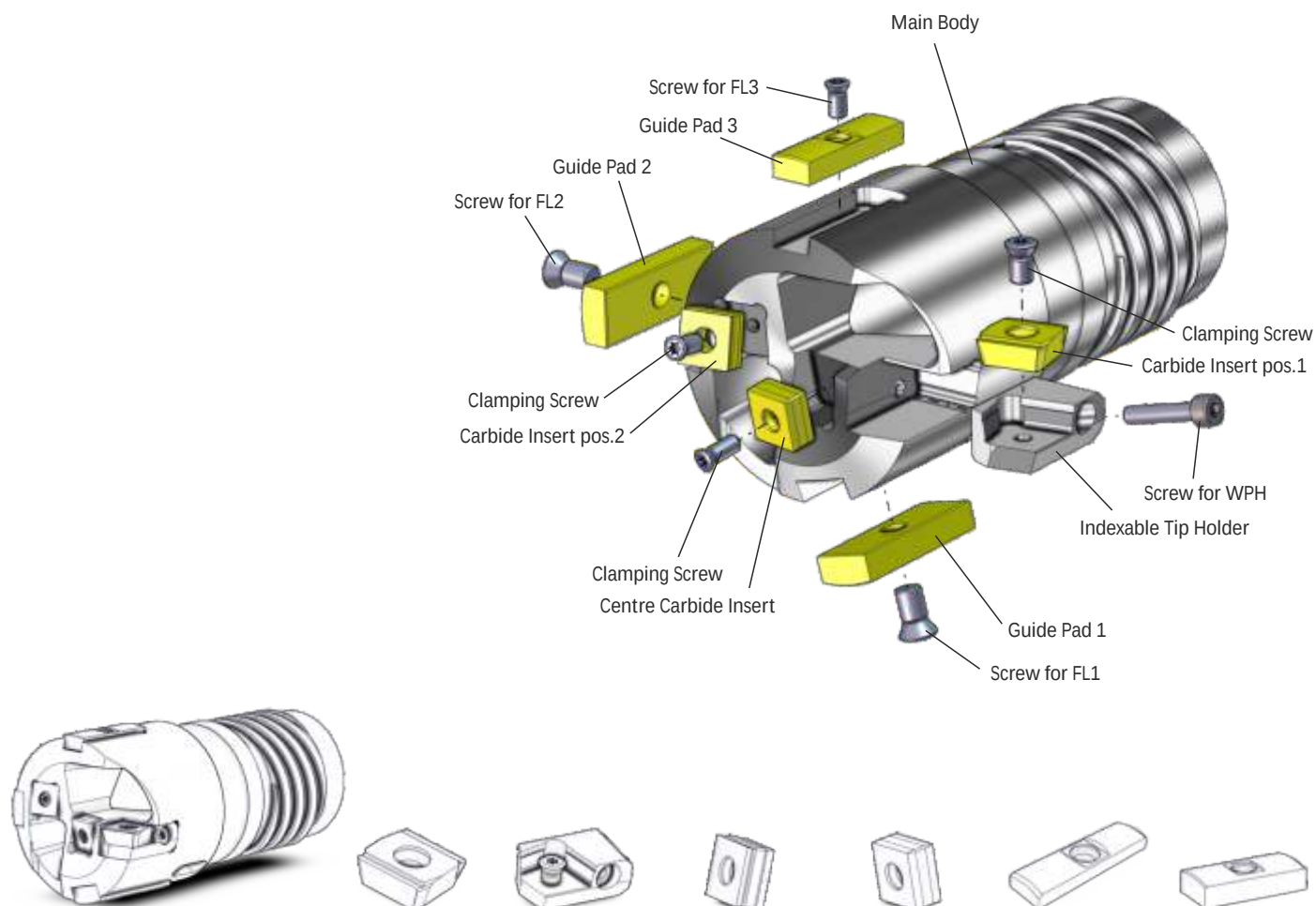
- Solid Drilling Tools with tangential arranged inserts (three and more)
- The drill diameter is fixed
- Especially suitable for machining stainless steels
- Equipped with three guide pads
- Available as bta- and up to Ø90,0 as ejector-tool

Tool characteristics

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

Solid Drilling Tools Type 1450 / 1451

Boring range Ø 61,00 - 88,99 mm



Boring Range	Drill Tube Connection	Carbide Insert	Indexable Tip Holder	Carbide Insert Pos.2	Centre Carbide Insert	Guide Pad FL1 and FL2	Guide Pad FL3		
Ø 61,00 - Ø 64,99	56	A 3	A 3	Z 2-P	Z 1-N	FL 10	FL 8		
Ø 65,00 - Ø 67,99									
Ø 68,00 - Ø 70,99	62						Z 2-N	FL 14	FL 10
Ø 71,00 - Ø 74,99									
Ø 75,00 - Ø 80,99	68	A 4	A 4	Z 3-P	Z 3-N				
Ø 81,00 - Ø 88,99	75								

See Page 6/7 for spare and wear parts ordering data

Possible drill tube connection:



BTA-Thread
Type 1450

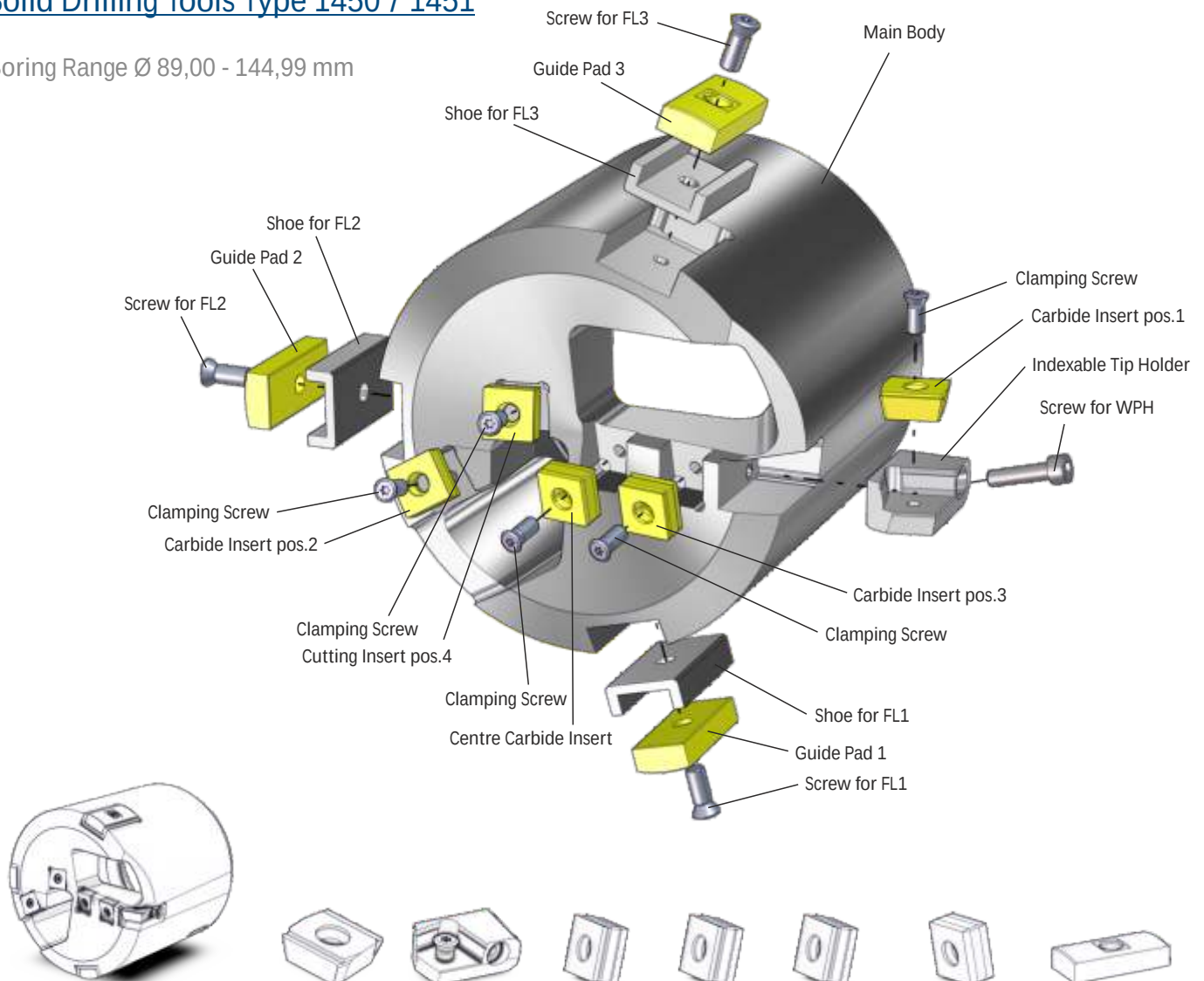


STS-Thread
Type 1451



Solid Drilling Tools Type 1450 / 1451

Boring Range Ø 89,00 - 144,99 mm



Boring Range	Drill Tube Connection	Carbide Insert	Indexable Tip Holder	Carbide Insert	Carbide Insert	Cutting Insert	Centre Carbide Insert	Guide Pad FL1, FL2 und FL3
Ø 89,00 - Ø 90,99	75			Z 2-P	Z 1-P	Z 1-P	Z 1-N	FL 14
Ø 91,00 - Ø 98,99	82	A 3	A 3					
Ø 99,00 - Ø 110,99	94			Z 2-P	Z 2-P	Z 2-P	Z 2-N	FL 18
Ø 111,00 - Ø 122,99	106							
Ø 123,00 - Ø 134,99	118	A 4	A 4	Z 3-P	Z 3-P	Z 3-P		
Ø 135,00 - Ø 144,99	130						Z 3-N	

Additional diameters on request

See Page 6/7 for spare and wear parts ordering data

Possible drill tube connection:



BTA-Thread
Type 1450



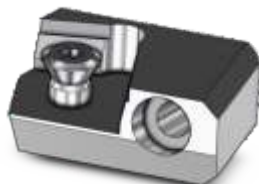
STS-Thread
Type 1451

Spare and wear parts

For Solid Drilling Tools Type 1450 / 1451

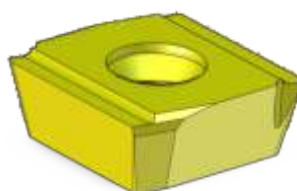
Indexable Tip Holder

Size	Ident-No. Indexable Tip	Ident-No. Clamping Screw
A 3	013.9006.K	M4x20 / DIN 912
A 4	013.9008.F	M5x20 / DIN 912



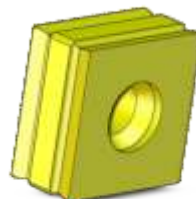
Indexable Tip Holder pos.1

Size	Carbide		Ident-No. Clamping Screw
	P 25 TiN	K 20 TiN	
A 3	013.9133.C	013.9135.X	M5x9,5 T15
A 4	013.9143.Z	013.9145.U	M5x12 T15



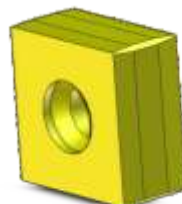
Carbide Insert pos.2 - pos.4

Size	Carbide		Ident-No. Clamping Screw
	P 25 TiN	K 20 TiN	
Z 1-P	013.9013.N	013.9015.J	M3x9 T9
Z 2-P	013.9023.K	013.9025.F	M4x10 T15
Z 3-P	013.9033.G	013.9035.C	M5x12 T15



Centre Carbide Insert

Size	Carbide		Ident-No. Clamping Screw
	P 25 TiN	K 20 TiN	
Z 1-N	013.9043.D	013.9045.Z	M3x9 T9
Z 2-N	013.9053.A	013.9055.V	M4x10 T15
Z 3-N	013.9063.W	013.9065.S	M5x12 T15



Guide Pads



Position	Boring Range	Description	Radius	Carbide		Shoe for Guide Pads	Screws for Guide Pads
				TiN coated	ML coated		
Guide Pad 1 and 2	Ø 61,00 - Ø 67,99	FL 10	28	016.9226.A	019.6680.L	-	M4x8,2 T15
	Ø 68,00 - Ø 110,99	FL 14	30	016.9229.T	019.6681.M		M6x12 T20
	Ø 111,00 - Ø 144,99	FL 18	40	014.4761.R	019.6682.N		M6x16 T20
Guide Pad 3	Ø 61,00 - Ø 67,99	FL 10	20	016.9223.G	019.6679.K	-	M4x8,2 T15
	Ø 68,00 - Ø 110,99	FL 14	30	016.9229.T	019.6681.M		M6x12 T20
	Ø 111,00 - Ø 144,99	FL 18	40	014.4761.R	019.6682.N		M6x16 T20

Spare and wear parts

For Solid Drilling Tools Type 1450 / 1451

Torx-Screws und Wrenches

Size	Length	Ident-No. Clamping Screw	Torx Size	Ident-No. Torx-Wrench
M2,5	5	010.8405.U	T8	010.8812.F
	10	010.8778.C		
M3	5,1	014.4771.N	T9	008.1104.D
	5,8	014.4772.L		
	6,2	014.4773.J		
	7,4	008.1065.L		
	9	010.7674.V		
M3,5	15	010.8779.A	T15	008.7219.C
M4	8,2	008.1066.J		
	10	010.7499.M		
	12,5	010.8172.R		
M5	9,5	014.4779.V	T20	008.7220.T
	12	008.1067.G		
M6	16	008.5807.U		
	12	008.1068.E		
	16	010.7708.F		



Socket Head Cap Screws and Wrenches

Size	Length	Ident-No. Clamping Screw	SW Size	Ident-No. Hexagon Wrench
M4	16	008.5111.K	SW 3	008.6741.T
	20	008.8112.H		
M5	20	008.5117.W	SW 4	008.5837.K

