

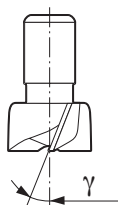
Tool selection

This table shows pictures of each type of tool and its diameter range within each size (01,0,1,2). Make your tool combination by choosing components from the same size.

Special editions: Insert drills and counterbores HSS all dimensions and system sizes are "Uncoated Blank" as standard. Coatings: TiN, TiCN, FUTURA, HARDLUBE are additional. For price and delivery time, contact your Granlund representative.



	Insert drills		Pilots			Counterbores				Countersinks					
	B Ø mm	LB Ø mm	BH Ø mm	F Ø mm	R Ø mm	N Ø mm	NA Ø mm	W Ø mm	H Ø mm	HA Ø mm	WHV Ø mm	T Ø mm	TH Ø mm	TK Ø mm	KV Ø mm
01	2,5-3,7	2,5-3,7		2,4-8				5-16				6-10,4			
0	4,2-7	4,2-7	5-6,8	4-5,8	6-14	7-24	7-24	7-16,5	10-24	10-24	18-20	8-16,5			20,5-25
1	6,5-12	6,5-12	6,5-12	6-6,8	7-24	10-38	10-38	10-25	12-38	12-38	20-36	11,5-30	20-30	16,5-34	26-30
2	11-25	11-25	11-21		10-50	16-85	16-85	16-40	18-75	18-75	34-75	20-85	40-60	30-75	32-60



Recommended choice of tool for working in different materials



	N	NA	W	H	HA	WHV	T	TH	TK	KV
Helix angle (γ)	24°	35°	28°	5°	24°	5°				
Steel	•	•	•			•	•		•	•
Stainless steel	•	•	•				•		•	
Cast iron				•	•	•		•		•
Aluminium (Long chips)		•	•				•		•	
Cast Aluminium (Short chips)					•	•		•		
Plastics soft		•					•		•	
Plastics hard				•	•			•		
Copper	•	•	•				•		•	
Bronze/Brass				•	•	•		•		•
HARDOX						•				•



Tool holders

	A	AS	M	NS	L	S	GS	
Morse Taper	MT 1					MT 1		01
Cylindrical Ø mm	6,0 10,0					10		
Morse Taper	MT 1-2				MT 1	MT 1		0
Cylindrical Ø mm	8,0 10,0					10		
Weldon				W 16				
Morse Taper	MT 1-2-3		MT 3	MT 2-3	MT 2	MT 2	MT 3	1
Cylindrical Ø mm	10-12				20	10		
Weldon	W 20	W 20	W 25	W 20			W 25	
Morse Taper	MT 2-3-4-5		MT 3-4	MT 3-4	MT 3	MT 3	MT 3	2
Cylindrical Ø mm					32			
Weldon	W 20	W 25	W 32	W 25			W 25	

Cutting data, counterbores and countersinks



	N	NA	W	H	HA	WHV	KV*	T	TK	TH		
Tensile Strength N/mm ² Hardness HB	HSS Speed m/min	HSS Feed mm/rev.	Carbide Speed m/min	Carbide Feed mm/rev.	Carbide Speed m/min	Carbide Feed mm/rev.	Carbide Speed m/min	HSS Speed m/min	HSS Feed mm/rev.	Carbide Speed m/min	Carbide Feed mm/rev.	Material
<450 N/mm ²	20 - 40	0,10 - 0,5	60 - 130	0,1 - 0,6	75 - 130	0,1 - 0,6	15 - 30	0,05 - 0,3	20 - 50	0,05 - 0,3	Steel	
<600 N/mm ²	15 - 30	0,10 - 0,4	50 - 110	0,1 - 0,5	65 - 120	0,1 - 0,5	10 - 25	0,05 - 0,3	15 - 45	0,05 - 0,3	Steel	
<1000 N/mm ²	10 - 35	0,05 - 0,3	40 - 110	0,1 - 0,3	55 - 100	0,1 - 0,4	10 - 20	0,05 - 0,3	10 - 40	0,05 - 0,3	Steel	
>1000 N/mm ²	5 - 20	0,05 - 0,3	30 - 90	0,1 - 0,2	45 - 90	0,1 - 0,4	5 - 15	0,05 - 0,3	10 - 35	0,05 - 0,3	Steel	
<800 N/mm ²	10 - 25	0,05 - 0,3	30 - 90	0,1 - 0,3	45 - 90	0,1 - 0,4	5 - 15	0,05 - 0,3	10 - 35	0,05 - 0,3	Cast Steel	
	10 - 20	0,10 - 0,3	20 - 60	0,1 - 0,4	30 - 60	0,1 - 0,3	5 - 15	0,05 - 0,3	10 - 35	0,05 - 0,3	Stainless Steel	
<180 HB	20 - 40	0,20 - 0,5	60 - 120	0,2 - 0,5	80 - 120	0,2 - 0,5	10 - 25	0,05 - 0,3	20 - 50	0,05 - 0,3	Cast Iron	
<200 HB	20 - 35	0,20 - 0,4	50 - 100	0,2 - 0,4	80 - 120	0,2 - 0,5	10 - 20	0,05 - 0,3	10 - 40	0,05 - 0,3	Cast Iron	
<220 HB	10 - 30	0,10 - 0,4	40 - 100	0,2 - 0,4	70 - 110	0,1 - 0,4	5 - 15	0,05 - 0,3	10 - 35	0,05 - 0,3	Cast Iron	
<180 HB	20 - 40	0,10 - 0,4	60 - 120	0,2 - 0,5	80 - 120	0,1 - 0,5	15 - 25	0,05 - 0,3	20 - 45	0,05 - 0,3	Malleable Iron	
<200 HB	15 - 35	0,10 - 0,4	50 - 110	0,2 - 0,5	75 - 110	0,1 - 0,5	10 - 20	0,05 - 0,3	15 - 40	0,05 - 0,3	Malleable Iron	
<220 HB	10 - 30	0,10 - 0,4	40 - 100	0,2 - 0,5	60 - 110	0,1 - 0,4	5 - 15	0,05 - 0,3	10 - 35	0,05 - 0,3	Malleable Iron	
	100 - 300	0,05 - 0,5	100 - 350	0,1 - 0,8	80 - 150	0,2 - 1,0	20 - 50	0,05 - 0,3	40 - 80	0,05 - 0,3	Aluminium Soft	
	100 - 200	0,05 - 0,5	100 - 350	0,1 - 0,8	100 - 200	0,2 - 1,0	30 - 70	0,05 - 0,3	30 - 70	0,05 - 0,3	Aluminium Hard	
	100 - 200	0,10 - 0,5	200 - 350	0,1 - 0,5	100 - 200	0,2 - 1,0	30 - 70	0,05 - 0,3	30 - 70	0,05 - 0,3	Cast Aluminium	
	30 - 60	0,10 - 0,5	50 - 150	0,1 - 0,8	80 - 150	0,1 - 0,5	20 - 40	0,05 - 0,3	25 - 80	0,05 - 0,3	Bronze	
	40 - 80	0,10 - 0,4	50 - 150	0,1 - 0,4	80 - 200	0,2 - 0,6	20 - 60	0,05 - 0,3	40 - 100	0,05 - 0,3	Brass	
	30 - 60	0,10 - 0,4	50 - 150	0,1 - 0,4	50 - 120	0,2 - 0,4	20 - 50	0,05 - 0,3	30 - 80	0,10 - 0,3	Copper	
					30 - 60	0,1 - 0,2						HARDOX
	50 - 100	0,10 - 0,5					40 - 80	0,05 - 0,3				Plastics Soft
			70 - 200	0,1 - 0,5	90 - 200	0,2 - 0,5				50 - 80	0,05 - 0,3	Plastics Hard

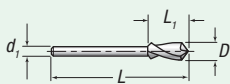
* Cutting data for type KV = 0,7 x WHV.



Ø mm	Insert drills		Pilots
	B	LB	F
	HSS	HSS	
	Tol.h8 Flute 12 mm	Tol.h8 Flute 17 mm	Tol.c9
	Part No.	Part No.	Part No.
2,4			01F-02,4
2,5	01B-02,5	01LB-02,5	01F-02,5
2,6			01F-02,6
2,7	01B-02,7		01F-02,7
2,9			01F-02,9
3,0	01B-03,0	01LB-03,0	01F-03,0
3,2	01B-03,2	01LB-03,2	01F-03,2
3,3	01B-03,3	01LB-03,3	01F-03,3
3,4	01B-03,4		01F-03,4
3,5	01B-03,5	01LB-03,5	01F-03,5
3,6	01B-03,6		01F-03,6
3,7	01B-03,7	01LB-03,7	
3,9			01F-03,9
4,0			01F-04,0
4,2			01F-04,2
4,5			01F-04,5
4,8			01F-04,8
5,0			01F-05,0
5,3			01F-05,3
5,5			01F-05,5
6,0			01F-06,0
6,4			01F-06,4
6,5			01F-06,5
6,6			01F-06,6
6,8			01F-06,8
7,0			01F-07,0
7,5			01F-07,5
8,0			01F-08,0

Ø mm	Counterbores and countersinks	
	W	T
	HSS	HSS
	Tol.p8 Flute 16 mm	Tol.x9 Flute 16 mm
	Part No.	Part No.
5,0	01W-05,0	
5,5	01W-05,5	
5,9	01W-05,9	
6,0	01W-06,0	01T9-06,0
6,3	01W-06,3	01T9-06,3
6,4	01W-06,4	
6,5	01W-06,5	
6,7		01T9-06,7
6,8	01W-06,8	
7,0	01W-07,0	01T9-07,0
7,3		01T9-07,3
7,5	01W-07,5	
8,0	01W-08,0	01T9-08,0
8,3		01T9-08,3
8,5	01W-08,5	
8,6		01T9-08,6
9,0	01W-09,0	
9,4		01T9-09,4
9,5	01W-09,5	
10,0	01W-10,0	01T9-10,0
10,4		01T9-10,4
10,5	01W-10,5	
11,0	01W-11,0	
12,0	01W-12,0	
12,5	01W-12,5	
13,0	01W-13,0	
14,0	01W-14,0	
15,0	01W-15,0	
16,0	01W-16,0	

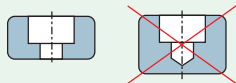
B and LB



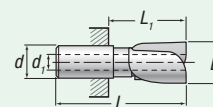
Important!

It is important to note that when combining insert drills with countersinks, the drill must break through the work piece before secondary cutting commences and must not be used in blind holes.

Type	d_i	L	L_i
B	2,4	47,0	12,0
LB	2,4	52,0	17,0

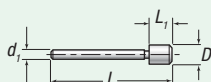


W



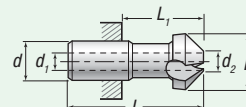
Type	d	d_i	L	L_i
W	7,0	2,4	28,0	16,0

F



Type	d_i	L	L_i
F	2,4	40,0	6,0

T



Type	d	d_i	d_{2min}	L	L_i
T	7,0	2,4	2,7	28,0	16,0

Size 01



Tool holders

A

Shank	Part No.
MT1	01A-MK1
Ø6	01A-6
Ø10	01A-10



Tool holders

S

With rotating depth-stop

Shank	Part No.
MT1	01S-MK1
Ø10	01S-10

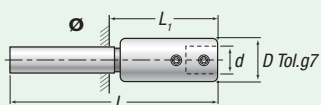
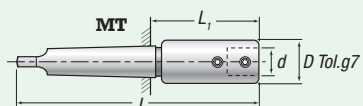


Set

Part No. 01P / M3-M6

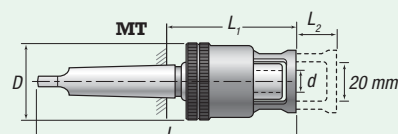
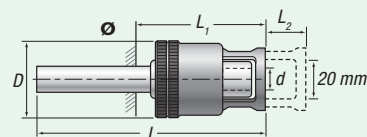
Counterbores type W, Ø mm	Pilots type F, Ø mm	Tool holders
5,0	2,4	01A-Ø6 mm
5,5	2,5	
6,0	3,0	
6,5	3,2	
7,0	3,4	
7,5	3,5	
8,0	3,6	
8,5	4,0	
9,0	4,2	
9,5	4,5	
10,0	5,0	
10,5	5,5	
11,0	6,0	
	6,5	
	6,6	
	7,0	

01A



Type	D Tol. g7	d	L	L ₁	Shank
01A-MK1	14	7	120	58	MT1
01A-06	14	7	86	45	Ø6
01A-10	14	7	86	45	Ø10

01S



Type	D	d	L	L ₁	L ₂	Shank
01S-MK1	30	7	120	59	16	MT1
01S-10	30	7	88	59	16	Ø10

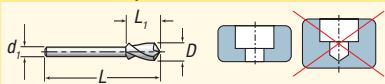
Size 0

GRANLUND
Tools



Ø mm	Insert drills			Pilots		Counterbores and countersinks							
	B	LB	BH	F	R	N	NA	W	H	HA	WHV	T	KV
	HSS	HSS	Carbide K20 micrograin	Fixed	Roller	HSS	HSS	HSS	Carbide K40 micrograin	Carbide K10 micrograin	For carbide Inserts	HSS 90°	For carbide Inserts
	Tol.h8 Flute 15 mm	Tol.h8 Flute 27 mm	Tol.h8 Flute 15 mm	Tol. c9	Tol. c9	Tol.p8	Tol.p8	Tol.p8	Tol.p8	Tol.p8	Tol.±0,1	Tol.x9	+0,2 -0
Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
4,0				OF-04,0*									
4,2	OB-04,2*	OLB-04,2*		OF-04,2*									
4,3	OB-04,3*	OLB-04,3*		OF-04,3*									
4,5	OB-04,5*	OLB-04,5*		OF-04,5*									
4,8	OB-04,8*	OLB-04,8*		OF-04,8*									
5,0	OB-05,0*	OLB-05,0*	OBH-05,0*	OF-05,0*									
5,1	OB-05,1*	OLB-05,1*											
5,3	OB-05,3*	OLB-05,3*		OF-05,3*									
5,5	OB-05,5*	OLB-05,5*		OF-05,5*									
5,8	OB-05,8	OLB-05,8		OF-05,8									
6,0	OB-06,0	OLB-06,0	OBH-06,0	OF-06,0	OR-06,0								
6,4	OB-06,4	OLB-06,4		OF-06,4	OR-06,4								
6,5	OB-06,5	OLB-06,5	OBH-06,5	OF-06,5	OR-06,5								
6,6	OB-06,6	OLB-06,6		OF-06,6	OR-06,6								
6,8	OB-06,8	OLB-06,8	OBH-06,8	OF-06,8	OR-06,8								
7,0	OB-07,0	OLB-07,0		OF-07,0	OR-07,0	ON-07,0	ONA-07,0	OW-07,0					
7,4				OF-07,4		ON-07,4	ONA-07,4						
7,5	* Not to be used with carbide cutters.			OF-07,5	OR-07,5	ON-07,5	ONA-07,5	OW-07,5					
7,6				OF-07,6									
8,0				OF-08,0	OR-08,0	ON-08,0	ONA-08,0	OW-08,0				OT9-08,0	
8,3				OF-08,3	OR-08,3							OT9-08,3	
8,4				OF-08,4	OR-08,4								
8,5				OF-08,5	OR-08,5	ON-08,5	ONA-08,5	OW-08,5					
8,6												OT9-08,6	
9,0				OF-09,0	OR-09,0	ON-09,0	ONA-09,0	OW-09,0					
9,4						ON-09,4	ONA-09,4					OT9-09,4	
9,5				OF-09,5	OR-09,5	ON-09,5	ONA-09,5	OW-09,5					
10,0				OF-10,0	OR-10,0	ON-10,0	ONA-10,0	OW-10,0	OH-10,0			OT9-10,0	
10,2				OF-10,2									
10,4						ON-10,4	ONA-10,4	OW-10,4				OT9-10,4	
10,5				OF-10,5	OR-10,5	ON-10,5	ONA-10,5	OW-10,5	OH-10,5	OHA-10,5			
11,0				OF-11,0	OR-11,0	ON-11,0	ONA-11,0	OW-11,0	OH-11,0	OHA-11,0			
11,5				OF-11,5		ON-11,5	ONA-11,5	OW-11,5	OH-11,5	OHA-11,5		OT9-11,5	
12,0				OF-12,0	OR-12,0	ON-12,0	ONA-12,0	OW-12,0	OH-12,0	OHA-12,0		OT9-12,0	
12,4												OT9-12,4	
12,5				OF-12,5	OR-12,5	ON-12,5	ONA-12,5	OW-12,5	OH-12,5	OHA-12,5			
13,0				OF-13,0	OR-13,0	ON-13,0	ONA-13,0	OW-13,0	OH-13,0	OHA-13,0			
13,4												OT9-13,4	
13,5				OF-13,5	OR-13,5	ON-13,5	ONA-13,5			OHA-13,5			
14,0				OF-14,0	OR-14,0	ON-14,0	ONA-14,0	OW-14,0	OH-14,0	OHA-14,0		OT9-14,0	
14,5						ON-14,5	ONA-14,5		OH-14,5	OHA-14,5			
15,0						ON-15,0	ONA-15,0	OW-15,0	OH-15,0	OHA-15,0		OT9-15,0	
15,5						ON-15,5	ONA-15,5	OW-15,5					
16,0						ON-16,0	ONA-16,0	OW-16,0	OH-16,0	OHA-16,0		OT9-16,0	
16,4												OT9-16,4	
16,5						ON-16,5	ONA-16,5	OW-16,5				OT9-16,5	
17,0						ON-17,0	ONA-17,0		OH-17,0	OHA-17,0			
17,5						ON-17,5	ONA-17,5						
18,0						ON-18,0	ONA-18,0		OH-18,0	OHA-18,0	OWHV-18,0		
18,5						ON-18,5	ONA-18,5						
19,0						ON-19,0	ONA-19,0		OH-19,0	OHA-19,0	OWHV-19,0		
19,5						ON-19,5	ONA-19,5						
20,0						ON-20,0	ONA-20,0		OH-20,0	OHA-20,0	OWHV-20,0		
20,5						ON-20,5	ONA-20,5						OKV9-20,5
21,0						ON-21,0	ONA-21,0		OH-21,0	OHA-21,0			
21,5						ON-21,5	ONA-21,5						
22,0						ON-22,0	ONA-22,0		OH-22,0	OHA-22,0			
22,5						ON-22,5	ONA-22,5						
23,0						ON-23,0	ONA-23,0		OH-23,0	OHA-23,0			
23,5							ONA-23,5						
24,0						ON-24,0	ONA-24,0		OH-24,0	OHA-24,0			
25,0													OKV9-25,0

B, LB and BH

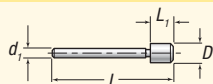


Type	d ₁	L	L ₁	L ₂
B, BH	4,0	70,0	15,0	8,0
LB	4,0	82,0	27,0	8,0

Important!

It is important to note that when combining insert drills with countersinks, the drill must break through the work piece before secondary cutting commences and must not be used in blind holes.

F and R

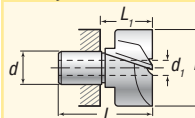


Type	d ₁	L	L ₁
F, R	4,0	64,0	9,0

Important!

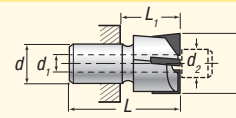
When working "dry" type R roller pilots must be lubricated.

N, NA and W

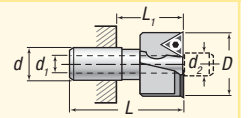


Type	d	d ₁	d _{2min}	L	L ₁
N, NA, W	10,0	4,0		40,0	22,0
H, HA, WH	10,0	4,0	5,8	40,0	22,0
WHV	10,0	4,0	5,2	40,0	22,0

H and HA



WHV



Important!

The counterbore WHV Rotatip should always be used combined with type R roller pilots.

Size 0



Tool holders

A

Shank	Part No.
MT1	0A-MK1
MT2	0A-MK2
Ø8	0A-08
Ø10	0A-10

Tool holders

NS
Short

Shank	Part No.
Weldon	
W16	ONS-W16

Tool holders

L
Long

Shank	Part No.
MT1	
L100	OL-100-MK1
L150	OL-150-MK1
L200	OL-200-MK1

Tool holders

S
With rotating depthstop

Shank	Part No.
MT1	OS-MK1
Ø10	OS-10



Set

Part No. 0P / M4-M8

Counterbores type N, Ø mm	Pilots type F, Ø mm	Tool holders
8,0	4,5	0A-MK2
9,0	5,0	
10,0	5,5	
11,0	6,0	
12,0	6,5	
13,0	6,6	
14,0	7,0	
15,0	7,5	
	8,0	
	8,6	
	9,0	
	10,0	



Set

Part No. 0D / M4-M12

Counterbores type N, Ø mm	Pilots type F, Ø mm	Tool holders
8,0	4,3	0A-MK2
10,0	4,5	
11,0	5,3	
15,0	5,5	
18,0	6,4	
20,0	6,6	
	8,4	
	9,0	
	10,5	
	11,0	
	13,0	
	13,5	

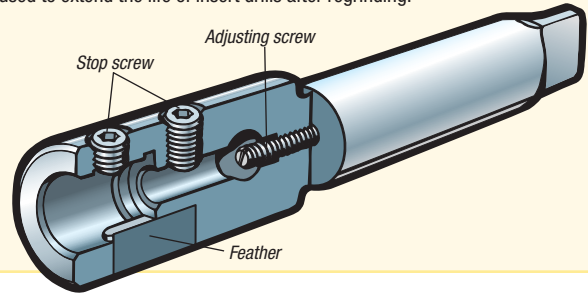
According to DIN 74, Form 1, 2, 3.

Important!

- When using carbide cutters – types TH, H and HA – set the axial adjusting screw to contact the shank of inserted pilot or drill.

Allow a gap between the shoulder of the pilot/drill and the carbide cutting edges to prevent damage by accidental impact.

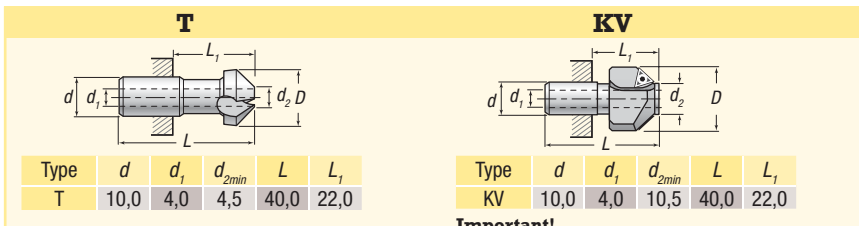
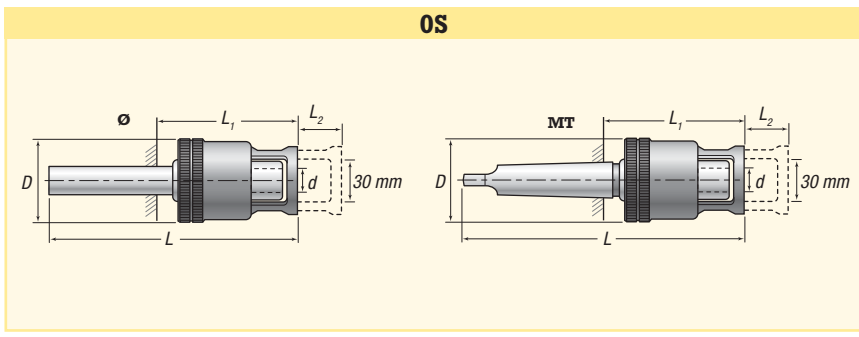
The adjusting screw is also used to extend the life of insert drills after regrinding.



Insert for WHV and KV

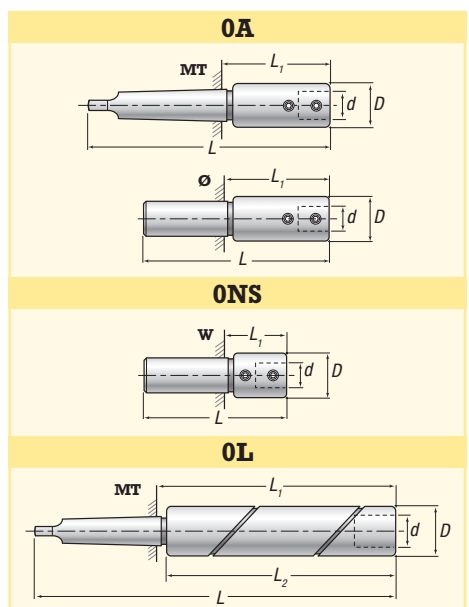
Type of insert	Size of insert	Part No.	Part No.	Radius mm
WHV 18,0 - 20,0 KV 20,0 - 25,0	07	TPMT-07T	TPMR-07T	0,4
	07		TPGR-07T	0,4
	07		TPMR-07H	0,4

- Carbide quality PK40. Al insert are coated in several layers (TiCN-TiC-TiN).
- The GRANLUND inserts have special chipbreaking angel for optimum chip control.



Important!

- The countersinks KV should always be used combined with type R roller pilots.



Type	D Tol. g7	d	L	L ₁	L ₂	Shank
0A-MK1	18	10	110	48		MT1
0A-MK2	18	10	132	57		MT2
0A-08	18	10	92	42		Ø8
0A-10	18	10	92	42		Ø10
OS-MK1	37	10	114	53	18	MT1
OS-10	37	10	96	53	18	Ø10
OL-100-MK1	20	10	168	106	100	MT1
OL-150-MK1	20	10	218	156	150	MT1
OL-200-MK1	20	10	268	206	200	MT1
ONS-W16	18	10	80	28		W16

Size 1

GRANLUND
Tools



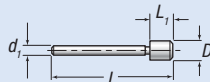
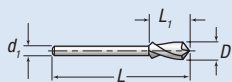
Ø mm	Insert drills			Pilots	
	B	LB	BH	F	R/RS**
	HSS	HSS	Carbide K20 micrograin	Fixed	Roller
	Tol. h8 Flute 25 mm	Tol. h8 Flute 40 mm	Tol. h8 Flute 25 mm	Tol. c9	Tol. c9
	Part No.	Part No.	Part No.	Part No.	Part No.
6,0				1F-06,0*	
6,4				1F-06,4*	
6,5	1B-06,5*	1LB-06,5*	1BH-06,5*	1F-06,5*	
6,6	1B-06,6*	1LB-06,6*		1F-06,6*	
6,8	1B-06,8*	1LB-06,8*	1BH-06,8*	1F-06,8*	
7,0	1B-07,0*	1LB-07,0*	1BH-07,0*	1F-07,0*	1R-07,0*
7,4				1F-07,4*	
7,5	1B-07,5*	1LB-07,5*		1F-07,5*	1R-07,5*
7,6	1B-07,6*	1LB-07,6*		1F-07,6*	
7,9	1B-07,9*	1LB-07,9*			
8,0	1B-08,0	1LB-08,0	1BH-08,0	1F-08,0	1R-08,0
8,2	1B-08,2	1LB-08,2			
8,3				1F-08,3	1R-08,3
8,4	1B-08,4	1LB-08,4		1F-08,4	1R-08,4
8,5	1B-08,5	1LB-08,5	1BH-08,5	1F-08,5	1R-08,5
8,8	1B-08,8	1LB-08,8			
9,0	1B-09,0	1LB-09,0	1BH-09,0	1F-09,0	1R-09,0
9,3	1B-09,3	1LB-09,3			
9,5	1B-09,5	1LB-09,5		1F-09,5	1R-09,5
10,0	1B-10,0	1LB-10,0	1BH-10,0	1F-10,0	1R-10,0
10,2	1B-10,2	1LB-10,2		1F-10,2	1R-10,2
10,5	1B-10,5	1LB-10,5	1BH-10,5	1F-10,5	1R-10,5
10,7	1B-10,7				
11,0	1B-11,0	1LB-11,0	1BH-11,0	1F-11,0	1R-11,0
11,5	1B-11,5	1LB-11,5	1BH-11,5	1F-11,5	1R-11,5
11,6	1B-11,6	1LB-11,6			
12,0	1B-12,0	1LB-12,0	1BH-12,0	1F-12,0	1R-12,0
12,5				1F-12,5	1R-12,5
13,0				1F-13,0	1R-13,0
13,5				1F-13,5	1R-13,5
14,0				1F-14,0	1R-14,0
14,5				1F-14,5	1R-14,5
15,0				1F-15,0	1R-15,0
15,5				1F-15,5	1R-15,5
16,0				1F-16,0	1R-16,0
16,5				1F-16,5	1R-16,5
17,0				1F-17,0	1R-17,0
17,5				1F-17,5	1R-17,5
18,0				1F-18,0	1R-18,0
18,5				1F-18,5	1R-18,5
19,0				1F-19,0	1R-19,0
20,0				1F-20,0	1R-20,0
20,5					1R-20,5
21,0					1R-21,0
21,5					
22,0					1R-22,0
22,5					1R-22,5
23,0					1R-23,0
24,0					1R-24,0

* Not be used with carbide cutters.

Ø mm	Counterbores					
	N	NA	W	H	HA	WHV
	HSS	HSS	HSS	Carbide K40 micrograin	Carbide K10 micrograin	For carbide inserts
	Tol. p8	Tol. p8	Tol. p8	Tol. p8	Tol. p8	Tol. ± 0,1
	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
10,0	1N-10,0	1NA-10,0	1W-10,0			
10,4		1NA-10,4				
10,5	1N-10,5	1NA-10,5	1W-10,5			
11,0	1N-11,0	1NA-11,0	1W-11,0			
11,5	1N-11,5	1NA-11,5	1W-11,5			
12,0	1N-12,0	1NA-12,0	1W-12,0	1H-12,0	1HA-12,0	
12,5	1N-12,5	1NA-12,5	1W-12,5	1H-12,5	1HA-12,5	
13,0	1N-13,0	1NA-13,0	1W-13,0	1H-13,0	1HA-13,0	
13,5	1N-13,5	1NA-13,5	1W-13,5	1H-13,5	1HA-13,5	
14,0	1N-14,0	1NA-14,0	1W-14,0	1H-14,0	1HA-14,0	
14,5	1N-14,5	1NA-14,5		1H-14,5	1HA-14,5	
15,0	1N-15,0	1NA-15,0	1W-15,0	1H-15,0	1HA-15,0	
15,5	1N-15,5	1NA-15,5		1H-15,5	1HA-15,5	
16,0	1N-16,0	1NA-16,0	1W-16,0	1H-16,0	1HA-16,0	
16,5	1N-16,5	1NA-16,5	1W-16,5	1H-16,5	1HA-16,5	
17,0	1N-17,0	1NA-17,0	1W-17,0	1H-17,0	1HA-17,0	
17,5	1N-17,5	1NA-17,5	1W-17,5	1H-17,5	1HA-17,5	
18,0	1N-18,0	1NA-18,0	1W-18,0	1H-18,0	1HA-18,0	
18,5	1N-18,5	1NA-18,5		1H-18,5	1HA-18,5	
19,0	1N-19,0	1NA-19,0	1W-19,0	1H-19,0	1HA-19,0	
19,5	1N-19,5	1NA-19,5		1H-19,5	1HA-19,5	
20,0	1N-20,0	1NA-20,0	1W-20,0	1H-20,0	1HA-20,0	1WHV-20,0
20,5	1N-20,5	1NA-20,5		1H-20,5	1HA-20,5	
21,0	1N-21,0	1NA-21,0	1W-21,0	1H-21,0	1HA-21,0	1WHV-21,0
21,5	1N-21,5	1NA-21,5	1W-21,5	1H-21,5	1HA-21,5	
22,0	1N-22,0	1NA-22,0	1W-22,0	1H-22,0	1HA-22,0	1WHV-22,0
22,5	1N-22,5	1NA-22,5		1H-22,5	1HA-22,5	
23,0	1N-23,0	1NA-23,0	1W-23,0	1H-23,0	1HA-23,0	1WHV-23,0
23,5	1N-23,5	1NA-23,5		1H-23,5	1HA-23,5	
24,0	1N-24,0	1NA-24,0	1W-24,0	1H-24,0	1HA-24,0	1WHV-24,0
24,5	1N-24,5	1NA-24,5		1H-24,5	1HA-24,5	
25,0	1N-25,0	1NA-25,0	1W-25,0	1H-25,0	1HA-25,0	1WHV-25,0
25,5	1N-25,5	1NA-25,5		1H-25,5	1HA-25,5	
26,0	1N-26,0	1NA-26,0		1H-26,0	1HA-26,0	1WHV-26,0
26,5	1N-26,5	1NA-26,5		1H-26,5	1HA-26,5	
27,0	1N-27,0	1NA-27,0		1H-27,0	1HA-27,0	1WHV-27,0
27,5	1N-27,5	1NA-27,5		1H-27,5	1HA-27,5	
28,0	1N-28,0	1NA-28,0		1H-28,0	1HA-28,0	1WHV-28,0
28,5	1N-28,5	1NA-28,5		1H-28,5	1HA-28,5	
29,0	1N-29,0	1NA-29,0		1H-29,0	1HA-29,0	1WHV-29,0
29,5		1NA-29,5			1HA-29,5	
30,0	1N-30,0*	1NA-30,0*		1H-30,0*	1HA-30,0*	1WHV-30,0
30,5	1N-30,5*	1NA-30,5*			1HA-30,5*	
31,0	1N-31,0*	1NA-31,0*		1H-31,0*	1HA-31,0*	1WHV-31,0
32,0	1N-32,0*	1NA-32,0*		1H-32,0*	1HA-32,0*	1WHV-32,0
33,0	1N-33,0*	1NA-33,0*		1H-33,0*	1HA-33,0*	
34,0	1N-34,0*	1NA-34,0*		1H-34,0*	1HA-34,0*	1WHV-34,0
35,0	1N-35,0*	1NA-35,0*		1H-35,0*	1HA-35,0*	
36,0	1N-36,0*	1NA-36,0*		1H-36,0*	1HA-36,0*	1WHV-36,0
37,0	1N-37,0*	1NA-37,0*			1HA-37,0*	
38,0	1N-38,0*	1NA-38,0*		1H-38,0*	1HA-38,0*	

B, LB and BH

F and R/RS

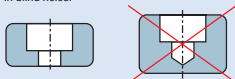


Type	d ₁	L	L ₁	L ₂
B, BH	6,0	95,0	25,0	13,0
LB	6,0	110,0	40,0	13,0

Type	d ₁	L	L ₁
F, R	6,0	80,0	14,0

Important!

- It is important to note that when combining insert drills with countersinks, the drill must break through the work piece before secondary cutting commences and must not be used in blind holes.



Important!

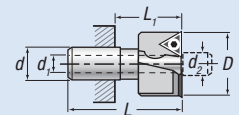
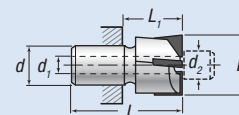
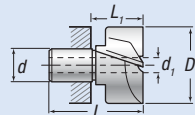
- When working "dry" type R roller pilots must be lubricated.

** Pilots type RS must be combined with holders type AS.

N, NA and W

H and HA

WHV



Type	d	d ₁	d _{2min}	L	L ₁
N, NA, W	14,0	6,0		48,0	28,0
H, HA, WH	14,0	6,0	8,0	48,0	28,0

Type	d	d ₁	d _{2min}	L	L ₁
WHV	14,0	6,0	7,6	48,0	28,0

Important!

- Counterbores N, NA, H and HA Ø 30 mm and larger are all made with a driving lip. These sizes should be used in the appropriate type M toolholder.

Important!

- The counterbore WHV Rotatip should always be used combined with type R or RS, roller pilots. The shank of the holder must not be smaller than MT2. The minimum size of the pilot shall be Ø 11 mm for counterboring and Ø 6 mm for spotfacing.

Size 1



Ø mm	Countersinks					
	T	T	T	TH	TK	KV
	HSS	HSS	HSS	Carbide K 10	HSS	For carbide inserts
	Tol. x9 60°	Tol. x9 80°	Tol. x9 90°	Tol. x9 90°	Tol. x9 90°	Tol. + 0,2-0 90°
	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
11,5			1T9-11,5			
12,0			1T9-12,0			
12,4			1T9-12,4			
13,4			1T9-13,4			
14,0	1T6-14,0	1T8-14,0	1T9-14,0			
15,0			1T9-15,0			
16,0	1T6-16,0		1T9-16,0			
16,4			1T9-16,4			
16,5			1T9-16,5		1TK9-16,5	
18,0	1T6-18,0		1T9-18,0			
19,0			1T9-19,0			
20,0	1T6-20,0		1T9-20,0	1TH9-20,0	1TK9-20,0	
20,5			1T9-20,5			
22,0			1T9-22,0			
23,0			1T9-23,0			
25,0	1T6-25,0	1T8-25,0	1T9-25,0		1TK9-25,0	
26,0			1T9-26,0			1KV9-26,0
28,0			1T9-28,0			
30,0	1T6-30,0	1T8-30,0	1T9-30,0	1TH9-30,0	1TK9-30,0	1KV9-30,0
34,0				1TK9-34,0		



GRANLUND Tools

Tool holders		Tool holders		Tool holders	
A		NS Short		L Long	
Shank	Part No.	Shank	Part No.	Shank	Part No.
MT1	1A-MK1	MT2	1NS-MK2	MT2	1L-100-MK2
MT2	1A-MK2	MT3	1NS-MK3	MT2	1L-150-MK2
MT3	1A-MK3	Weldon	1NS-W20	MT2	1L-225-MK2
Ø10	1A-10			Ø20	1L-500-20
Ø12	1A-12				
Weldon	1A-W20				

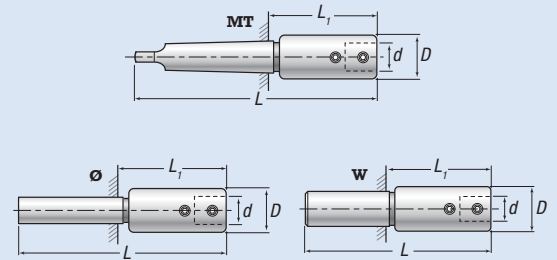
Important!

- When using carbide cutters – types TH, H and HA – set the axial adjusting screw to contact the shank of inserted pilot or drill.
- Allow a gap between the shoulder of the pilot/drill and the carbide cutting edges to prevent damage by accidental impact.
- The adjusting screw is also used to extend the life of insert drills after regrinding.

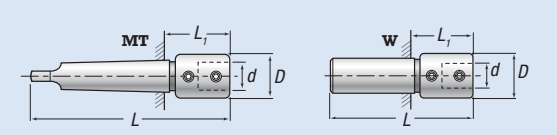
Insert for WHV and KV				
Type of insert				
Type of tools D mm	Size of insert	Part No.	Part No.	Radius mm
WHV 20,0 - 25,0	07	TPMT-07T	TPMR-07T	0,4
	07		TPGR-07T	0,4
	07		TPMR-07H	0,4
WHV >25,0 - 33,0 KV >26,0 - 30,0	10	TPMT-10T	TPMR-10T	0,4
	10		TPGR-10T	0,4
	10		TPMR-10H	0,4
WHV >34,0 - 36,0	12	TPMT-12T	TPMR-12T	0,8
	12		TPGR-12T	0,8
	12		TPMR-12H	0,8

- Carbide quality PK40. All inserts are coated in several layers (TiCN-TiC-TiN).
- The GRANLUND inserts have special chipbreaking angel for optimum chip control.

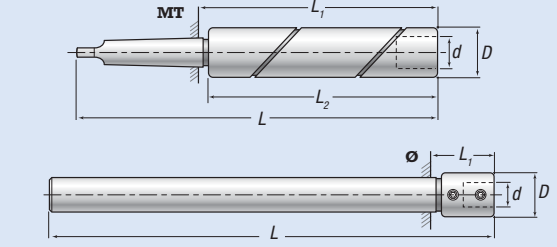
1A



1NS

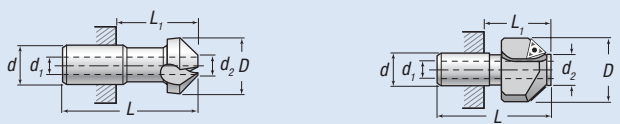


1L



Type	D Tol. g7	d	L	L ₁	L ₂	Shank
1A-MK1	24	14	123	62		MT1
1A-MK2	24	14	137	62		MT2
1A-MK3	24	14	160	66		MT3
1A-10	24	14	110	55		Ø10
1A-12	24	14	120	55		Ø12
1A-W20	24	14	110	55		W20
1NS-MK2	24	14	112	37		MT2
1NS-MK3	24	14	130	37		MT3
1NS-W20	24	14	86	32		W20
1L-L100-MK2	26	14	183	108	100	MT2
1L-L150-MK2	26	14	233	158	150	MT2
1L-L225-MK2	26	14	308	233	225	MT2
1L-500-20	24	14	500	37		Ø20

T, TH and TK KV



Type	d	d ₁	d _{2min}	L	L ₁	Type	d	d ₁	d _{2min}	L	L ₁
T	14,0	6,0	6,6	48,0	28,0	KV (Ø26)	14,0	6,0	13,0	48,0	28,0
TH	14,0	6,0	10,0	48,0	28,0	KV (Ø30)	14,0	6,0	13,8	48,0	28,0
TK	14,0	6,0	4,0	48,0	28,0						

- Important!**
- The countersink KV conotip should always be used combined with type R or RS, roller pilots. Minimum shank size is MT3.

Size 1



Tool holders		Tool holders		Tool holders	
GS/AS* With through coolant		S With rotating depthstop		M Slotted drive	
Shank	Part No.	Shank	Part No.	Shank	Part No.
MT3	1GS-MK3	MT2	1S-MK2	MT3	1M-MK3
Weldon	1GS-W25	Ø10	1S-10	W25	1M-W25
Weldon	1AS-W20				

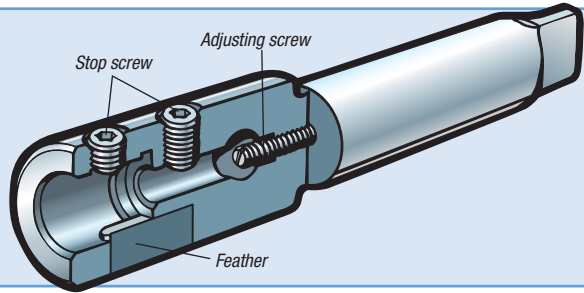
* Holders type AS must be combined with Pilots type RS.



Set

Part No. 1P / M8-M14

Counterbores type N, Ø mm	Pilots type F, Ø mm	Tool holders
14,0	8,0	1A-MK2
15,0	8,5	
16,0	9,0	
17,0	9,5	
18,0	10,0	
20,0	10,5	
22,0	11,0	
24,0	11,5	
	12,0	
	12,5	
	13,0	
	13,5	
	14,0	
	14,5	
	15,0	
	15,5	
	16,0	



Set

Part No. 1D / M8-M16

Counterbores type N, Ø mm	Pilots type F, Ø mm	Tool holders
15,0	8,4	1A-MK2
18,0	9,0	
20,0	10,5	
24,0	11,0	
26,0	13,0	
	13,5	
	15,0	
	15,5	
	17,0	
	17,5	

According to DIN 74, Form 1, 2, 3

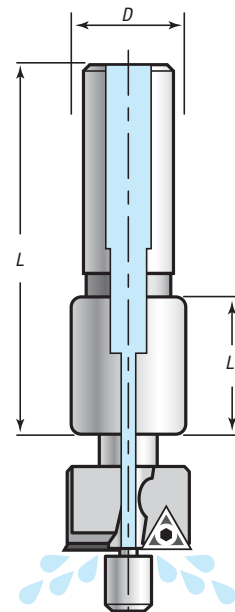
1S

1GS

1M

1M-W25

Type	D Tol. g7	d	L	L ₁	L ₂	Shank
1S-MK2	45	14	144	70	20	MT2
1S-10	45	14	128	70	20	Ø10
1GS-MK3	36	14	143	50		MT3
1GS-W25	36	14	105	40		W25
1M-MK3	28	14	166	72		M3
1M-W25	28	14	122	66		W25
1AS-W20	24	14	86	36		W20



Internal cooling

Holder type AS in combination with pilot type RS.

Size 2



Ø mm	Insert drills			Pilots	
	B	LB	BH	F	R/RS**
	HSS	HSS	Carbide K20 micrograin	Fixed	Roller
	Tol. h8 Flute 30 mm	Tol. h8 Flute 50 mm	Tol. h8 Flute 40 mm	Tol. c9	Tol. c9
	Part No.	Part No.	Part No.	Part No.	Part No.
10,0	* Not to be used with carbide cutters.			2F-10,0*	2R-10,0*
10,2				2F-10,2*	2R-10,2*
10,5				2F-10,5*	2R-10,5*
11,0	2B-11,0*	2LB-11,0*	2BH-11,0*	2F-11,0*	2R-11,0*
11,5	2B-11,5*	2LB-11,5*	2BH-11,5*	2F-11,5*	2R-11,5*
11,6	2B-11,6*				
12,0	2B-12,0	2LB-12,0	2BH-12,0	2F-12,0	2R-12,0
12,2	2B-12,2				
12,5	2B-12,5	2LB-12,5	2BH-12,5	2F-12,5	2R-12,5
13,0	2B-13,0	2LB-13,0	2BH-13,0	2F-13,0	2R-13,0
13,5	2B-13,5	2LB-13,5	2BH-13,5	2F-13,5	2R-13,5
14,0	2B-14,0	2LB-14,0	2BH-14,0	2F-14,0	2R-14,0
14,5	2B-14,5	2LB-14,5	2BH-14,5	2F-14,5	2R-14,5
15,0	2B-15,0	2LB-15,0	2BH-15,0	2F-15,0	2R-15,0
15,1	2B-15,1				
15,5	2B-15,5	2LB-15,5	2BH-15,5	2F-15,5	2R-15,5
16,0	2B-16,0	2LB-16,0	2BH-16,0	2F-16,0	2R-16,0
16,5	2B-16,5	2LB-16,5	2BH-16,5	2F-16,5	2R-16,5
17,0	2B-17,0	2LB-17,0	2BH-17,0	2F-17,0	2R-17,0
17,5	2B-17,5	2LB-17,5		2F-17,5	2R-17,5
18,0	2B-18,0	2LB-18,0	2BH-18,0	2F-18,0	2R-18,0
18,5	2B-18,5	2LB-18,5		2F-18,5	2R-18,5
19,0	2B-19,0	2LB-19,0	2BH-19,0	2F-19,0	2R-19,0
19,5	2B-19,5			2F-19,5	2R-19,5
20,0	2B-20,0	2LB-20,0	2BH-20,0	2F-20,0	2R-20,0
20,5				2F-20,5	2R-20,5
21,0	2B-21,0	2LB-21,0	2BH-21,0	2F-21,0	2R-21,0
21,5				2F-21,5	2R-21,5
22,0	2B-22,0	2LB-22,0		2F-22,0	2R-22,0
22,5				2F-22,5	2R-22,5
23,0	2B-23,0			2F-23,0	2R-23,0
23,5				2F-23,5	
24,0	2B-24,0			2F-24,0	2R-24,0
24,5				2F-24,5	2R-24,5
25,0	2B-25,0	2LB-25,0		2F-25,0	2R-25,0
25,5				2F-25,5	2R-25,5
26,0				2F-26,0	2R-26,0
26,5				2F-26,5	2R-26,5
27,0				2F-27,0	2R-27,0
27,5				2R-27,5	
28,0				2F-28,0	2R-28,0
29,0				2F-29,0	2R-29,0
30,0				2F-30,0	2R-30,0
30,5					2R-30,5
31,0					2R-31,0
32,0					2R-32,0
33,0					2R-33,0
34,0					2R-34,0
35,0					2R-35,0
36,0					2R-36,0
37,0					2R-37,0
38,0					2R-38,0
39,0					2R-39,0
40,0					2R-40,0
42,0					2R-42,0
44,0					2R-44,0
45,0					2R-45,0
46,0					2R-46,0
48,0					2R-48,0
50,0					2R-50,0

B, LB and BH

Type	d ₁	L	L ₁	L ₂
B, BH	10,0	125,0	30,0	15,0
LB	10,0	145,0	50,0	15,0

Important!

- It is important to note that when combining insert drills with countersinks, the drill must break through the work piece before secondary cutting commences and must not be used in blind holes.

F and R/RS

Type	d ₁	L	L ₁
F, R	10,0	110,0	20,0

Important!

- When working "dry" type R roller pilots must be lubricated.
- Pilots type RS must be combined with holders type AS.

Ø mm	Counterbores					
	N	NA	W	H	HA	WHV
	HSS	HSS	HSS	Carbide K40 micrograin	Carbide K10 micrograin	For carbide inserts
	Tol. p8	Tol. p8	Tol. p8	Tol. p8	Tol. p8	Tol. ± 0,1
	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
16,0	2N-16,0	2NA-16,0	2W-16,0			
16,5		2NA-16,5				
17,0	2N-17,0	2NA-17,0				
17,5	2N-17,5	2NA-17,5				
18,0	2N-18,0	2NA-18,0	2W-18,0	2H-18,0	2HA-18,0	
18,5	2N-18,5	2NA-18,5				
19,0	2N-19,0	2NA-19,0	2W-19,0	2H-19,0	2HA-19,0	
19,5	2N-19,5	2NA-19,5				
20,0	2N-20,0	2NA-20,0	2W-20,0	2H-20,0	2HA-20,0	
20,5	2N-20,5	2NA-20,5				
21,0	2N-21,0	2NA-21,0		2H-21,0	2HA-21,0	
21,5	2N-21,5	2NA-21,5				
22,0	2N-22,0	2NA-22,0	2W-22,0	2H-22,0	2HA-22,0	
22,5		2NA-22,5				
23,0	2N-23,0	2NA-23,0	2W-23,0	2H-23,0	2HA-23,0	
23,5	2N-23,5	2NA-23,5				
24,0	2N-24,0	2NA-24,0	2W-24,0	2H-24,0	2HA-24,0	
24,5	2N-24,5	2NA-24,5				
25,0	2N-25,0	2NA-25,0	2W-25,0	2H-25,0	2HA-25,0	
25,5	2N-25,5	2NA-25,5				
26,0	2N-26,0	2NA-26,0				
26,5	2N-26,5	2NA-26,5	2W-26,0	2H-26,0	2HA-26,0	
27,0	2N-27,0	2NA-27,0				
27,5	2N-27,5	2NA-27,5	2W-27,0	2H-27,0	2HA-27,0	
28,0	2N-28,0	2NA-28,0				
28,5	2N-28,5	2NA-28,5	2W-28,0	2H-28,0	2HA-28,0	
29,0	2N-29,0	2NA-29,0				
29,5		2NA-29,5	2W-29,0	2H-29,0	2HA-29,0	
30,0	2N-30,0	2NA-30,0	2W-30,0	2H-30,0	2HA-30,0	
30,5	2N-30,5	2NA-30,5				
31,0	2N-31,0	2NA-31,0	2W-31,0	2H-31,0	2HA-31,0	
32,0	2N-32,0	2NA-32,0	2W-32,0	2H-32,0	2HA-32,0	
33,0	2N-33,0	2NA-33,0	2W-33,0	2H-33,0	2HA-33,0	
34,0	2N-34,0	2NA-34,0	2W-34,0	2H-34,0	2HA-34,0	2WHV-34,0
35,0	2N-35,0	2NA-35,0	2W-35,0	2H-35,0	2HA-35,0	2WHV-35,0
36,0	2N-36,0	2NA-36,0	2W-36,0	2H-36,0	2HA-36,0	2WHV-36,0
37,0	2N-37,0	2NA-37,0		2H-37,0	2HA-37,0	2WHV-37,0
38,0	2N-38,0	2NA-38,0	2W-38,0	2H-38,0	2HA-38,0	2WHV-38,0
39,0	2N-39,0	2NA-39,0		2H-39,0	2HA-39,0	2WHV-39,0
40,0	2N-40,0	2NA-40,0	2W-40,0	2H-40,0	2HA-40,0	2WHV-40,0
41,0	2N-41,0	2NA-41,0		2H-41,0	2HA-41,0	2WHV-41,0
42,0	2N-42,0	2NA-42,0		2H-42,0	2HA-42,0	2WHV-42,0
43,0	2N-43,0	2NA-43,0		2H-43,0	2HA-43,0	2WHV-43,0
44,0	2N-44,0	2NA-44,0		2H-44,0	2HA-44,0	2WHV-44,0
45,0	2N-45,0	2NA-45,0		2H-45,0	2HA-45,0	2WHV-45,0
46,0	2N-46,0	2NA-46,0		2H-46,0	2HA-46,0	2WHV-46,0
47,0	2N-47,0	2NA-47,0			2HA-47,0	2WHV-47,0
48,0	2N-48,0	2NA-48,0		2H-48,0	2HA-48,0	2WHV-48,0
48,0	2N-49,0	2NA-49,0			2HA-49,0	2WHV-49,0
50,0	2N-50,0*	2NA-50,0*		2H-50,0*	2HA-50,0*	2WHV-50,0**
51,0	2N-51,0*	2NA-51,0*			2HA-51,0*	2WHV-51,0**
51,0	2N-52,0*	2NA-52,0*		2H-52,0*	2HA-52,0*	2WHV-52,0**
53,0	2N-53,0*	2NA-53,0*		2H-53,0*	2HA-53,0*	2WHV-53,0**
54,0	2N-54,0*	2NA-54,0*		2H-54,0*	2HA-54,0*	2WHV-54,0**
55,0	2N-55,0*	2NA-55,0*		2H-55,0*	2HA-55,0*	2WHV-55,0**
56,0	2N-56,0*	2NA-56,0*		2H-56,0*	2HA-56,0*	2WHV-56,0**
57,0	2N-57,0*	2NA-57,0*			2HA-57,0*	
58,0	2N-58,0*	2NA-58,0*		2H-58,0*	2HA-58,0*	2WHV-58,0**
60,0	2N-60,0*	2NA-60,0*		2H-60,0*	2HA-60,0*	2WHV-60,0**
62,0	2N-62,0*	2NA-62,0*		2H-62,0*	2HA-62,0*	2WHV-62,0**
64,0	2N-64,0*	2NA-64,0*			2HA-64,0*	2WHV-64,0**
65,0	2N-65,0*	2NA-65,0*		2H-65,0*	2HA-65,0*	2WHV-65,0**
66,0	2N-66,0*	2NA-66,0*		2H-66,0*	2HA-66,0*	
68,0		2NA-68,0*			2HA-68,0*	2WHV-68,0**
70,0	2N-70,0*	2NA-70,0*		2H-70,0*	2HA-70,0*	2WHV-70,0**
72,0	2N-72,0*	2NA-72,0*		2H-72,0*	2HA-72,0*	2WHV-72,0**
74,0		2NA-74,0*			2HA-74,0*	
75,0	2N-75,0*	2NA-75,0*		2H-75,0*	2HA-75,0*	2WHV-75,0**
76,0	2N-76,0*	2NA-76,0*				
78,0		2NA-78,0*				
80,0	2N-80,0*	2NA-80,0*				
82,0	2N-82,0*	2NA-82,0*				
84,0		2NA-84,0*				
85,0	2N-85,0*	2NA-85,0*				

* Use holders type M.
** Recommended minimum shank size MT3.

Size 2

GRANLUND
Tools



Ø mm	Countersinks						
	T	T	T	TH	TK	KV	KV
	HSS	HSS	HSS	Carbide K 10	HSS	For carbide inserts	For carbide inserts
	Tol. x9 60°	Tol. x9 80°	Tol. x9 90°	Tol. x9 90°	Tol. x9 90°	Tol. + 0,2-0 60°	Tol. + 0,2-0 90°
Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	
20,0	2T6-20,0		2T9-20,0				
22,0			2T9-22,0				
25,0	2T6-25,0		2T9-25,0				
28,0			2T9-28,0				
30,0	2T6-30,0	2T8-30,0	2T9-30,0		2TK9-30,0		
31,0			2T9-31,0				
32,0							2KV9-32,0
32,4			2T9-32,4				
34,0			2T9-34,0				
35,0	2T6-35,0		2T9-35,0				
36,0							
37,0			2T9-37,0		2TK9-37,0		
38,0							2KV9-38,0
39,0							
40,0	2T6-40,0	2T8-40,0	2T9-40,0	2TH9-40,0	2TK9-40,0		2KV9-40,0
41,0						2KV6-41,0	
42,0							
43,0							
44,0							
45,0			2T9-45,0		2TK9-45,0		
46,0							
47,0							
48,0							
48,0							
50,0	2T6-50,0		2T9-50,0	2TH9-50,0	2TK9-50,0		
51,0							2KV9-50,0
52,0							
53,0							
55,0							
56,0							
58,0							
60,0	2T6-60,0		2T9-60,0	2TH9-60,0	2TK9-60,0		2KV9-60,0
62,0							
64,0							
65,0							
68,0							
70,0							
72,0							
75,0			2T9-75,0		2TK9-75,0		
85,0			2T9-85,0				

Tool holders

A

Shank	Part No.
MT2	2A-MK2
MT3	2A-MK3
MT4	2A-MK4
MT5	2A-MK5
Weldon	2A-W20

Tool holders

NS Short

Shank	Part No.
MT3	2NS-MK3
MT4	2NS-MK4
Weldon	2NS-W25

Tool holders

L Long

Shank	Part No.
MT3	2L-175-MK3
MT3	2L-250-MK3
Ø32	2L-500-32

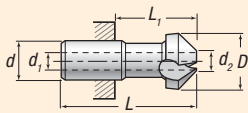
2A

2NS

2L

Type	D Tol. g7	d	L	L ₁	L ₂	Shank
2A-MK2	36	22	160	85		MT2
2A-MK3	36	22	180	87		MT3
2A-MK4	36	22	206	89		MT4
2A-MK5	36	22	240	91		MT5
2A-W20	36	22	140	71		W20
2NS-MK3	36	22	145	51		MT3
2NS-MK4	36	22	170	53		MT4
2NS-W25	36	22	105	45		W25
2L-L175-MK3	40	22	280	186	175	MT3
2L-L250-MK3	40	22	355	261	250	MT3
2L-500-32	36	22	500	51		Ø32

T, TH and TK

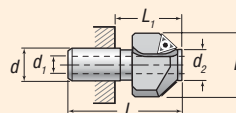


Important!

- Countersinks TH, TK, T Ø 50 are made with a driving lip. These sizes should be used in the appropriate type M holder.

Type	d	d ₁	d _{2min}	L	L ₁
T (-Ø50)	22,0	10,0	10,8	61,0	33,0
T (Ø60)	22,0	10,0	22,0	61,0	33,0
T (-Ø70)	22,0	10,0	37,0	61,0	33,0
T (Ø85)	22,0	10,0	44,0	61,0	33,0
TH (Ø40)	22,0	10,0	14,0	61,0	33,0
TH (Ø50)	22,0	10,0	14,0	61,0	33,0
TH (Ø60)	22,0	10,0	22,0	61,0	33,0
TK (Ø30,37)	22,0		5,0	61,0	33,0
TK (Ø40,45)	22,0		8,0	61,0	33,0
TK (Ø50-)	22,0		10,0	61,5	33,0
TK (Ø60)	22,0		13,0	65,0	33,0
TK (-Ø75)	22,0		25,0	67,0	33,0

KV



Important!

- The countersink KV conotip should always be used combined with type R or RS, roller pilots. Minimum shank size is MT3.

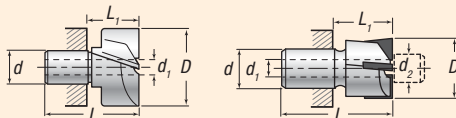
Type	d	d ₁	d _{2min}	L	L ₁
KV (Ø32)	22,0	10,0	17,0	61,0	33,0
KV (Ø38)	22,0	10,0	20,0	61,0	33,0
KV (Ø40)	22,0	10,0	18,0	61,0	33,0
KV (Ø41)	22,0	10,0	24,0	61,0	33,0
KV (Ø50,60)	22,0	10,0	22,0	61,0	33,0

N, NA and W

H and HA

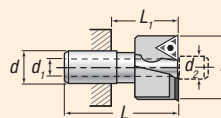
Important!

- Counterbores N, NA, H and HA Ø 50 mm and larger are all made with a driving lip. These sizes should be used in the appropriate type M toolholder.



Type	d	d ₁	d _{2min}	L	L ₁
N, NA, W	22,0	10,0		61,0	33,0
H, HA, WH	22,0	10,0	12,0	61,0	33,0

WHV



Important!

- The counterbore WHV Rota-tip should always be used combined with type R or RS, roller pilots. The shank of the holder must not be smaller than MT3.

Type	d	d ₁	d _{2min}	L	L ₁
WHV 34-45	22,0	10,0	14,8*	61,0	33,0
WHV 46-75	22,0	10,0	15,5*	61,0	33,0
WHV 75	22,0	10,0	17,0*	61,0	33,0

Size 2



Tool holders

GS/AS*
With through coolant

Shank	Part No.
MT3	2GS-MK3
Weldon	2GS-W25
Weldon	2AS-W25

Tool holders

S
With rotating depthstop

Shank	Part No.
MT3	2S-MK3

Tool holders

M
Slotted drive

Shank	Part No.
MT3	2M-MK3
MT4	2M-MK4
W32	2M-W32

* Holders type AS must be combined with Pilot type RS.

Insert for WHV and KV

Type of tools D mm	Size of insert	Part No.	Part No.	Radius mm
KV >32,0 - 40,0	10	TPMT-10T	TPMR-10T	0,4
	10		TPGR-10T	0,4
WHV >34,0 - 45,0	10		TPMR-10H	0,4
	12	TPMT-12T	TPMR-12T	0,8
	12		TPGR-12T	0,8
WHV >46,0 - KV >41,0-60,0	12		TPMR-12H	0,8
	17	TPMT-17T		0,8
	17	TPMT-17H		0,8

- Carbide quality PK40. All inserts are coated in several layers (TiCN-TiC-TiN).
- The GRANLUND inserts have special chipbreaking angel for optimum chip control.

2S

2GS

2M

2M-W32

Type	D Tol. g7	d	L	L ₁	L ₂	Shank
2S-MK3	63	22	187	94	25	MT3
2GS-MK3	44	22	154	61		MT3
2GS-W25	44	22	115	51		W25
2M-MK3	48	22	187	93		MT3
2M-MK4	48	22	212	95		MT4
2M-W32	48	22	148	88		W32
2AS-W25	35	22	105	49		W25



Set

Part No. 2P / M14-M24

Counterbores type N, Ø mm	Pilots type F, Ø mm	Tool holders
24,0	13,0	2A-MK3
26,0	14,0	
28,0	15,0	
30,0	16,0	
32,0	17,0	
33,0	18,0	
34,0	19,0	
36,0	20,0	
40,0	21,0	
	22,0	
	23,0	
	24,0	
	25,0	
	26,0	

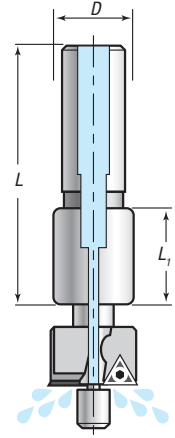


Set

Part No. 2D / M14-M24

Counterbores type N, Ø mm	Pilots type F, Ø mm	Tool holders
24,0	15,0	2A-MK3
26,0	15,5	
30,0	17,0	
33,0	17,5	
36,0	19,0	
40,0	20,0	
	21,0	
	22,0	
	23,0	
	24,0	
	25,0	
	26,0	

According to DIN 74, Form 1, 2, 3.



Internal cooling
Holder type AS in combination with pilot type RS.

Important!

- When using carbide cutters – types TH, H and HA – set the axial adjusting screw to contact the shank of inserted pilot or drill. Allow a gap between the shoulder of the pilot/drill and the carbide cutting edges to prevent damage by accidental impact. The adjusting screw is also used to extend the life of insert drills after regrinding.

