

Fine Boring Heads with Centric Cutting Edge

Overview	396
EWE 2-152 Digital Fine Boring Head	398
EWN 2-152 Fine Boring Head	399
Accessories EWE / EWN 2-152	400
Tool Kits EWE / EWN 2-152	417
EWE 2-32 Digital Fine Boring Head	418
EWN 2-32 / 04-22 Fine Boring Head	419
Accessories EWE / EWN 2-32	420
Accessories EWN 04-22	426
EWN 04-15 Fine Boring Head	430
EWN 04-12 / 04-24 / 12-36 Fine Boring Heads	431
EWN 04-7 Fine Boring Head	433

B.2



EWE 2-152 Digital Fine Boring Head

Wireless communication for easy readout with the BIG KAISER app: The EWE fine boring head revolutionates fine boring process. Less operator mistakes, easier setup and a huge diameter range of \varnothing 2 - 152 mm. Also available as integral solution with HSK-A63. Accessories of EWN are fully compatible.
 \varnothing 2 - 152 mm, CK6/HSK-A63



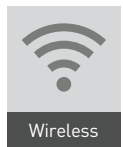
EWN 2-152 Fine Boring Head

Fine boring head with centric boring bars in modular and integral execution for accurate, high performance operations. The head comes with variable length adjustment of the boring bar and large dial disc for parallax-free readout.
 \varnothing 2 - 152 mm, CK6/DV40/HSK-A63/BIG CAPTO C6



EWE 2-32 Digital Fine Boring Head

Smallest digital fine boring head with wireless communication to the BIG KAISER app and centric boring bar. Especially manufactured for the use on small machine tools. Accessories of EWN are fully compatible.
 \varnothing 2 - 32 mm, CK5



B.2



EWN 2-32 Fine Boring Head

Fine boring head with centric boring bar in integral, modular and screw-on execution for precise machining. Developed for the use on machine tools with spindles 30 taper, HSK-A50 and bigger, as well as on lathe machines with driven tools.
 \varnothing 2 - 32 mm, CK5/DV30/ES32



EWN 04-15 Fine Boring Head

Machining of small bores with high speeds on machine tools with spindles DV20, HSK-E32 and bigger.
 \varnothing 0.4 - 15 mm, CK3/ST16



EWN 04-7 Fine Boring Head

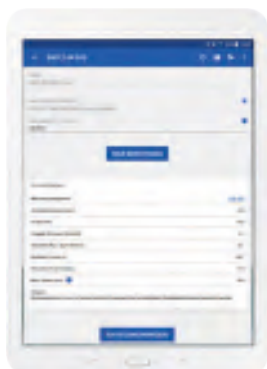
World's smallest fine boring head: Thanks to its body diameter of only \varnothing 18.5 mm, the EWN 04-7 is the perfect solution for micro machining applications.
 \varnothing 0.4 - 7 mm, CK1/ST6/ST10



B.2

BIG KAISER App

The new app simplifies the assembly and operation of rough and fine boring heads and provides extremely accurate cutting data. The various parameters can be saved in the app for later use, an important building block for workshops that want to get into smart manufacturing. The app currently supports 61 BIG KAISER fine and reaming heads with diameters from 0.4 mm - 620 mm.



Cutting data



Send your data to...



History (made automatically)

This is how the app is going to support your daily challenges

1. Choose your tool
2. Type in your application values
3. Calculate cutting data
4. Adjust machine and make a measuring bore
5. Infeed tool with the diameter of the measuring bore
6. Make the bore middle tolerance

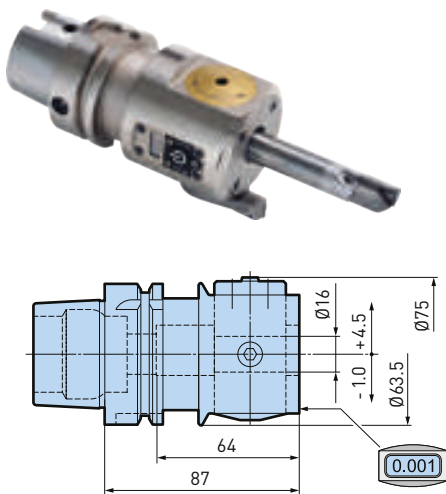
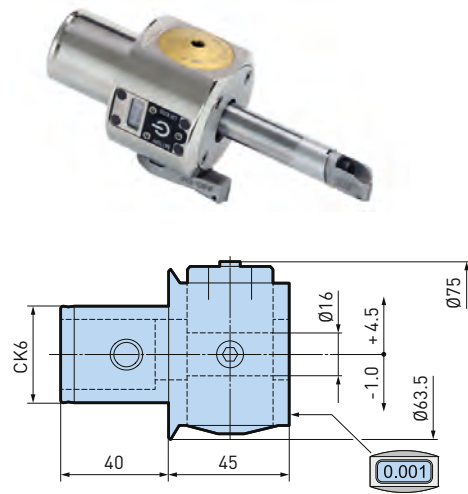
EWE 2-152 Digital Fine Boring Head, Ø 2 - 152

Digital fine boring head in modular and integral execution for accurate, high performance boring operations. With wireless communication to the BIG KAISER app.



CK6 Type

HSK-A63 Type



Model	Order No.
EWE2-152CK6	112.110

Model	Order No.
EWE2-152HSK-A63-87	112.126A



Quick Guide

B.2

EWE Reader

If no Smart Phone or BIG KAISER App is available, the digital Reader is the perfect alternative for making settings on the digital fine boring heads.



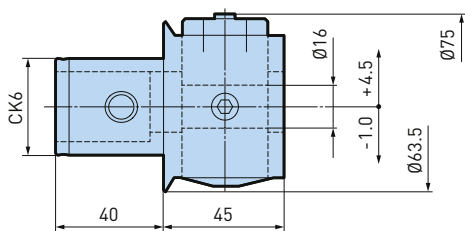
Model	Order No.	L	W	H
EWE Reader	719.000	90	44	15

1. Charger (micro USB cable) is not included.

EWN 2-152 Fine Boring Head, Ø 2 - 152

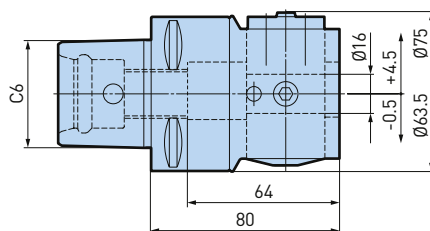
Fine boring heads in modular and integral execution for accurate, high performance boring operations on machine tools with spindles DV40, HSK-A63, BIG CAPTO C6 and bigger.

CK6 Type



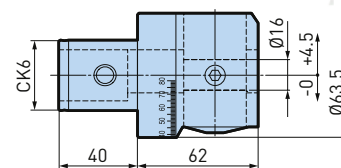
Model	Order No.
EWN2-152CK6	112.108

BIG CAPTO Type



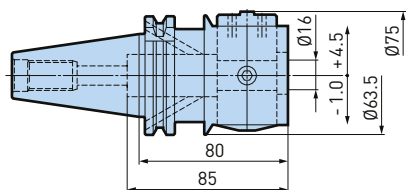
Model	Order No.
EWN2-152C6	470.108

EWB Type *



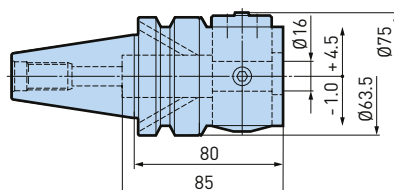
Model	Order No.
EWB2-50CK6	112.107

DV40 Type



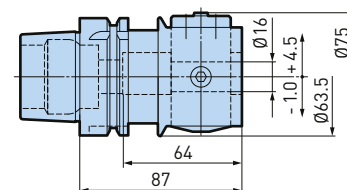
Model	Order No.
EWN2-152DV40	112.121

BR40 Type



Model	Order No.
EWN2-152BT40	112.122

HSK-A63 Type



Model	Order No.
EWN2-152HSK-A63	112.123

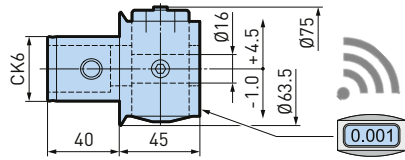
1. * EWB Type has an integrated balancing mechanism. Ideal for high-speed machining.

Boring Head

Order No.

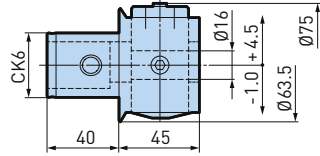
EWE2-152CK6

112.110



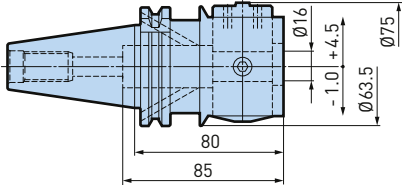
EWN2-152CK6

112.108



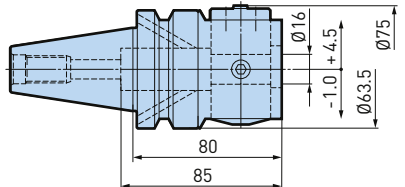
EWN2-152DV40

112.121



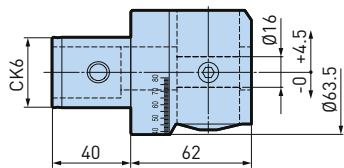
EWN2-152BT40

112.122

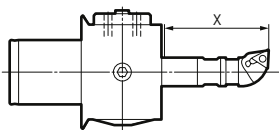


EWB2-50CK6

112.107



X = Boring depth





ØD

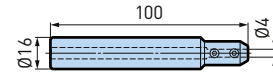
Boring range for the fine boring head EWN 2-152. Under full use of the adjustment range, the max. boring range will be,

- for EWN, EWE, EWB: Lower range + 9 mm Ø

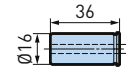
 Carbide tool holders


 Recommended for EWB 2-50

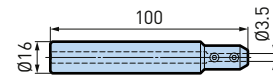
RB16-4-100
613.424 




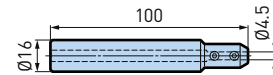
RB16-4
613.404




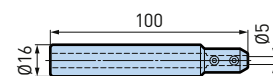
RB16-3.5-100
613.422 



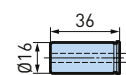
RB16-4.5-100
613.423 




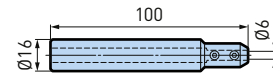
RB16-5-100
613.425 



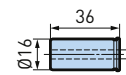
RB16-5
613.405




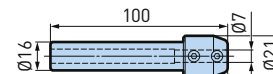
RB16-6-100
613.426 



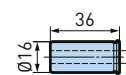
RB16-6
613.406




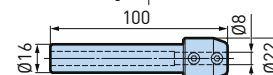
RB16-7-100
613.427 



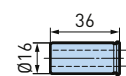
RB16-7
613.407




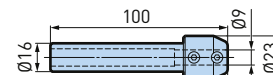
RB16-8-100
613.428 



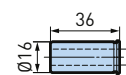
RB16-8
613.408




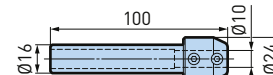
RB16-9-100
613.429 



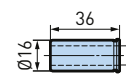
RB16-9
613.409



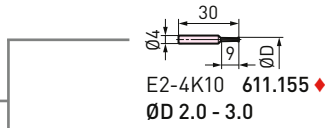
RB16-10-100
613.430 



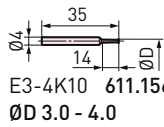
RB16-10
613.410



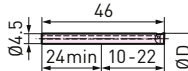
Fixed Tool Holder



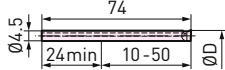
E2-4K10 611.155 ♦
ØD 2.0 - 3.0



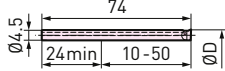
E3-4K10 611.156 ♦
ØD 3.0 - 4.0



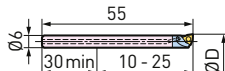
E5-ST4.5-46K10 615.081
ØD 4.9 - 5.9



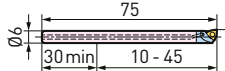
E5-ST4.5-74K10 615.204 ♦
ØD 4.9 - 5.9



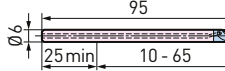
E5-ST4.5-74K10C 615.204A ♦
ØD 4.9 - 5.9



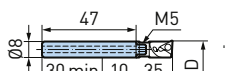
E7.5-ST6-WC02-55HM 615.084
ØD 7.3 - 8.8



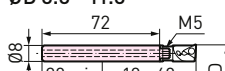
E7.5-ST6-WC02-75HM 615.085
ØD 7.3 - 8.8



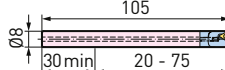
E7.5-ST6-WC02-95HM 615.202 ♦
ØD 7.3 - 8.8



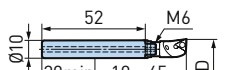
ST8-47 615.211
ØD 8.8 - 11.8



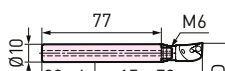
ST8-72HM 615.212 ♦
ØD 8.8 - 11.8



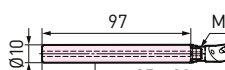
E9-ST8-TP07-105HM 615.213 ♦
ØD 8.8 - 11.8



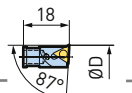
ST10-52 615.214
ØD 11.8 - 13.8



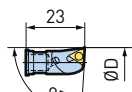
ST10-77HM 615.215 ♦
ØD 11.8 - 13.8



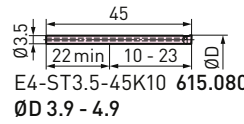
ST10-97HM 615.223 ♦
ØD 11.8 - 13.8



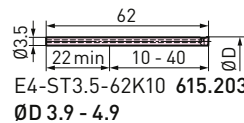
E9T 615.271 ♦
ØD 8.8 - 11.8



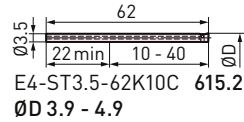
E12T 615.272 ♦
ØD 11.8 - 13.8



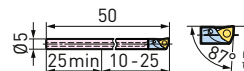
E4-ST3.5-45K10 615.080
ØD 3.9 - 4.9



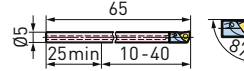
E4-ST3.5-62K10 615.203 ♦
ØD 3.9 - 4.9



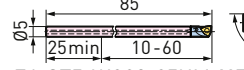
E4-ST3.5-62K10C 615.203A ♦
ØD 3.9 - 4.9



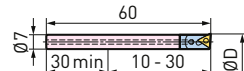
E6-ST5-WC02-50HM 615.082
ØD 5.8 - 7.3



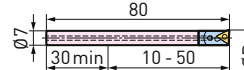
E6-ST5-WC02-65HM 615.083
ØD 5.8 - 7.3



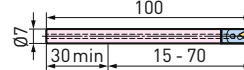
E6-ST5-WC02-85HM 615.201 ♦
ØD 5.8 - 7.3



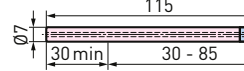
E8-ST7-TP07-60HM 615.086
ØD 7.8 - 9.8



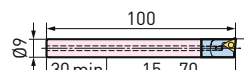
E8-ST7-TP07-80HM 615.207 ♦
ØD 7.8 - 9.8



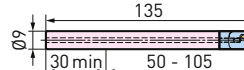
E8-ST7-TP07-100HM 615.087 ♦
ØD 7.8 - 9.8



E8-ST7-TP07-115HM 615.205
ØD 7.8 - 9.8



E10-ST9-TP07-100HM 615.208 ♦
ØD 9.8 - 11.8



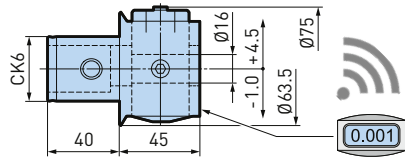
E10-ST9-TP07-135HM 615.206 ♦
ØD 9.8 - 11.8



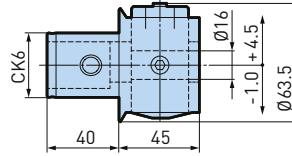
Boring Head

Order No.

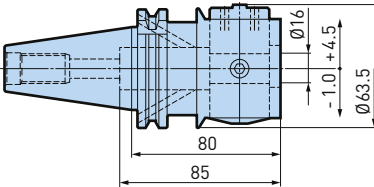
EWE2-152CK6 112.110



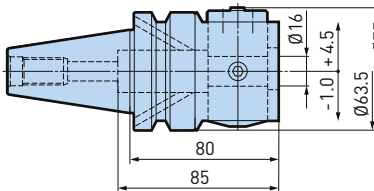
EWN2-152CK6 112.108



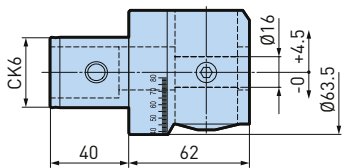
EWN2-152DV40 112.121



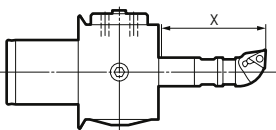
EWN2-152BT40 112.122



EWB2-50CK6 112.107



X = Boring depth



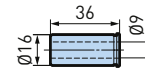
ØD

Boring range for the fine boring head EWN 2-152.
Under full use of the adjustment range, the max. boring range will be,

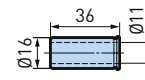
- for EWN, EWE, EWB: Lower range + 9 mm Ø

 Carbide tool holders

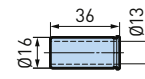
RB16-9
613.409



RB16-11
613.411



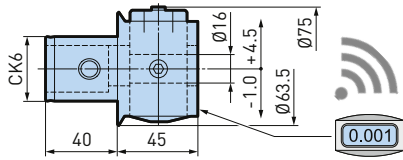
RB16-13
613.413



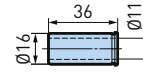
Boring Head

Order No.

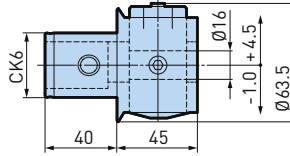
EWE2-152CK6 112.110



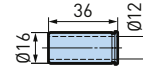
RB16-11
613.411 ♦



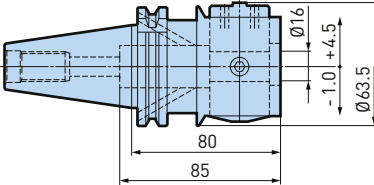
EWN2-152CK6 112.108



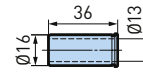
RB16-12
613.412 ♦



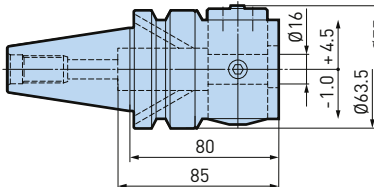
EWN2-152DV40 112.121



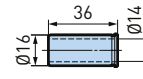
RB16-13
613.413 ♦



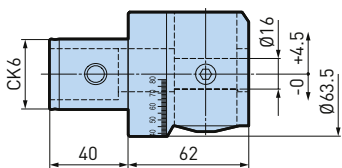
EWN2-152BT40 112.122



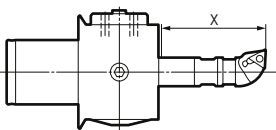
RB16-14
613.414 ♦



EWB2-50CK6 112.107




X = Boring depth



ØD

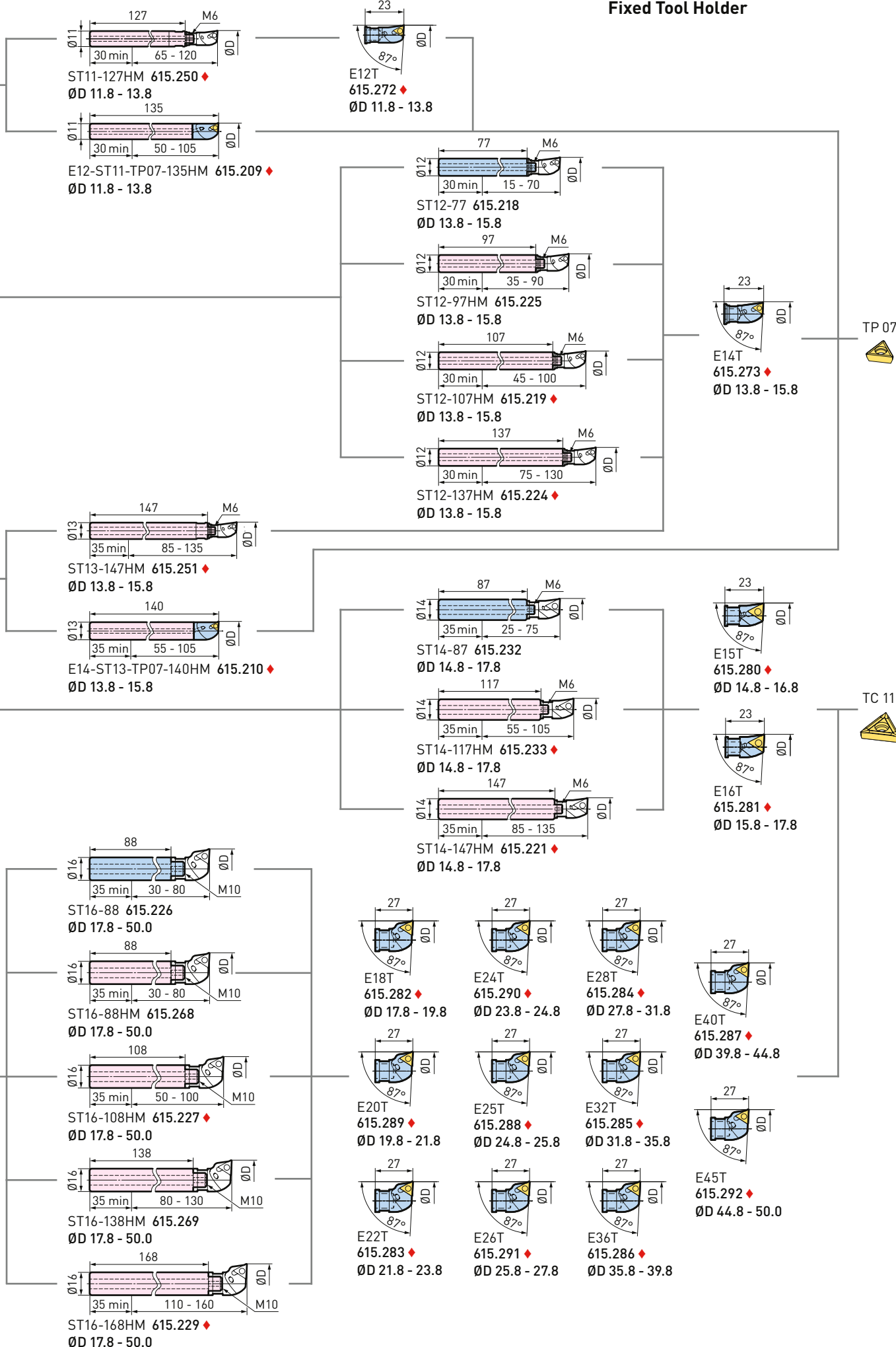
Boring range for the fine boring head EWN 2-152.
Under full use of the adjustment range, the max. boring range will be,

- for EWN, EWE, EWB: Lower range + 9 mm Ø

 Carbide tool holders

♦ Recommended for EWB 2-50

Fixed Tool Holder



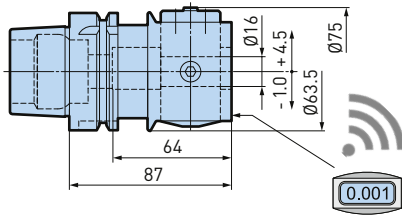
B.2

Boring Head

Order No.

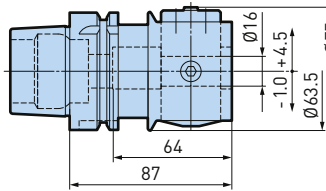
EWE2-152HSK-A63

112.126A



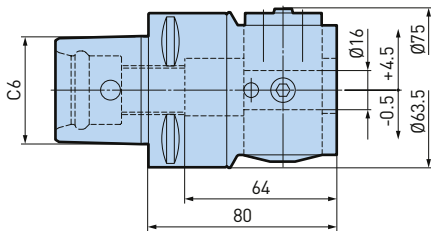
EWN2-152HSK-A63

112.123

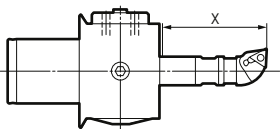


EWN2-152C6

470.108




X = Boring depth

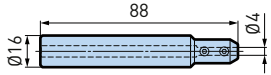
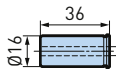
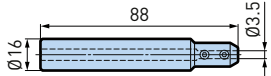
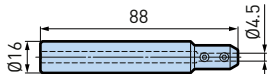
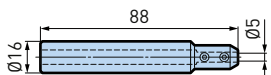
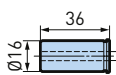
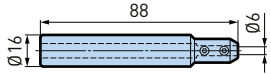
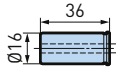
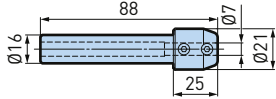
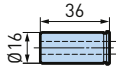
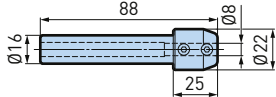
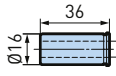
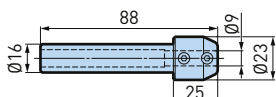
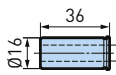
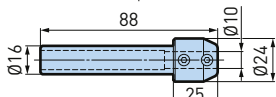
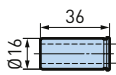


ØD

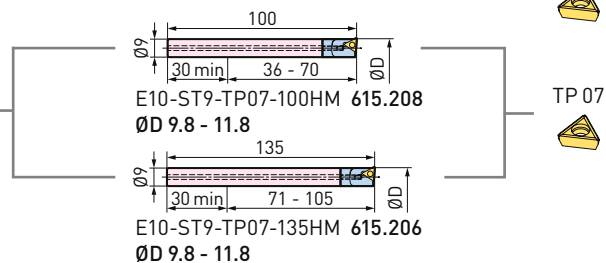
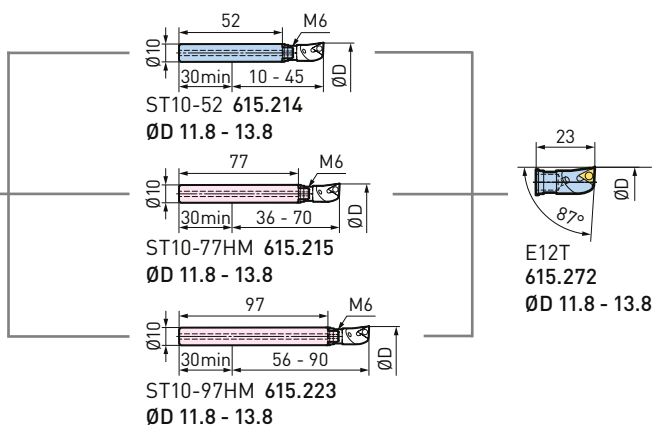
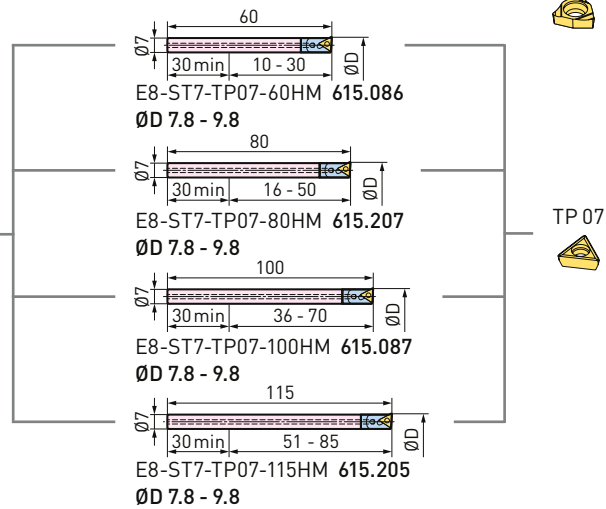
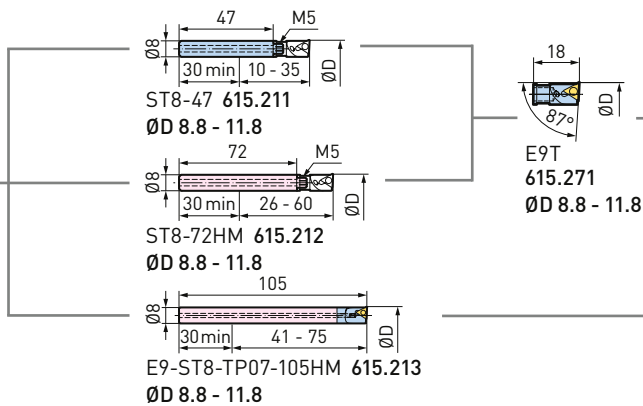
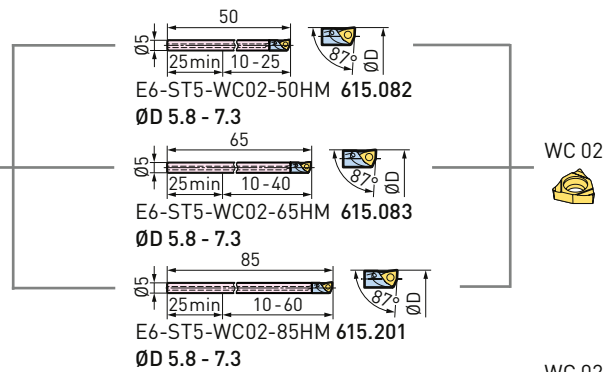
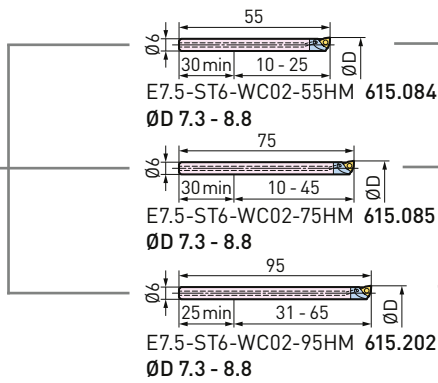
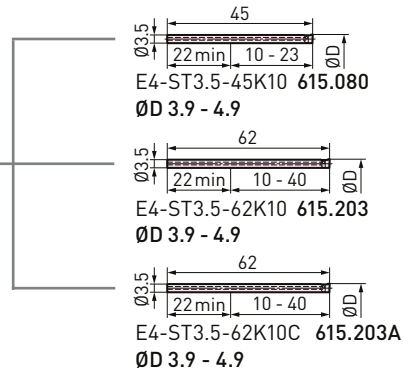
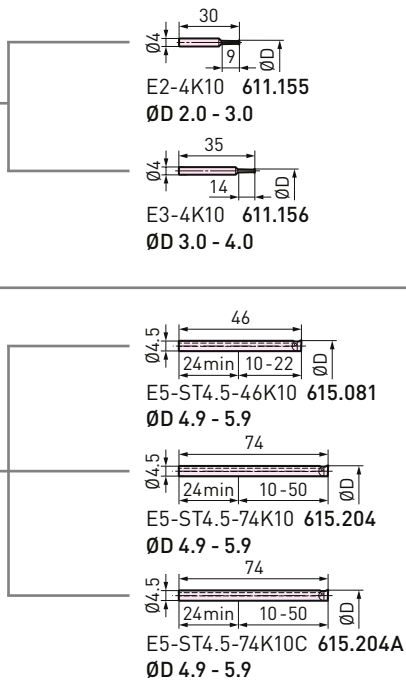
Boring range for the fine boring head EWN 2-152.
Under full use of the adjustment range, the max. boring range will be,

- for EWN, EWE, EWB: Lower range + 9 mm Ø

 Carbide tool holders

RB16-4-88 613.434	
RB16-4 613.404	
RB16-3.5-88 613.432	
RB16-4.5-88 613.433	
RB16-5-88 613.435	
RB16-5 613.405	
RB16-6-88 613.436	
RB16-6 613.406	
RB16-7-88 613.437	
RB16-7 613.407	
RB16-8-88 613.438	
RB16-8 613.408	
RB16-9-88 613.439	
RB16-9 613.409	
RB16-10-88 613.440	
RB16-10 613.410	

Fixed Tool Holder

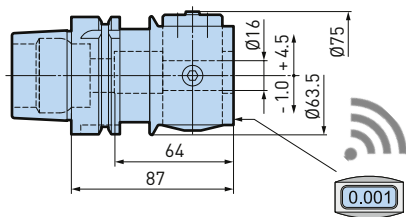


Boring Head

Order No.

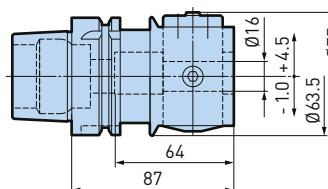
EWE2-152HSK-A63

112.126A



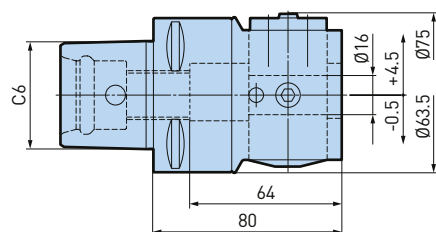
EWN2-152HSK-A63

112.123

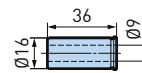


EWN2-152C6

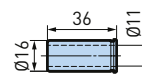
470.108



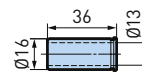
RB16-9
613.409



RB16-11
613.411

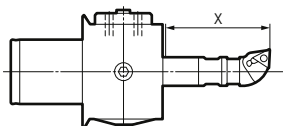


RB16-13
613.413



B.2

X = Boring depth



ØD

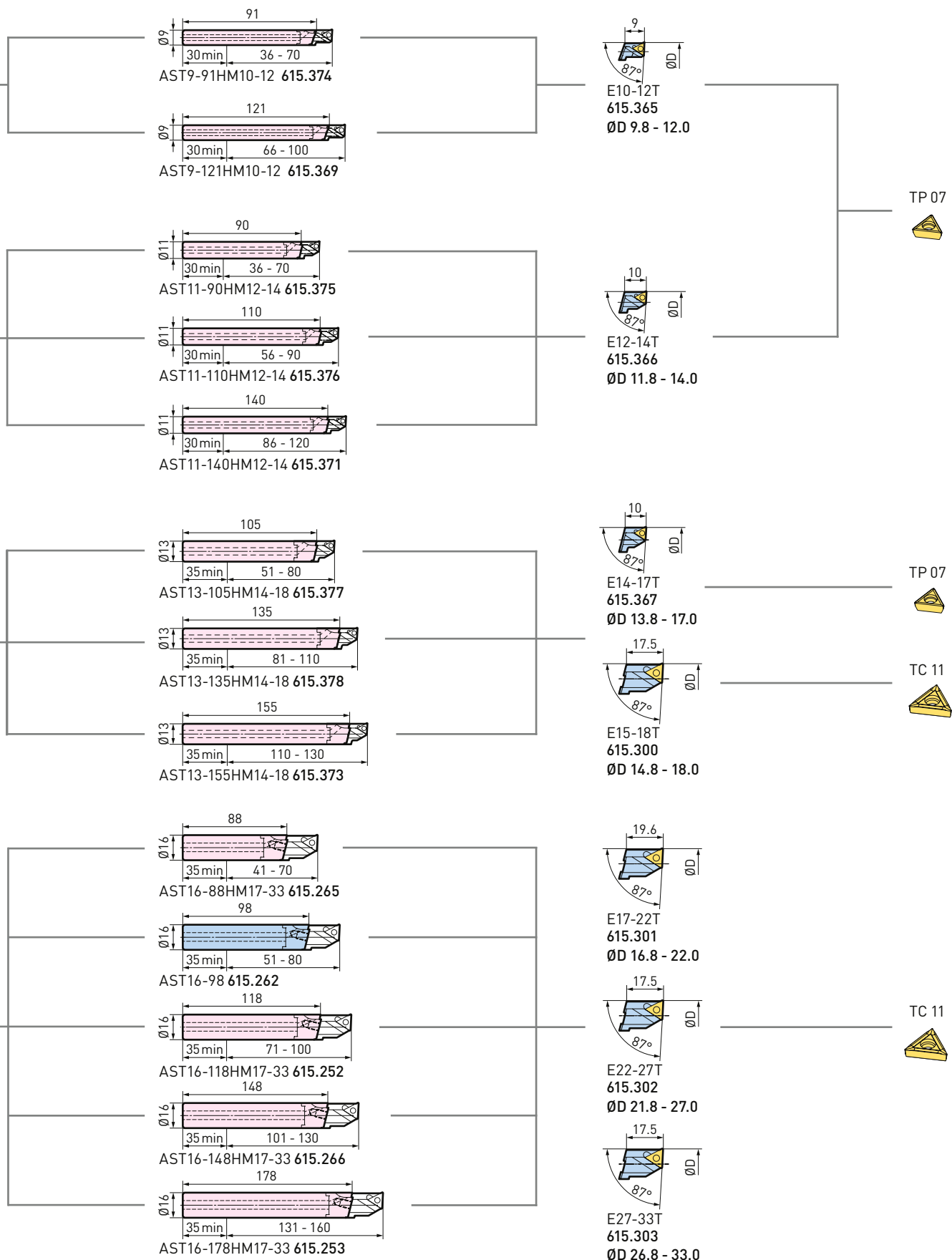
Boring range for the fine boring head EWN 2-152.
Under full use of the adjustment range, the max. boring range will be,

- for EWN, EWE, EWB: Lower range + 9 mm Ø

 Carbide tool holders

Adjustable Tool Holder

The adjustable tool holder allows the coarse diameter setting on the insert holder. This leads to the possibility to machine bores from $\varnothing 9.8 - 54$ mm with the tool holder in the centre position and as a result, with the best possible balancing of the tool combination.

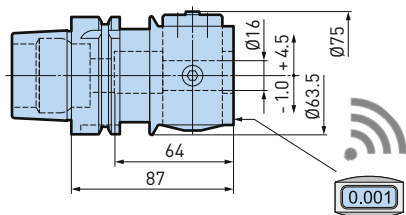


Boring Head

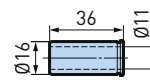
Order No.

EWE2-152HSK-A63

112.126A

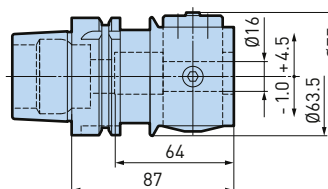


RB16-11
613.411

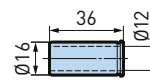


EWN2-152HSK-A63

112.123

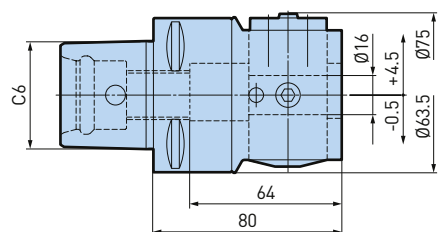


RB16-12
613.412

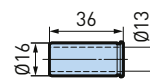


EWN2-152C6

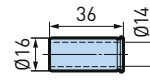
470.108



RB16-13
613.413

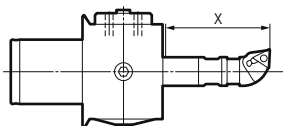


RB16-14
613.414



B.2

X = Boring depth



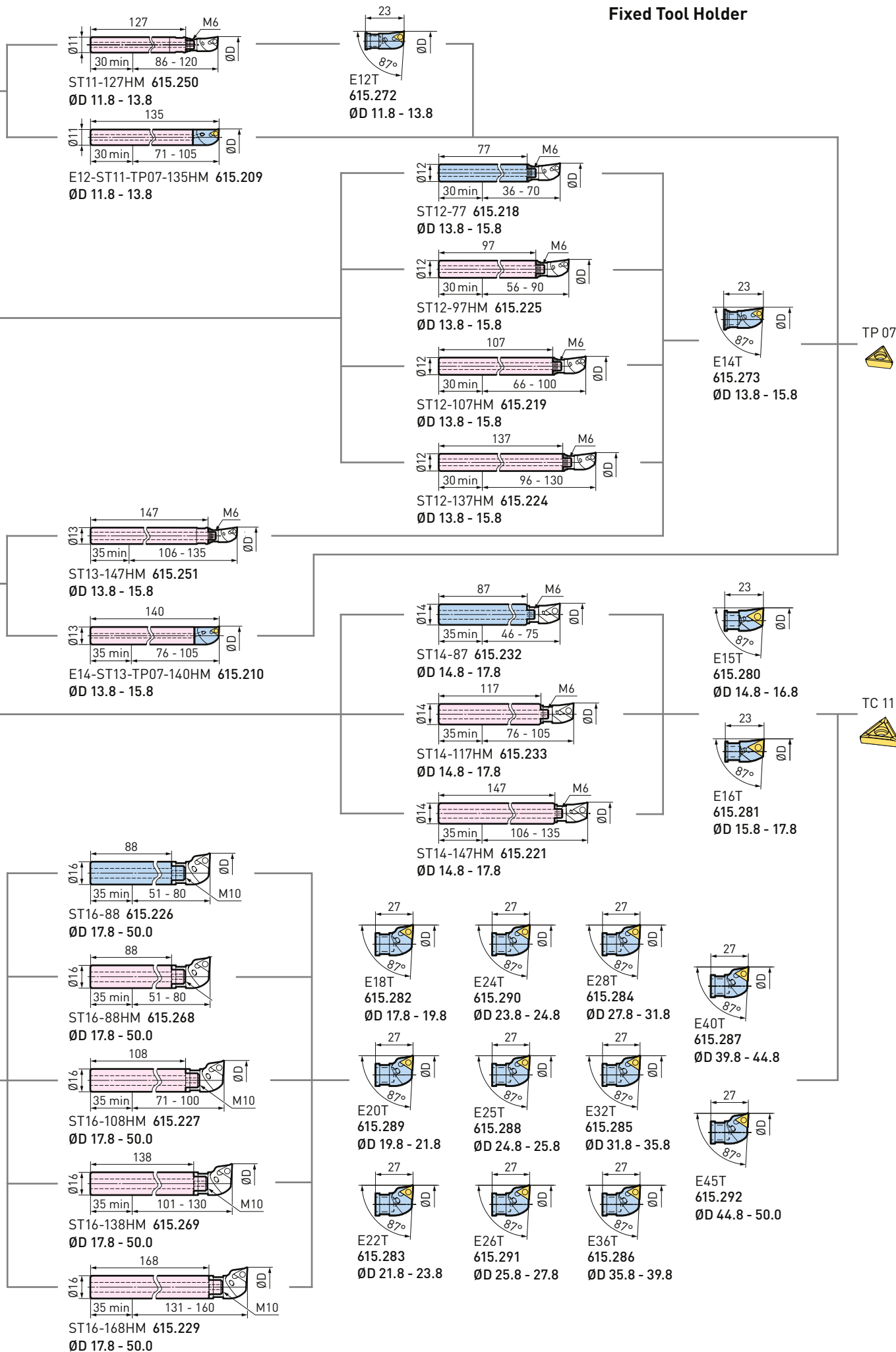
ØD

Boring range for the fine boring head EWN 2-152.
Under full use of the adjustment range, the max. boring range will be,

- for EWN, EWE, EWB: Lower range + 9 mm Ø

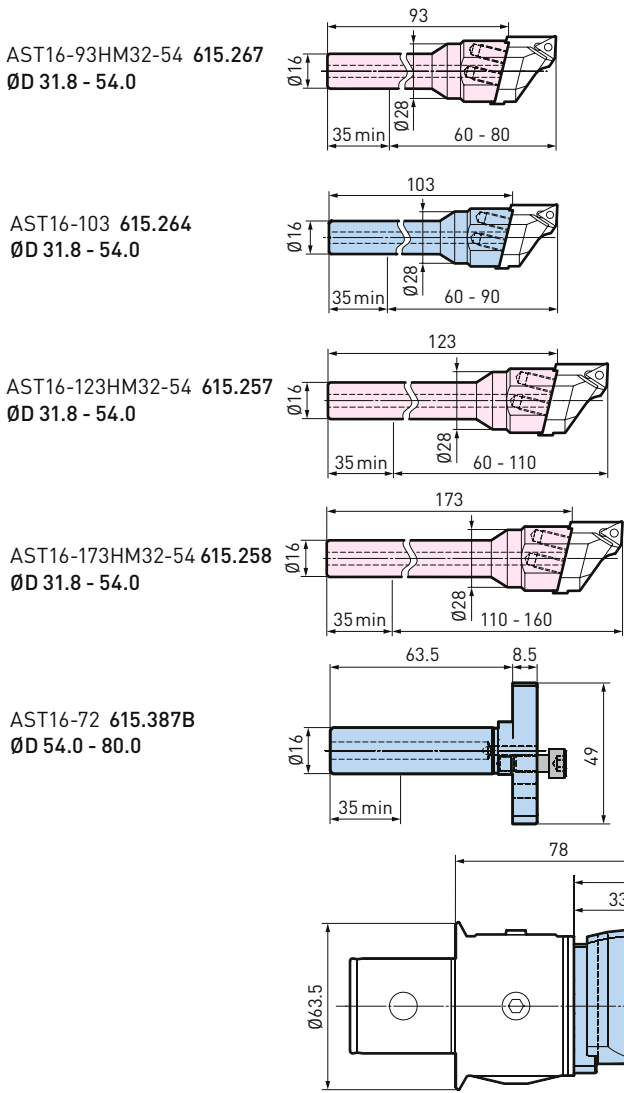
 Carbide tool holders

Fixed Tool Holder

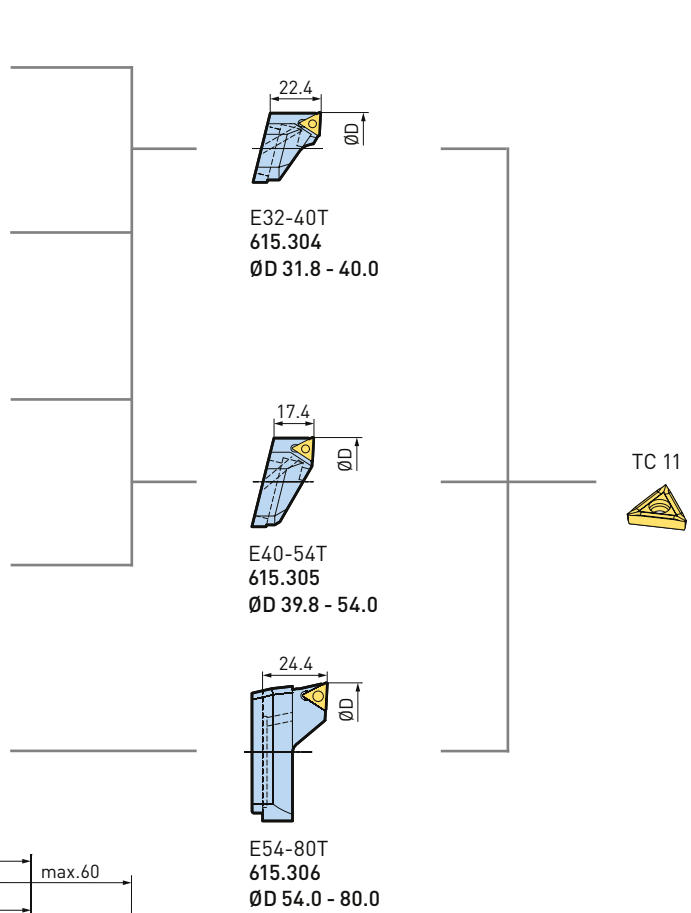


B.2

Adjustable Tool Holders

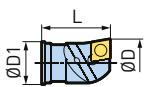


Adjustable insert holder



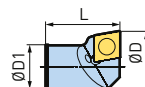
B.2

Screw On Insert Holder CC06



Model	Order No.	ØD	ØD1	L	Insert
E12C	615.420	11.8 - 14.5	10	23	CC 06
E14C	615.421	13.8 - 16.5	12	23	CC 06
E16C	615.422	15.8 - 18.5	14	23	CC 06

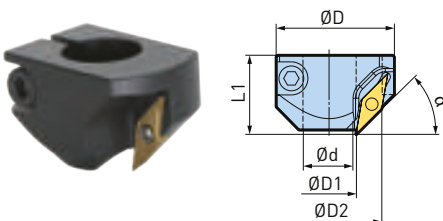
Screw On Insert Holder CC09



Model	Order No.	ØD	ØD1	L	Insert
E18C	615.423	17.8 - 20.5	16	27	CC 09
E20C	615.424	19.8 - 22.5	16	27	CC 09
E22C	615.425	21.8 - 24.5	16	27	CC 09
E24C	615.426	23.8 - 25.5	16	27	CC 09
E26C	615.427	25.8 - 28.5	16	27	CC 09
E28C	615.428	27.8 - 32.5	16	27	CC 09
E30C	615.429	29.8 - 34.5	16	27	CC 09

Chamfering Rings

Chamfering rings for tool holders made of steel and carbide Ø 12 and Ø 16 mm, for 45° chamfering right after boring, without tool change.

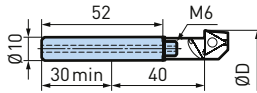


Model	Order No.	Ød	ØD	ØD1	ØD2	L1	α	Insert
CR13-27ST12V	615.394	12	35	12.6	27.7	24	45°	VC 11
CR17-31ST16V	615.395	16	39.5	16.6	31.7	24	45°	VC 11

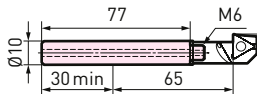
Back Boring Holders

Insert holder for back boring

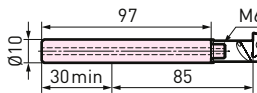
ST10-52 615.214
ØD 15.8 - 20.5



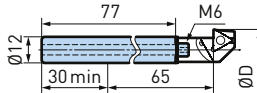
ST10-77HM 615.215
ØD 15.8 - 20.5



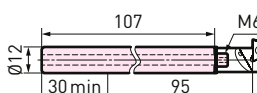
ST10-97HM 615.223
ØD 15.8 - 20.5



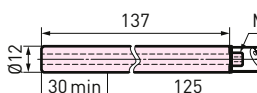
ST12-77 615.218
ØD 19.8 - 25.8



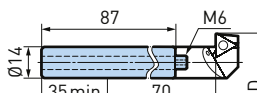
ST12-107HM 615.219
ØD 19.8 - 25.8



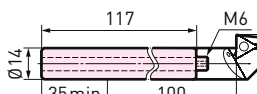
ST12-137HM 615.224
ØD 19.8 - 25.8



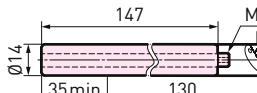
ST14-87 615.232
ØD 25.8 - 28.8



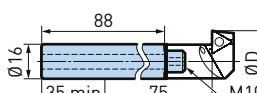
ST14-117HM 615.233
ØD 25.8 - 28.8



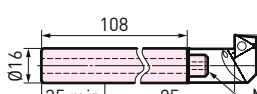
ST14-147HM 615.221
ØD 25.8 - 28.8



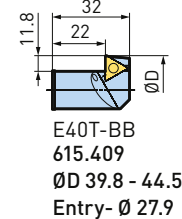
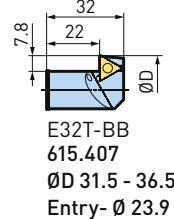
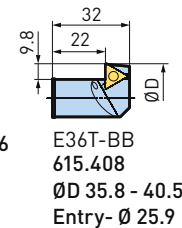
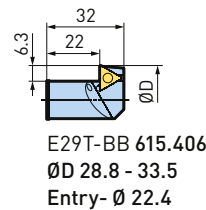
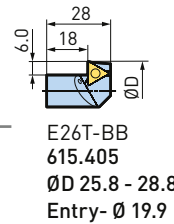
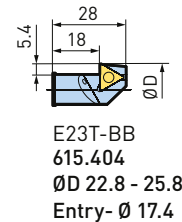
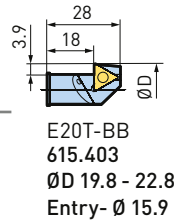
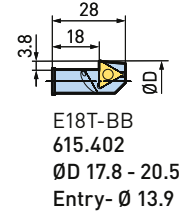
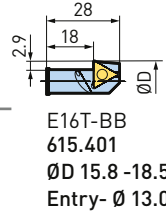
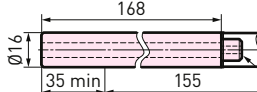
ST16-88 615.226
ØD 28.8 - 44.5



ST16-108HM 615.227
ØD 28.8 - 44.5



ST16-168HM 615.229
ØD 28.8 - 44.5

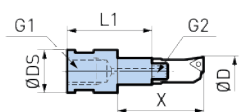


TC 11



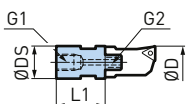
B.2

Reduction for Boring Bars



Model	Order No.	ØD	ØDs	L1	X	G1	G2
ST16-10-32	615.230	11.8 - 14.5	16	32	36	M10	M6
ST16-12-32	615.231	13.8 - 18.5	16	32	36	M10	M6

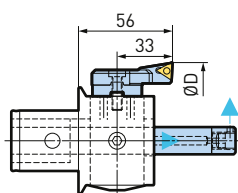
Extensions for Boring Bars



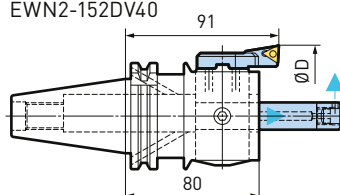
Model	Order No.	ØD	ØDs	L1	G1	G2
ST12-18	615.220	13.8 - 16.5	12	18	M6	M6
ST16-25	615.228	17.8 - 50	16	25	M10	M10

Periferical Insert Holders for EWN/EWE, Ø 80 - 152

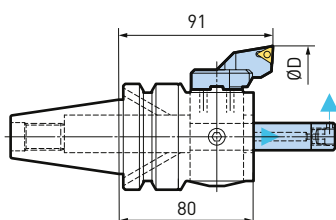
EWN2-152CK6



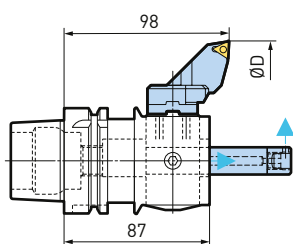
EWN2-152DV40



EWN2-152BT40



EWN2-152HSK-A63



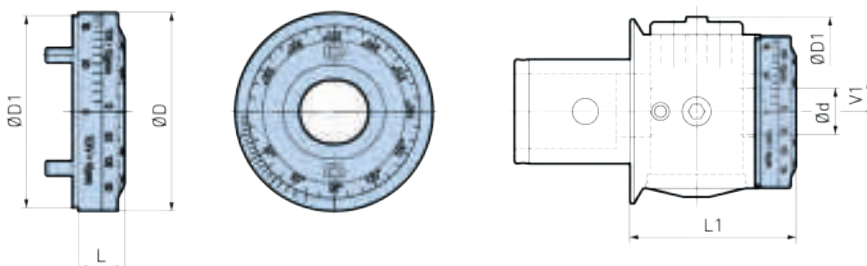
B.2

	Parts	Model	Order No.	Insert	Front Bore ØD	Back Bore ØD
	Insert Holder	EK80-104T	626.908	TC 11	80 - 92	-
	Spacer	DD30-6	626.907		92 - 104	92 - 104
	Insert Holder	EK80-104T	626.908		104 - 116	104 - 116
	Spacer	DD30-6	626.907		116 - 128	116 - 128
	Insert Holder	EK104-128T	626.909		128 - 140	128 - 140
	Spacer	DD30-6	626.907		140 - 152	140 - 152
	Insert Holder	EK128-152T	626.910			
	Tool Holder	ST16-88	615.226			
	Coolant Nozzle	CN2-50	615.392			

1. Tool holder must be used when using periferical insert holder.
2. Coolant Nozzle is always recommended to use with Tool Holder.

Balancing Rings

The balancing rings are mounted on the boring heads. The imbalance has to be measured on a balancing machine. The correction of the imbalance is done by moving the scale rings.

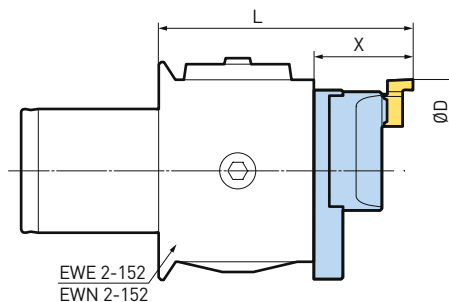


Model	Order No.	Ød	ØD	ØD1	L	L1	V1
BR2-152	112.806	16	53	51	13	58	1

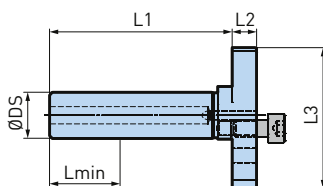
1. The Front plate of EWE and EWN must be removed.

Insert Holder Face Grooving, Ø 14 - 54

Tool holder, insert holder, and grooving insert are made for face grooving with the fine boring head EWN/EWE 2-152.



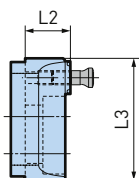
Adjustable Tool Holder Face Grooving, Ø 14 - 54



Model	Order No.	ØD	ØDs	L	L1	L2	L3	L min	X
AST16-72	615.387B	14 - 53	16	77 - 104	63.5	8.5	49	35	32

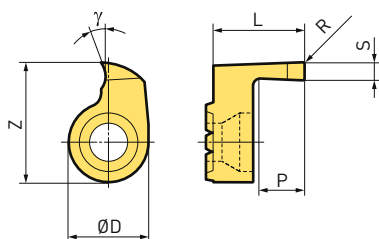
B.2

Insert Holder Face Grooving, Ø 14 - 54



Model	Order No.	L2	L3
FGH14-54	615.388	13	34.5

Inserts for face grooves, Ø 14 - 54

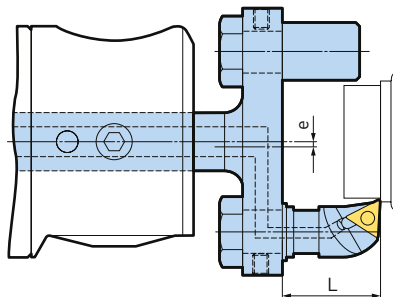


Model	Order No.	ØD	L	P	S	Z	R	Rake Angle γ
RD1420P30C	958.501	9	10.3	5	2	13.5	0.2	20°
RD1425P30C	958.502	9	10.3	5	2.5	13.5	0.2	20°
RD1430P30C	958.503	9	10.3	5	3	13.5	0.2	20°

1. Insert consisting of one piece.

OD Turning Holders for EWN/EWE, Ø 1 - 32

By using an eccentric bar on the fine boring heads EWN/EWE 2-152, it is possible to turn outside diameters up to 32 mm with lengths up to 50 mm. The counterweight is moveable on the eccentric bar. By moving the counterweight, the imbalance can be compensated to a minimum.



Max. Spindle Speeds		
e [mm]	L = 27 [min ⁻¹]	L = 52 [min ⁻¹]
0	7 000	5 500
0.5	5 000	4 500
2.5	4 000	3 500
4.5	3 000	2 500

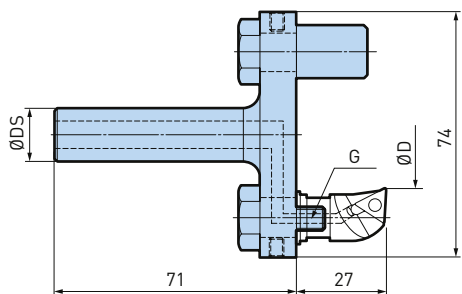
Attention: Counter-clockwise rotation of spindle!

Remark:

Adjustment of the scale in clockwise direction and eccentric bar with cutting edge positioned as shown on the drawing, results in a smaller pin diameter.

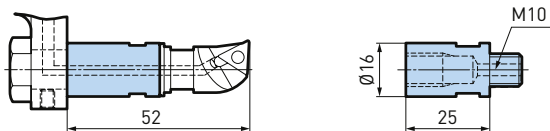
B.2

OD Turning Holders, Ø 1 - 32



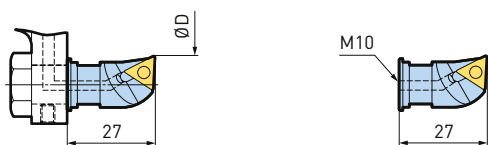
Model	Order No.	ØD	ØDs	G
ST16-OD-32	615.390	1 - 32	16	M10

Extension



Model	Order No.
ST16-25	615.228

Insert Holders



Model	Order No.	ØD	Insert
E18T	615.282	28 - 32	TC 11
E22T	615.283	24 - 28	
E26T	615.291	20 - 24	
E32T	615.285	15 - 20	
E36T	615.286	11 - 15	
E40T	615.287	6 - 11	
E45T	615.292	1 - 6	

Tool Kit EWN/EWE 2-152, Ø 17.8 - 152

The tool kit EWN 2-152 and EWE 2-152, Ø 17.8 - 152 mm, is available in different versions.
The versions differ in the length and the material of the boring bars and in the number of the inserts.

Model	Order No.
EWN2-152-18-152SET-A	112.837A

Model	Order No.	Qty.
EWN2-152CK6	112.108	1
ST16-88	615.226	1
AST16-72	615.387B	1
E18T	615.282	1
E25T	615.288	1
E32T	615.285	1
E40T	615.287	1
E45T	615.292	1
E54-80T	615.306	1

Model	Order No.	Qty.
DD30-6	626.907	1
EK80-104T	626.908	1
EK104-128T	626.909	1
EK128-152T	626.910	1
TCGT-110204FL-FM10C	655.389	2
ETL-M6x20A-DIN6912	690.156	2
ETL-GRS-TORX-PLUS-T7-IP	694.807	1
CN2-50	615.392	1

Model	Order No.
EWN2-152-18-152SET-B	112.837B

Model	Order No.	Qty.
EWN2-152CK6	112.108	1
ST16-108HM	615.227	1
AST16-72	615.387B	1
E18T	615.282	1
E25T	615.288	1
E32T	615.285	1
E40T	615.287	1
E45T	615.292	1
E54-80T	615.306	1

Model	Order No.	Qty.
DD30-6	626.907	1
EK80-104T	626.908	1
EK104-128T	626.909	1
EK128-152T	626.910	1
TCGT-110204FL-FM10C	655.389	10
ETL-M6x20A-DIN6912	690.156	2
ETL-GRS-TORX-PLUS-T7-IP	694.807	1
CN2-50	615.392	1

Model	Order No.
EWN2-152-18-152SET-C	112.837C

Model	Order No.	Qty.
EWN2-152CK6	112.108	1
ST16-108HM	615.227	1
AST16-72	615.387B	1
E18T	615.282	1
E25T	615.288	1
E32T	615.285	1
E40T	615.287	1
E45T	615.292	1
E54-80T	615.306	1

Model	Order No.	Qty.
DD30-6	626.907	1
EK80-104T	626.908	1
EK104-128T	626.909	1
EK128-152T	626.910	1
TCGT-110204FL-FM10C	655.389	2
ETL-M6x20A-DIN6912	690.156	2
ETL-GRS-TORX-PLUS-T7-IP	694.807	1
CN2-50	615.392	1

Model	Order No.
EWE2-152-18-152SET-E	112.837E



Model	Order No.	Qty.
EWE2-152CK6	112.11	1
ST16-108HM	615.227	1
AST16-72	615.387B	1
E18T	615.282	1
E25T	615.288	1
E32T	615.285	1
E40T	615.287	1
E45T	615.292	1
E54-80T	615.306	1

Model	Order No.	Qty.
DD30-6	626.907	1
EK80-104T	626.908	1
EK104-128T	626.909	1
EK128-152T	626.910	1
TCGT-110204FL-FM20C	655.318	2
ETL-M6x20A-DIN6912	690.156	2
ETL-GRS-TORX-PLUS-T7-IP	694.807	1
CN2-50	615.392	1

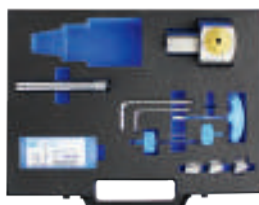
Tool Kit EWN/EWE 2-152, Ø 16.8 - 33

Model	Order No.
EWN2-152-17-33SET-A	112.097A

Model	Order No.	Qty.
EWN2-152CK6	112.108	1
AST16-118HM17-33	615.252	1
E17-22T	615.301	1
E22-27T	615.302	1

Model	Order No.	Qty.
E27-33T	615.303	1
ETL-ST5-SW6	690.806	1
TCGT-110204FL-FK10C	655.383	10

Model	Order No.
EWE2-152-17-33SET-C	112.097C



Model	Order No.	Qty.
EWE2-152CK6	112.110	1
AST16-118HM17-33	615.252	1
E17-22T	615.301	1
E22-27T	615.302	1

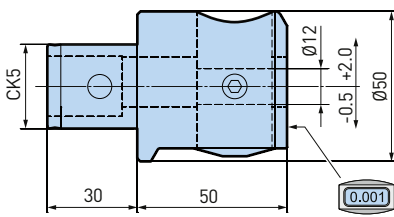
Model	Order No.	Qty.
E27-33T	615.303	1
ETL-ST5-SW6	690.806	1
TCGT-110204FL-FK10C	655.383	10

1. All tool kit EWN2-152/EWE2-152 are delivered in an exclusive case.
2. EWE2-152 are digital version of EWN2-152.

EWE 2-32 Digital Fine Boring Head, Ø 2 - 32

The EWE 2-32 is the smallest digital fine boring head with centre insert holder. It is especially suitable for use on small machines.

CK5 Type

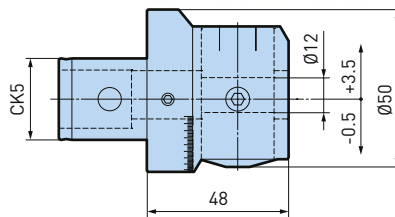


Model	Order No.
EWE2-32CK5	112.310

EWB 2-32 Fine Boring Head, Ø 2 - 32

The EWB2-32CK5 has an integrated balance mechanism. Ideal for high-speed machining.

CK5 Type



Model	Order No.
EWB2-32CK5	112.306

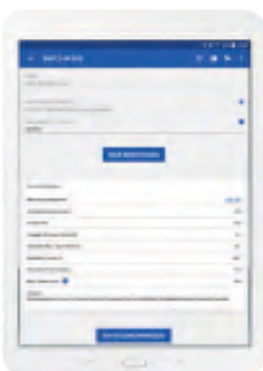


Wireless

B.2

BIG KAISER App

The new app simplifies the assembly and operation of rough and fine boring heads and provides extremely accurate cutting data. The various parameters can be saved in the app for later use, an important building block for workshops that want to get into smart manufacturing. The app currently supports 61 BIG KAISER fine and reaming heads with diameters from 0.4 mm - 620 mm.



Cutting data



Send your data to...



History (made automatically)

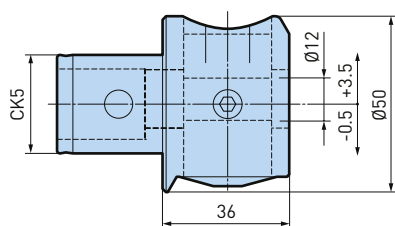
This is how the app is going to support your daily challenges

1. Choose your tool
2. Type in your application values
3. Calculate cutting data
4. Adjust machine and make a measuring bore
5. Infeed tool with the diameter of the measuring bore
6. Make the bore middle tolerance

EWN 2-32 Fine Boring Head, Ø 2 - 32

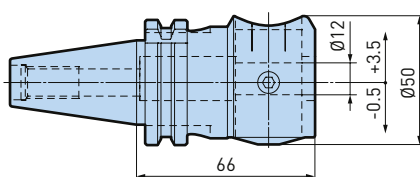
Fine boring head in integral, modular, and screw-on execution for the precise machining of bores.

CK5 Type



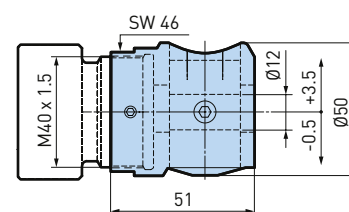
Model	Order No.
EWN2-32CK5	112.301A

DV30 Type



Model	Order No.
EWN2-32DV30	112.303A

ER32 Type

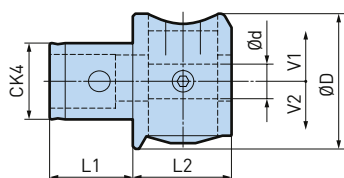


Model	Order No.
EWN2-32ES32	112.304A

B.2

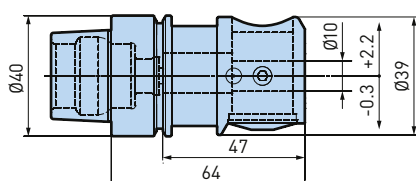
EWN 04-22 Fine Boring Head, Ø 0.4 - 22

CK4 Type



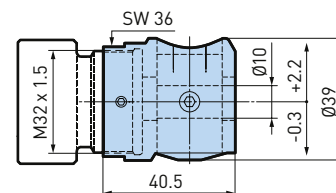
Model	Order No.
EWN04-22CK4	112.206

HSK-E40 Type



Model	Order No.
EWN04-22HSK-E40-64	112.207

ER25 Type



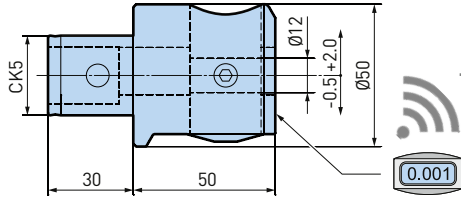
Model	Order No.
EWN04-22ES25	112.205

Boring Head

Order No.

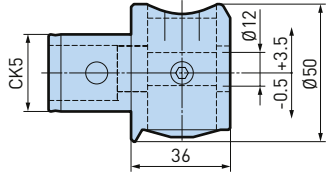
EWE2-32CK5

112.310



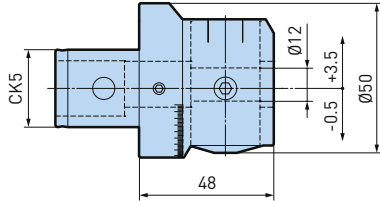
EWN2-32CK5

112.301A



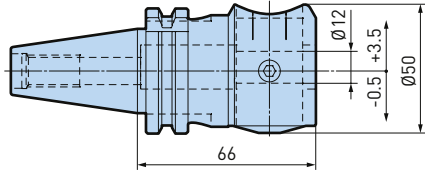
EWB2-32CK5

112.306



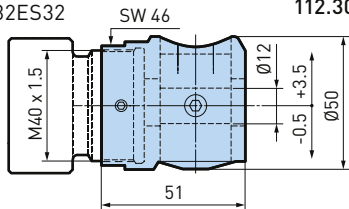
EWN2-32DV30

112.303A



EWN2-32ES32

112.304A



Reduction Sleeve for ER

Model	Order No.	A1
TB-ES32-ES25	112.353	M32 x 1.5
TB-ES32-ES16	112.385	M22 x 1.5

ØD

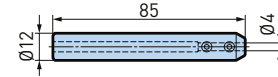
Boring range for the fine boring head EWN 2-32.
Under full use of the adjustment range, the max boring range will be,

- for EWN/EWB 2-32: Lower range + 7 mm Ø
- for EWE 2-32: Lower range + 4 mm Ø

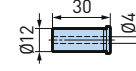
 Carbide tool holders

◆ Recommended for EWB 2-32

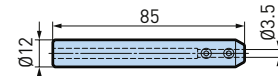
RB12-4-85
613.324



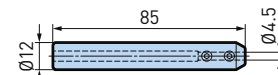
RB12-4
613.304 ◆



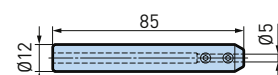
RB12-3.5-85
613.323 ◆



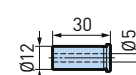
RB12-4.5-85
613.326 ◆



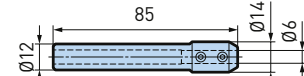
RB12-5-85
613.325 ◆



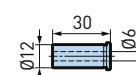
RB12-5
613.305 ◆



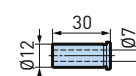
RB12-6-85
613.327 ◆



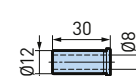
RB12-6
613.306 ◆



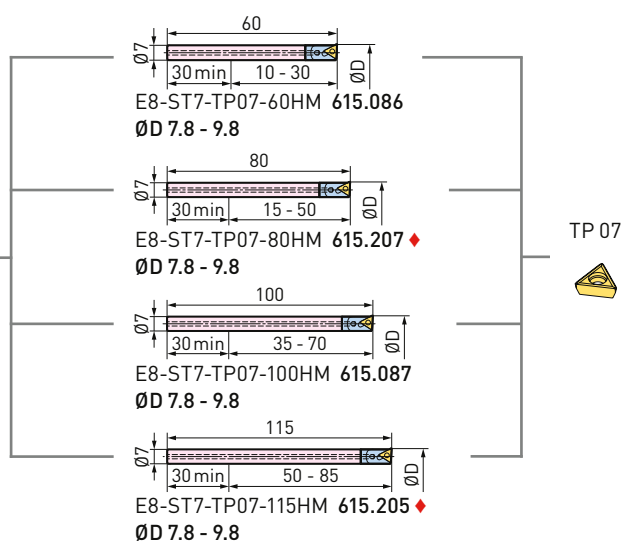
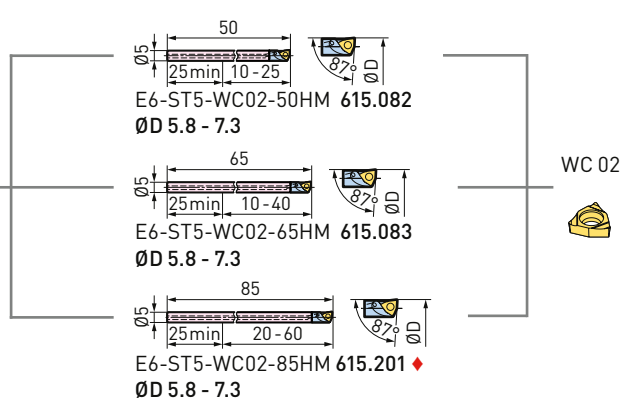
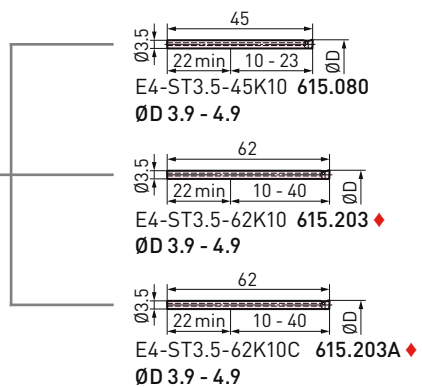
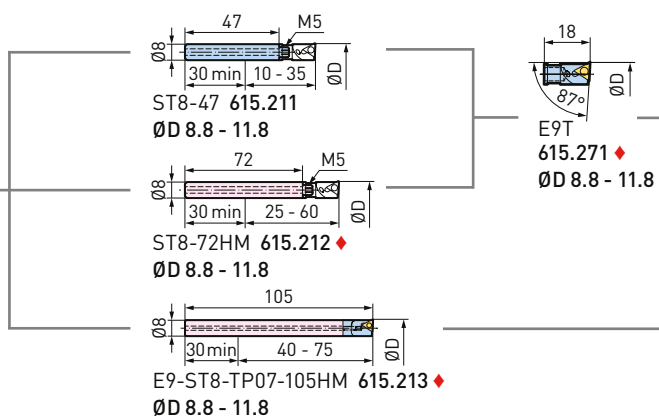
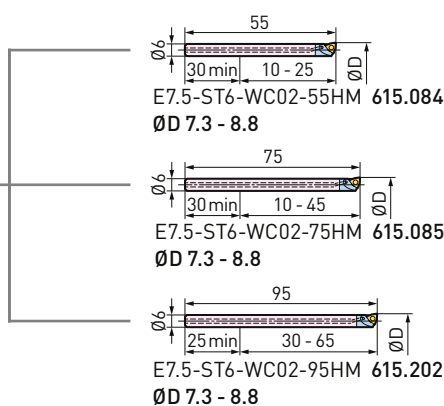
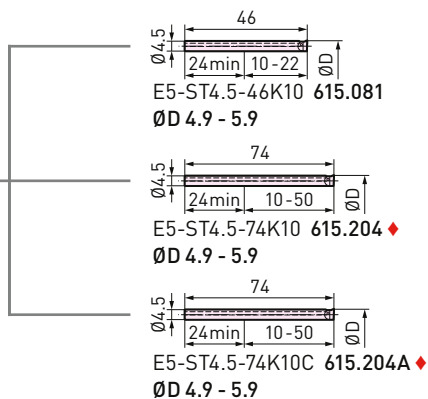
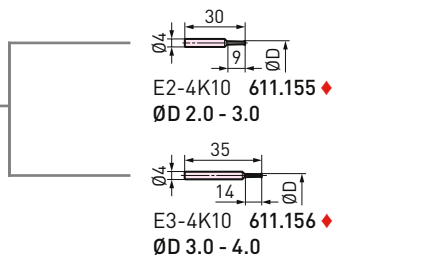
RB12-7
613.307 ◆



RB12-8
613.308 ◆



Fixed Tool Holder



WC 02



WC 02



TP 07



TP 07



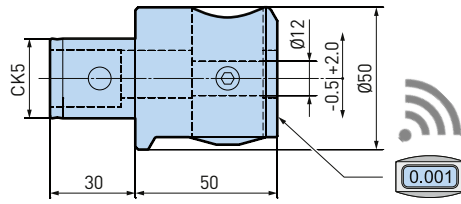
B.2

Boring Head

Order No.

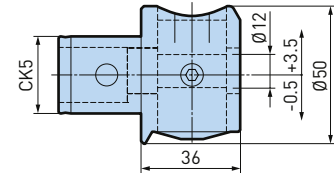
EWE2-32CK5

112.310



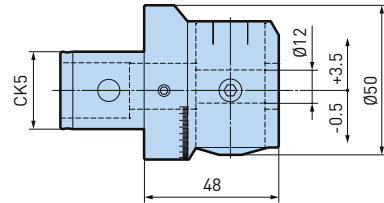
EWN2-32CK5

112.301A



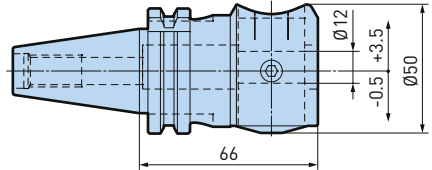
EWB2-32CK5

112.306



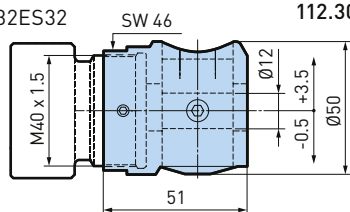
EWN2-32DV30

112.303A

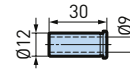


EWN2-32ES32

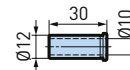
112.304A



RB12-9
613.309



RB12-10
613.310



B.2

Reduction Sleeve for ER

	Model	Order No.	A1
	TB-ES32-ES25	112.353	M32 x 1.5
	TB-ES32-ES16	112.385	M22 x 1.5

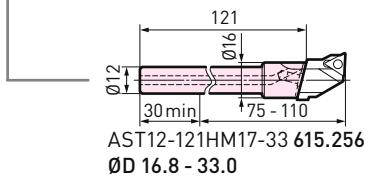
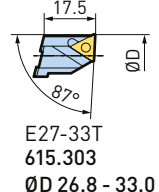
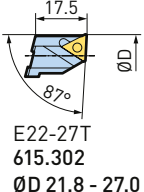
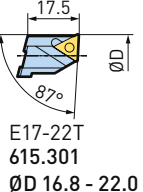
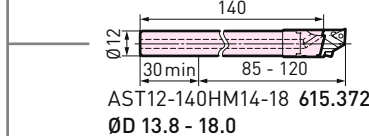
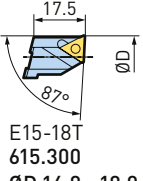
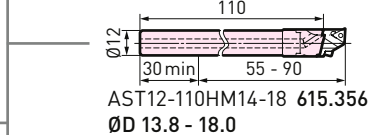
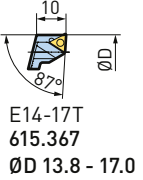
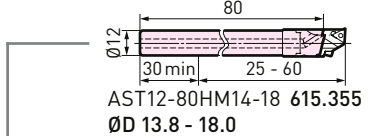
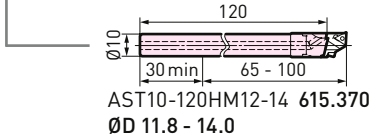
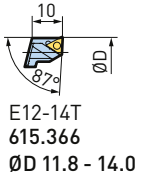
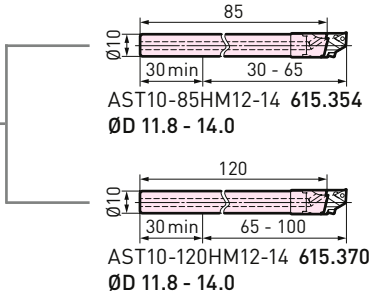
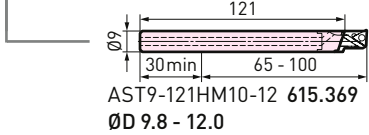
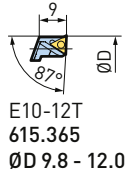
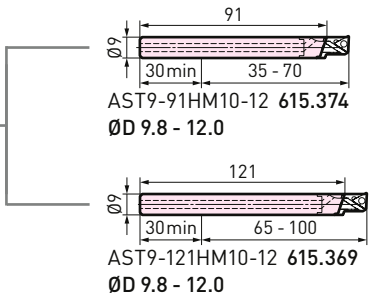
ØD

Boring range for the fine boring head EWN 2-32.
Under full use of the adjustment range, the max boring range will be,

- for EWN/EWB 2-32: Lower range + 7 mm Ø
- for EWE 2-32: Lower range + 4 mm Ø

Carbide tool holders

Adjustable Tool Holder



TP 07



TC 11



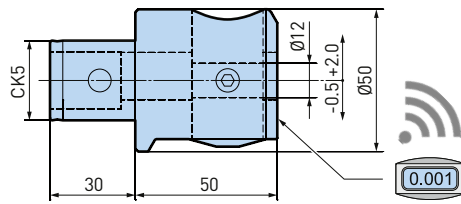
B.2

Boring Head

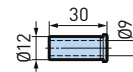
Order No.

EWE2-32CK5

112.310

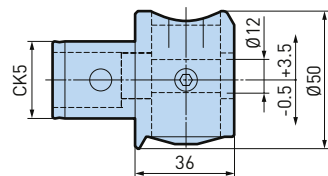


RB12-9
613.309

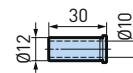


EWN2-32CK5

112.301A

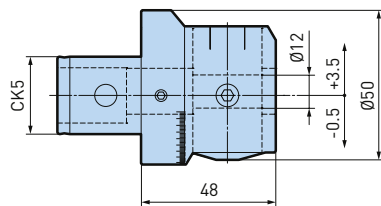


RB12-10
613.310



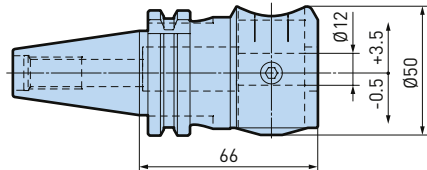
EWB2-32CK5

112.306



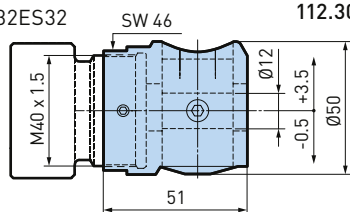
EWN2-32DV30

112.303A



EWN2-32ES32

112.304A



B.2


Reduction Sleeve for ER

Model	Order No.	A1
TB-ES32-ES25	112.353	M32 x 1.5
TB-ES32-ES16	112.385	M22 x 1.5

ØD

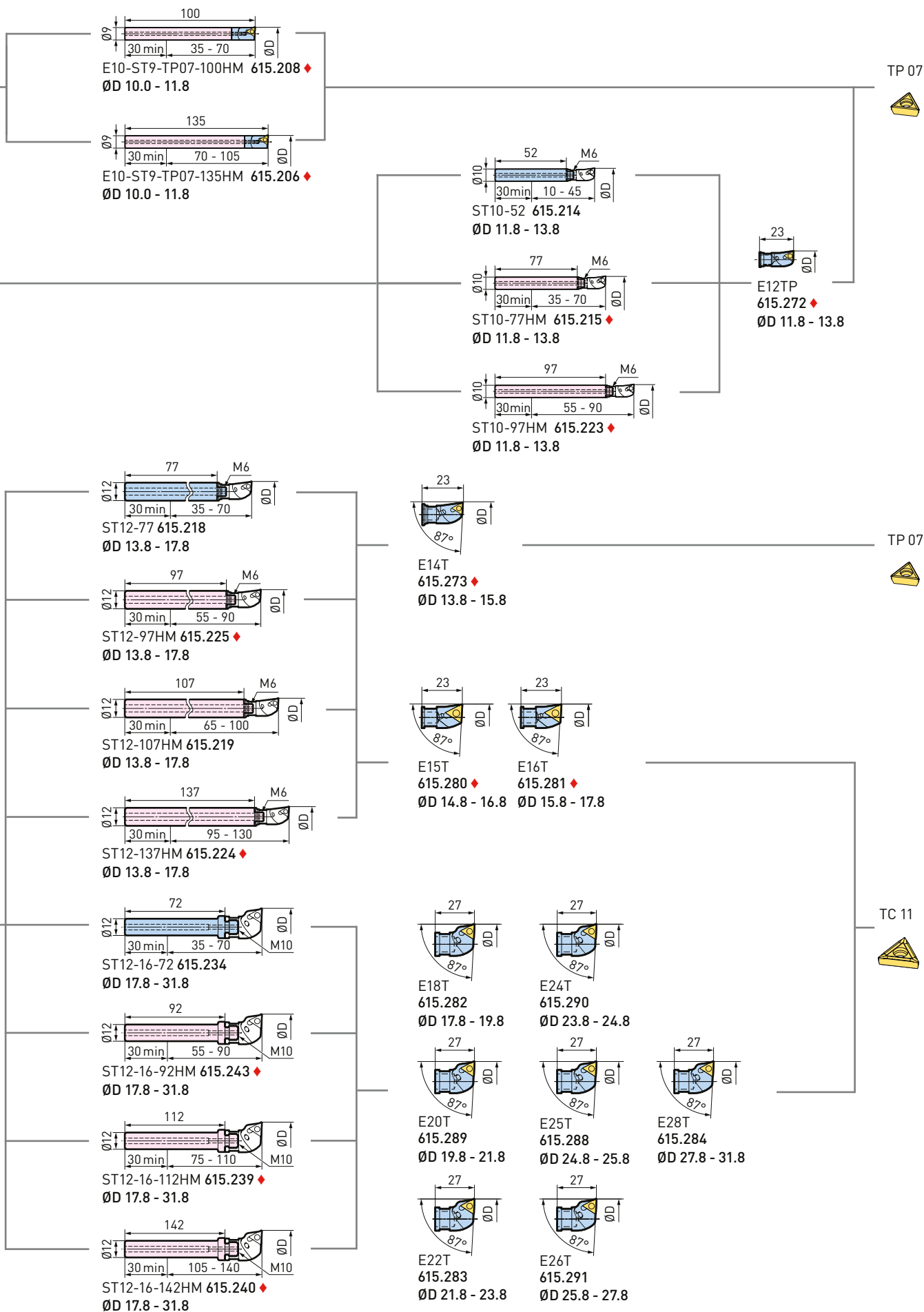
Boring range for the fine boring head EWN 2-32.
Under full use of the adjustment range, the max boring range will be,

- for EWN/EWB 2-32: Lower range + 7 mm Ø
- for EWE 2-32: Lower range + 4 mm Ø

 Carbide tool holders

 Recommended for EWB 2-32

Fixed Tool Holder



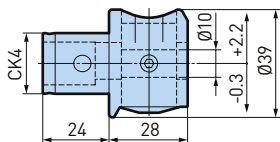
B.2

Boring Head

Order No.

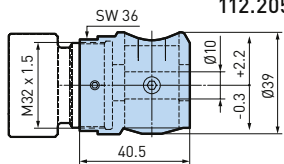
EWN04-22CK4

112.206



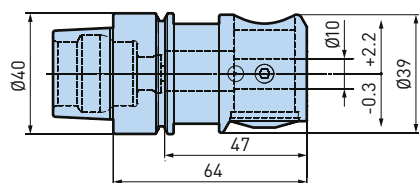
EWN04-22ES25

112.205

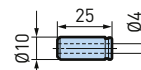


EWN04-22HSK-E40

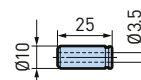
112.207



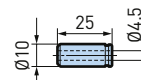
RB10-4
613.204



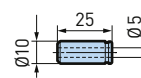
RB10-3.5
613.202



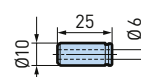
RB10-4.5
613.203



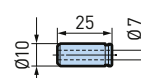
RB10-5
613.205



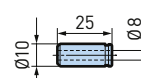
RB10-6
613.206



RB10-7
613.207



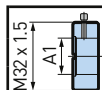
RB10-8
613.208



B.2

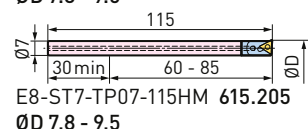
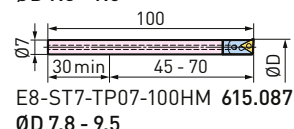
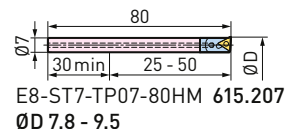
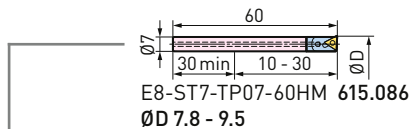
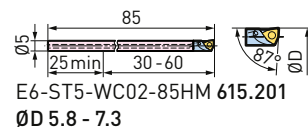
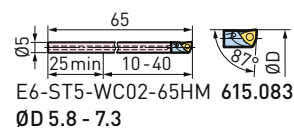
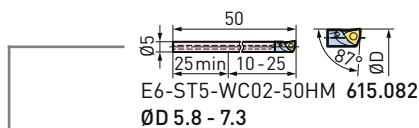
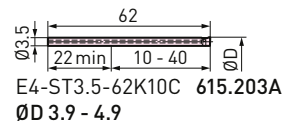
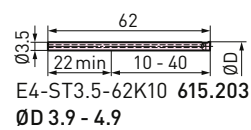
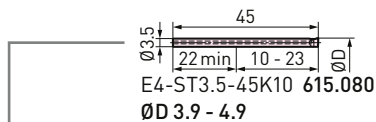
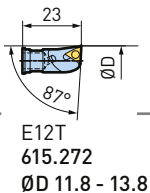
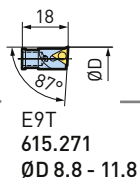
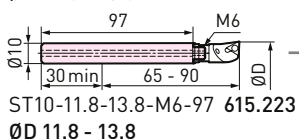
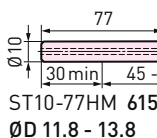
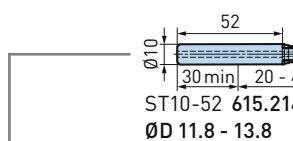
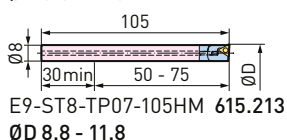
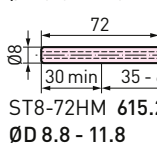
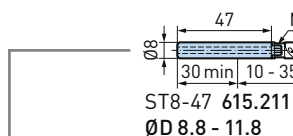
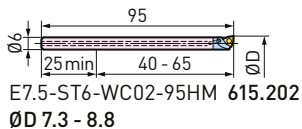
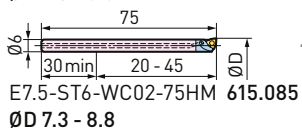
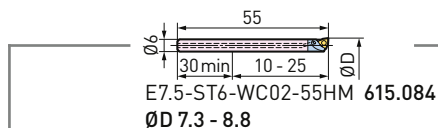
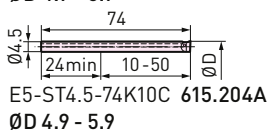
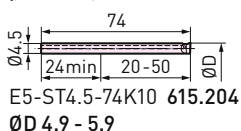
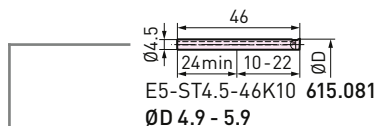
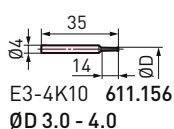
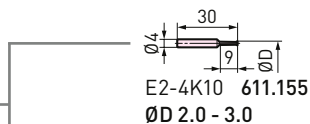
Reduction Sleeve for ER

Model	Order No.	A1
TB-ES25-ES20	112.271	M25 x 1.5
TB-ES25-ES16	112.272	M22 x 1.5



 Carbide tool holders

Fixed Tool Holder



B.2

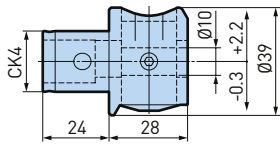


Boring Head

Order No.

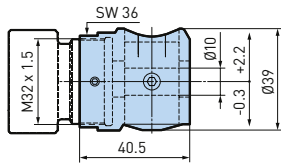
EWN04-22CK4

112.206



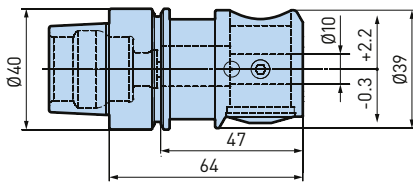
EWN04-22ES25

112.205



EWN04-22HSK-E40

112.207

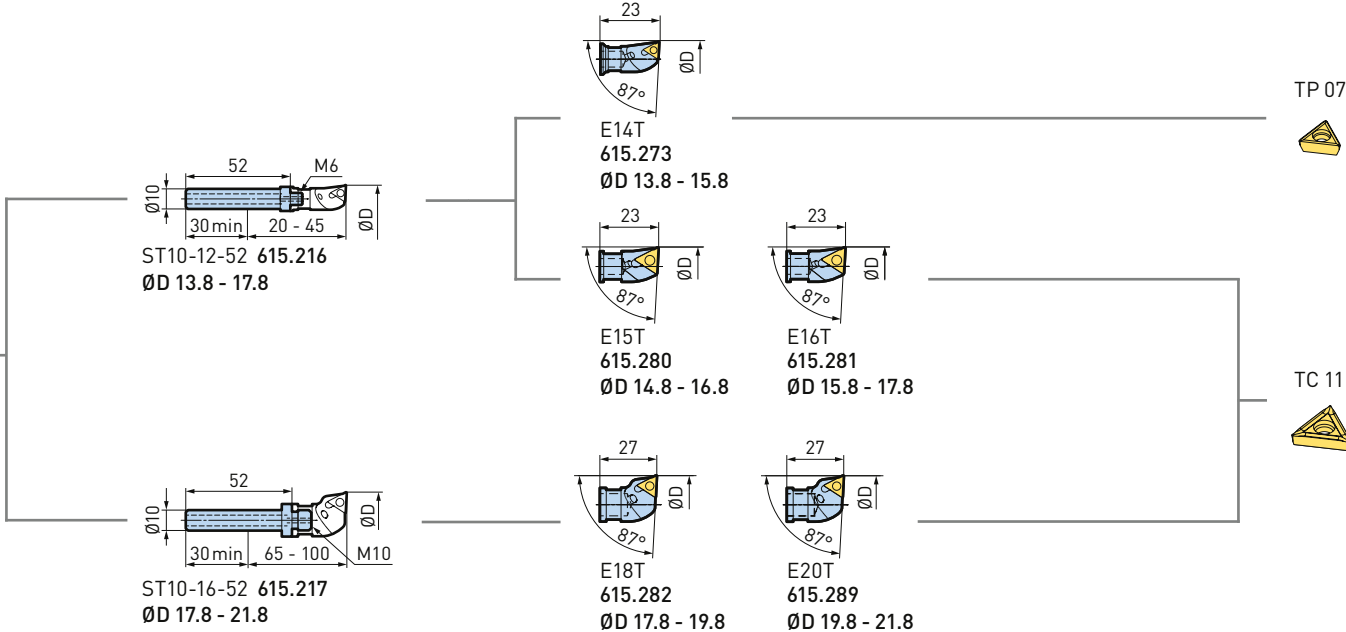


B.2

Reduction Sleeve for ER

	Model	Order No.	A1
	TB-ES25-ES20	112.271	M25 x 1.5
	TB-ES25-ES16	112.272	M22 x 1.5

Fixed Tool Holder



EWN 04-15 Fine Boring Head, Ø 0.4 - 15

Fine boring heads for the machining of smallest bores with highest spindle speeds on small machine tools. The boring heads are available with both modular CK3 connection and cylindrical shanks Ø 16 mm.

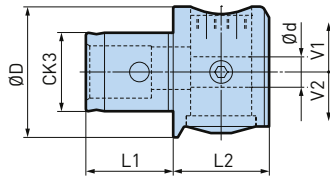


Fig. 1

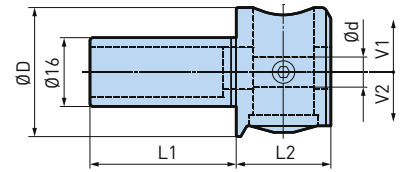
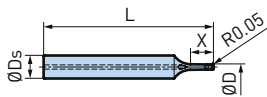


Fig. 2

Model	Order No.	Fig.	Ød	ØD	L1	L2	V1	V2
EWN04-15CK3	112.505	1	7	30	20	22	2	-0.2
EWN04-15ST16	112.506	2	7	30	34	22	2	-0.2

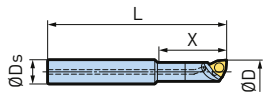
Boring Cutters

Fixed insert type

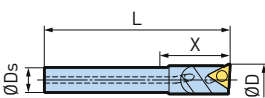


Model	Order No.	ØD	ØDs	L	X	Cutting material / coating
E0.4-ST7-52K10C	615.522	0.4 - 1	7	52	1.5	K10C
E0.9-ST7-52K10C	615.524	0.9 - 1.5	7	52	3	K10C
E1.4-ST7-52K10C	615.525	1.4 - 2	7	52	5	K10C
E2-ST7-52K10C	615.501	1.9 - 3	7	52	6	K10C
E3-ST7-52K10C	615.502	2.9 - 4	7	52	10	K10C
E4-ST7-52K10C	615.503	3.9 - 5	7	52	13	K10C
E5-ST7-52K10C	615.504	4.9 - 6	7	52	16	K10C

Indexable insert type



Model	Order No.	ØD	ØDs	L	X	Insert
E6-ST7-WC02-52HM	615.505	5.8 - 7	7	52	20	WC 02
E7-ST7-WC02-52HM	615.506	6.8 - 8	7	52	20	WC 02



Model	Order No.	ØD	ØDs	L	X	Insert
E8-ST7-TP07-52HM	615.507	7.8 - 9	7	52	30	TP 07
E9-ST7-TP07-52HM	615.508	8.8 - 10	7	52	30	TP 07
E10-ST7-TP07-52HM	615.509	9.8 - 11	7	52	30	TP 07
E12-ST7-TP07-52HM	615.511	11.8 - 15.5	7	52	30	TP 07

OD Turning Cutters

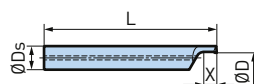


Fig. 1

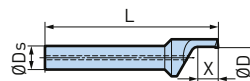
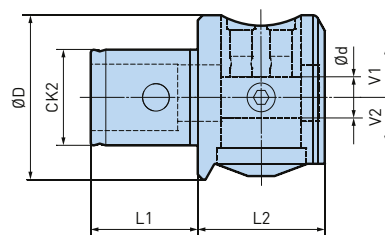


Fig. 2

Model	Order No.	Fig.	ØD	ØDs	L	X	Cutting material / coating
OD-0-3-ST7-52K10C	615.530	1	0.2 - 3	7	52	4	K10C
OD-2-6-ST7-52K10C	615.531	2	2 - 6	7	52	6	K10C

EWN 04-12 Fine Boring Head, Ø 0.4 - 12

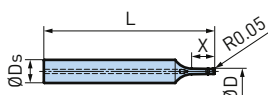
Fine boring heads for the machining of smallest bores with highest spindle speeds on machine tools with spindles ISO 20, HSK-E25 and bigger. The boring heads are available with the modular CK2 connection.



Model	Order No.	Ød	ØD	L1	L2	V1	V2
EWN04-12CK2	112.507	6	24	16	19	1.6	-0.2

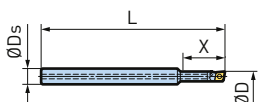
Boring Cutters

Fixed insert type

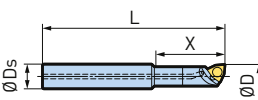


Model	Order No.	ØD	ØDs	L	X	Cutting material / coating
E0.4-ST6-52K10C	615.580	0.4 - 1	6	52	1.5	K10C
E0.9-ST6-52K10C	615.581	0.9 - 1.5	6	52	3	K10C
E1.4-ST6-52K10C	615.582	1.4 - 2	6	52	5	K10C
E2-ST6-52K10C	615.583	1.9 - 3	6	52	6	K10C
E3-ST6-52K10C	615.584	2.9 - 4	6	52	10	K10C

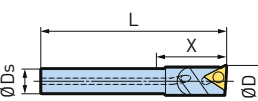
Indexable insert type



Model	Order No.	ØD	ØDs	L	X	Insert
ST06W-EB4-16	807.019	3.9 - 5	6	70	16	EC03
ST06W-EB5-20	807.020	4.9 - 6	6	75	20	EC03

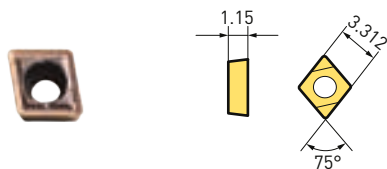


Model	Order No.	ØD	ØDs	L	X	Insert
E6-ST6-WC02-52HM	615.585	5.8 - 7	6	52	20	WC02
E7-ST6-WC02-52HM	615.586	6.8 - 8	6	52	20	WC02



Model	Order No.	ØD	ØDs	L	X	Insert
E8-ST6-TP07-52HM	615.587	7.8 - 9	6	52	30	TP07
E9-ST6-TP07-52HM	615.588	8.8 - 10	6	52	30	TP07
E10-ST6-TP07-52HM	615.589	9.8 - 12	6	52	30	TP07

Inserts ECGM



Model	Order No.	Radius [mm]	Cutting material / coating	Aluminium	Construction Steels	Stainless Steels
ECGM03X102ELA(T1500A)	807.017	0.2	Cermet		++	++
ECGM03X102ELA(H1)	807.018	0.2	K10	++		

1. Inserts are available in a packet of 10 pcs.

Clamping Screw

Model	Order No.	Insert
S1.6S-T3-S	807.040	ECGM03X102ELA(T1500A) / ECGM03X102ELA(H1)

1. Clamping Screws are available in a packet of 10 pcs.

EWN 04-24/12-36 Fine Boring Head, Ø 0.4 - 36

Special fine boring heads with wide diameter range for the micro industry.
Dedicated cutters for OD turning and face grooving available.

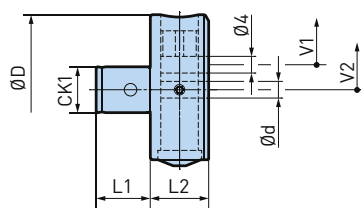


Fig. 1

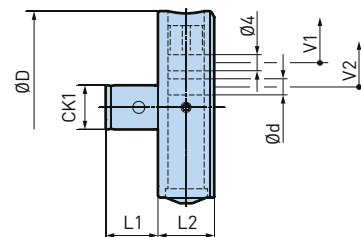


Fig. 2

Model	Order No.	Fig.	Ød	ØD	L1	L2	V1	V2
EWN04-24CK1	188.133	1	4	36	13	14	6	6
EWN12-36CK1	188.134	2	4	48	13	14	6	6

OD Turning



Fine Boring



Face Grooving



EWN 04-7 Fine Boring Head, Ø 0.4 - 7

The world's smallest fine boring head: Thanks to its body diameter of only Ø 18.5 mm, the EWN 04-7 is the perfect solution for micro machining applications.

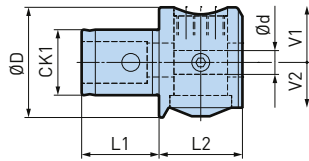


Fig. 1

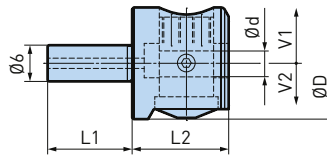


Fig. 2

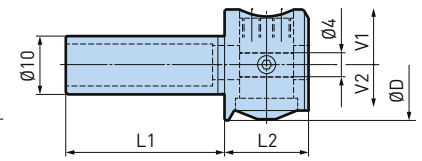


Fig. 3

Model	Order No.	Fig.	Ød	ØD	L1	L2	V1	V2
EWN04-7CK1	112.503	1	4	18.5	13	14	1.05	-0.1
EWN04-7CKB1-N	100182.001.0	1	4	18.5	27	14	1.05	-0.1
EWN04-7ST6	112.508	2	4	18.5	14	16	1.05	-0.1
EWN04-7ST10	112.504	3	4	18.5	25	14	1.05	-0.1

Boring Cutters

Fixed insert type

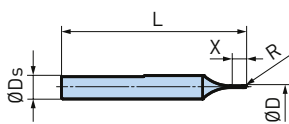


Fig. 1

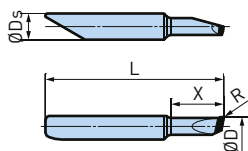


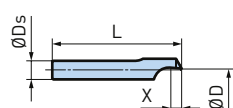
Fig. 2

Model	Order No.	Fig.	ØD	ØDs	L	X	R	Cutting material / coating
E0.4-ST4-25K10C	615.561	1	0.4 - 0.6	4	25	1.1	0.1	K10C
E0.4-ST4-25K10	615.551	1	0.4 - 0.6	4	25	1.1	0.1	K10
E0.4-ST4-30K10C	615.541	1	0.4 - 0.9	4	30	1.5	0.05	K10C
E0.6-ST4-25K10C	615.562	1	0.6 - 0.8	4	25	1.5	0.1	K10C
E0.6-ST4-25K10	615.552	1	0.6 - 0.8	4	25	1.5	0.1	K10
E0.8-ST4-25K10C	615.563	1	0.8 - 1.2	4	25	2	0.1	K10C
E0.8-ST4-25K10	615.553	1	0.8 - 1.2	4	25	2	0.1	K10
E0.9-ST4-30K10C	615.542	1	0.9 - 1.4	4	30	3	0.05	K10C
E1.2-ST4-25K10C	615.564	1	1.2 - 1.5	4	25	2.5	0.1	K10C
E1.2-ST4-25K10	615.554	1	1.2 - 1.5	4	25	2.5	0.1	K10
E1.4-ST4-30K10C	615.543	1	1.4 - 2	4	30	5	0.05	K10C
E1.5-ST4-25K10C	615.565	1	1.5 - 1.9	4	25	3.5	0.2	K10C
E1.5-ST4-25K10	615.555	1	1.5 - 1.9	4	25	3.5	0.2	K10
E1.9-ST4-25K10C	615.566	1	1.9 - 3	4	25	4.5	0.2	K10C
E2-ST4-30K10C	615.544	1	1.9 - 3	4	30	6	0.05	K10C
E3-ST4-30K10C	615.545	1	2.9 - 4	4	30	10	0.05	K10C
E4-ST4-30K10C	615.546	1	3.9 - 5	4	30	13	0.05	K10C
E5-ST4-30K10C	615.547	1	4.9 - 7	4	30	16	0.05	K10C
E1.4-ST4-24CBN20	615.571	2	1.4 - 2	4	25	3.5	0.1	CBN-20
E1.9-ST4-24CBN20	615.572	2	1.9 - 3	4	25	4.5	0.1	CBN-20
E2.9-ST4-27CBN20	615.573	2	2.9 - 4	4	25	8	0.1	CBN-20
E3.9-ST4-30CBN20	615.574	2	3.9 - 5	4	25	11	0.1	CBN-20
E4.9-ST4-30CBN20	615.575	2	4.9 - 6	4	25	16	0.1	CBN-20

B.2

OD Turning Cutter

The boring cutters are made with flat for cutting edge orientation.



Model	Order No.	ØD	ØDs	L	X	Cutting material / coating
OD-0.2-2.3-ST4-25K10C	615.590	0.2 - 2.3	4	25	2.2	K10C

Fine Boring Heads with Peripheral Cutting Edge

Overview	436
EWE Digital Fine Boring Heads	437
EWN Smart Damper Fine Boring Heads	438
EWN Fine Boring Heads	439
EWN BIG CAPTO Fine Boring Heads	440
Accessories	441
EWB/EWB-AL Balanced Fine Boring Heads	446
EWB-UP Balanceable Fine Boring Heads	447
EW Fine Boring Heads	448
Carbide Bars	449
Guidelines & Troubleshooting	451



EWE Digital Fine Boring Heads

Wireless communication for easy readout with the BIG KAISER app:
The brandnew EWE fine boring heads revolutionate fine boring.
Ø 25 - 203 mm, CKB1-CKB7



EWN Smart Damper fine boring head

The combination of the most advanced technologies to a powerful and highly productive tool: an integral fine boring head with an innovative and patented damping technology.
Ø 20 - 150 mm, CKB1-CKB2/CKB3-CKB7



EWN Fine Boring Heads

The EWN single cutter boring tool program for fine boring covers a range of Ø 20 - 203 mm with only 7 precision boring heads. Due to the optimized balance over the whole adjustment range, cutting speeds up to 1200 m/min are permitted.
Ø 20 - 203 mm, CKB1-CKB7/BIG CAPTO C3-C8



EWB Balanced Fine Boring Heads

Even at max. speeds the balanced EWB fine boring heads guarantee vibration-free boring, resulting in increased productivity and highest precision.
Ø 32 - 105 mm, CK3-CK6

B.3



EWB-AL Balanced Fine Boring Head

The fine boring heads EWB AL are made of high strength aluminium with hard coating. Together with reductions and extensions made in the same way, the weight for long and large diameter tool combinations is reduced by more than 50%.
Ø 100 - 203 mm, CK6-CK7



EWB-UP Balanceable Fine Boring Heads

The ultra-precision EWB-UP series sets higher standards for boring heads concerning adjustment accuracy and balance quality.
Ø 25 - 100 mm, CK2-CK6

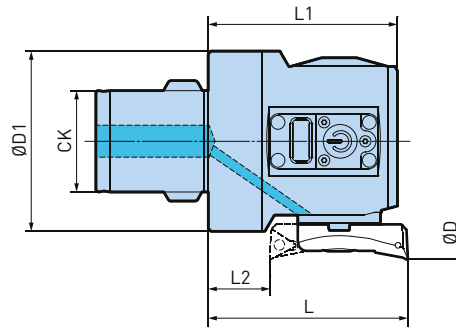
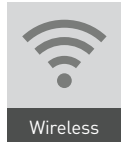


EW Fine Boring Heads

These heads are designed to be used in combination with the steel or carbide-boring bars Ø 14 and Ø 16 mm out of the accessory program. In conjunction with the long carbide bar, the tool is well suited for vibration-free finishing operations in bores with unfavorable Ø/L-ratios.
Ø 15 - 22 mm, ES15/ES18

EWE Digital Fine Boring Heads, Ø 25 - 203

Thanks to wireless communication with the BIG KAISER app, manufacturing precise bores has become very easy.



Model	Order No.	CK	ØD	Back Boring ØD	ØD1	L	L1	L2
EWE25-47CKB2	310.820	CKB2	25 - 47	-	23.4	35.5	32.5	-
EWE41-74CKB4	310.840	CKB4	41 - 74	53 - 74	38	47	43	14
EWE53-95CKB5	310.850	CKB5	53 - 95	62 - 95	49	57	53	19
EWE68-150CKB6	310.860	CKB6	68 - 150	80 - 150	64	71	67.2	22
EWE100-203CKB6	310.865	CKB6	100 - 203	112 - 203	64 / 90 *	71	67.2	22
EWE100-203CKB7	310.870	CKB7	100 - 203	112 - 203	90	87	83.2	38

- * Max. body diameter: 90 mm
- Insert holder is to be ordered separately.
- EWE25-47CKB2 does not have a display on the body. An external device containing the BIG KAISER APP, or using the EWE Reader, is required.

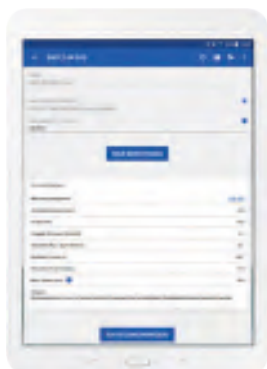
Accessories & Spare Parts

Insert Holders Type E	Insert Holder Type C	Accessories	EWE Reader
▶ 441	▶ 442	▶ 507-508	▶ 398

B.3

BIG KAISER App

The new app simplifies the assembly and operation of rough and fine boring heads and provides extremely accurate cutting data. The various parameters can be saved in the app for later use, an important building block for workshops that want to get into smart manufacturing. The app currently supports 61 BIG KAISER fine and reaming heads with diameters from 0.4 mm - 620 mm.



Cutting data



Send your data to...

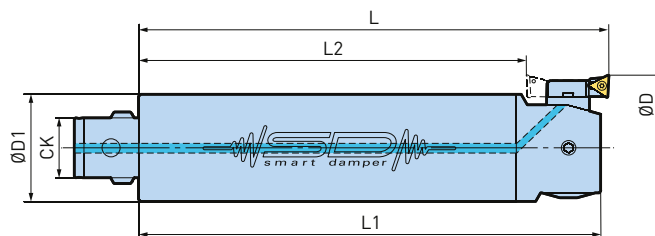


History (made automatically)

This is how the app is going to support your daily challenges

1. Choose your tool
2. Type in your application values
3. Calculate cutting data
4. Adjust machine and make a measuring bore
5. Infeed tool with the diameter of the measuring bore
6. Make the bore middle tolerance

EWN Smart Damper Fine Boring Head, Ø 20 - 203



Model	Order No.	CK	ØD	Back Boring ØD	ØD1	L	L1	L2
CK1-EWN20DP-100	807.400	CK1	20 - 36	28 - 36	19	100	97	78
CK2-EWN25DP-125	807.401	CK2	25 - 47	42 - 47	24	125	122	101
CKB3-EWN32DP-160	807.016	CKB3	32 - 60	57 - 60 **	31	160	155	130
CKB4-EWN41DP-185	806.742	CKB4	41 - 74	61 - 74 *	39	185	181	152
CKB5-EWN53DP-210	806.743	CKB5	53 - 95	74 - 95 *	50	210	206	172
CKB6-EWN68DP-240	806.744	CKB6	68 - 150	90 - 150	64	240	236.2	191
CKB6-EWN100DP-240	807.185	CKB6	100 - 203	107 - 203	64	240	236.2	191
CKB7-EWN100DP-240	807.186	CKB7	100 - 203	116 - 203	90	240	236.2	191

1. Insert holder (type 1) included. Other sizes are available.
2. * Use insert holders type 2 or 3 for back boring.
3. ** Use insert holders Type 3 for back boring.

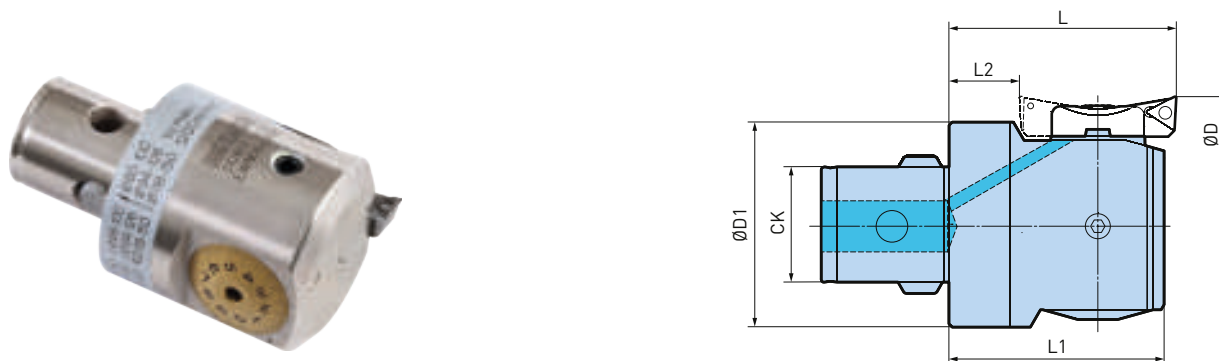
B.3

Accessories & Spare Parts

Insert Holders Type E	Insert Holder Type C	Accessories
 <p>► 441</p>	 <p>► 442</p>	 <p>► 507-508</p>

EWN Fine Boring Heads, Ø 20 - 203

The EWN single cutter boring tool program for fine boring covers a range of Ø 20 - 203 mm with only 7 fine boring heads. Due to the optimized balance over the whole adjustment range, cutting speeds up to 1200 m/min are permitted.



Model	Order No.	CK	ØD	Back Boring ØD	ØD1	L	L1	L2
EWN20-36CKB1	310.101	CKB1	20 - 36	28 - 36	18.5	32.5	29.5	10.5
EWN25-47CKB2	310.201	CKB2	25 - 47	36 - 47	23.4	35.5	32.5	11.5
EWN32-60CKB3	310.301	CKB3	32 - 60	46 - 60	30	40	35	10
EWN41-74CKB4	310.401	CKB4	41 - 74	53 - 74	38	47	43	14
EWN53-95CKB5	310.501	CKB5	53 - 95	62 - 95	49	57	53	19
EWN68-150CKB6	310.601	CKB6	68 - 150	80 - 150	64	71	67.2	22
EWN100-203CKB6	310.602	CKB6	100 - 203	112 - 203	90	71	67.2	22
EWN100-203CKB7-87	310.701	CKB7	100 - 203	112 - 203	90	87	83.2	38
EWN100-203CKB7-117	310.708	CKB7	100 - 203	112 - 203	90	117	113.2	68

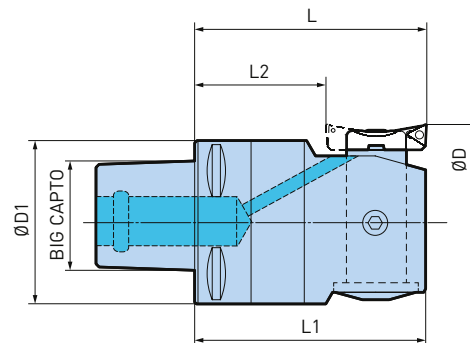
1. Insert holder is to be ordered separately.

Accessories & Spare Parts

Insert Holders Type E	Insert Holder Type C	Accessories
		
▶ 441	▶ 442	▶ 507-508

EWN BIG CAPTO Fine Boring Heads, Ø 32 - 203

With only 5 fine boring heads, the diameter range from Ø 32-203 mm is completely covered. The boring heads can be clamped in BIG CAPTO shanks and other polygonal basic holders, or directly in CAPTO machine spindles.



Model	Order No.	BIG CAPTO	ØD	Back Boring ØD	ØD1	L	L1	L2
EWN32-60C3	470.301	C3	33 - 60	46 - 60	32	55	50	25
EWN41-74C4	470.401	C4	41 - 74	53 - 74	40	67	63	34
EWN53-95C5	470.501	C5	53 - 95	62 - 95	50	77	73	39
EWN68-150C6	470.601	C6	68 - 150	80 - 150	64	92	88	43
EWN100-203C6	470.602	C6	100 - 203	112 - 203	90	92	88	43
EWN100-203C8	470.801	C8	100 - 203	112 - 203	90	117	113	68

1. Insert holder is to be ordered separately.

Accessories & Spare Parts

Insert Holders Type E	Insert Holder Type C	Accessories
		
▶ 441	▶ 442	▶ 507-508

Insert Holders Type E

Standard holder with 87° entering angle, suitable for fine boring in through and blind holes. Three different insert holders for the extension of the diameter range and for back boring applications.

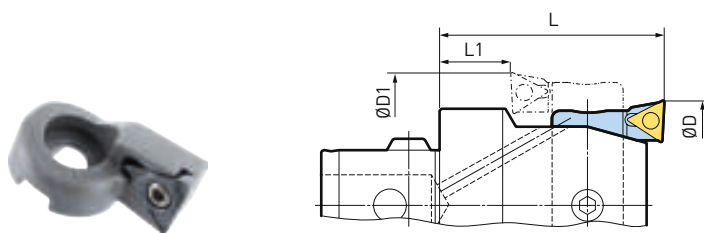


Fig. 1

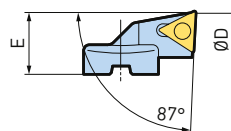


Fig. 2

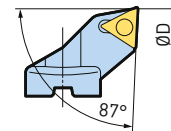


Fig. 3

Model	Order No.	Head	Type	ØD	Back Boring ØD	L	L1	E	Insert
ENH1-1T	626.111	EWN20	1	20 - 26	-	32.5	10.5	4.65	TP 07
ENH1-2T	626.112	EWN20	2	25 - 31	28 - 31	32.5	10.5	7.15	TP 07
ENH1-3T	626.113	EWN20	3	30 - 36	30 - 36	32.5	10.5	9.65	TP 07
ENH2-1T	626.121	EWN25	1	25 - 33	-	35.5	11.5	5.45	TP 07
ENH2-2T	626.122	EWN25	2	32 - 40	36 - 40	35.5	11.5	8.95	TP 07
ENH2-3T	626.123	EWN25	3	39 - 47	39 - 47	35.5	11.5	12.45	TP 07
ENH3-1T	626.131	EWN32	1	32 - 42	-	40	10	7.4	TC 11
ENH3-2T	626.132	EWN32	2	41 - 51	46 - 51	40	10	11.9	TC 11
ENH3-3T	626.133	EWN32	3	50 - 60	50 - 60	40	10	16.4	TC 11
ENH4-1T	626.141	EWE/EWN41	1	41 - 54	-	47	14	8.1	TC 11
ENH4-2T	626.142	EWE/EWN41	2	50 - 63	53 - 63	47	14	12.6	TC 11
ENH4-3T	626.143	EWE/EWN41	3	61 - 74	61 - 74	47	14	18.1	TC 11
ENH5-1T	626.151	EWE/EWN53	1	53 - 70	62 - 70	57	19	10	TC 11
ENH5-2T	626.152	EWE/EWN53	2	65 - 82	69 - 82	57	19	16	TC 11
ENH5-3T	626.153	EWE/EWN53	3	78 - 95	78 - 95	57	19	22.5	TC 11
ENH6-1T	626.161	EWE/EWN68	1	68 - 100	80 - 100	71	22	12.5	TC 11
ENH6-2T	626.162	EWE/EWN68	2	94 - 126	94 - 126	71	22	25.5	TC 11
ENH6-3T	626.163	EWE/EWN68	3	118 - 150	118 - 150	71	22	37.5	TC 11
ENH6-1T	626.161	EWE/EWN100	1	100 - 153	112-153	71/87/117	22/38/68	12.5	TC 11
ENH6-2T	626.162	EWE/EWN100	2	126 - 179	126-179	71/87/117	22/38/68	25.5	TC 11
ENH6-3T	626.163	EWE/EWN100	3	150 - 203	150-203	71/87/117	22/38/68	37.5	TC 11

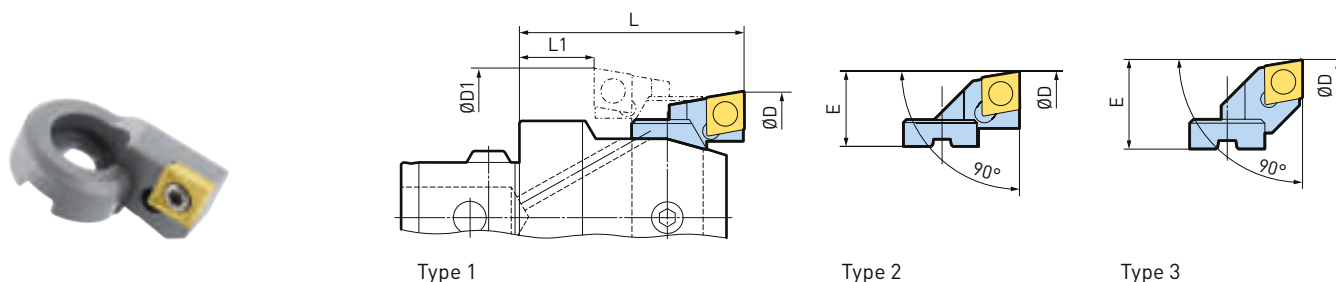
B.3

Accessories & Spare Parts

Inserts TC	Inserts TP
► 472	► 471

Insert Holder Type C

With 90° approach angle, suitable for semi-finish and finish boring and for stepped bores. For each boring head, insert holders with different projections are available for extension of the boring range and back boring.

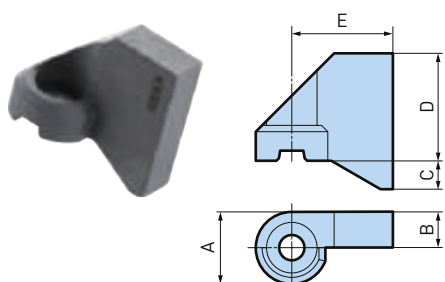


Model	Order No.	Head	Type	ØD	ØD1	L	L1	E	Insert
ENH2-2C	626.322	EWN25	2	33 - 41	37-41	35.5	11.5	9.5	CC 06
ENH2-3C	626.323	EWN25	3	39 - 47	39-47	35.5	11.5	12.5	CC 06
ENH3-1C	626.331	EWN32	1	32 - 42	-	40	10	7.4	CC 06
ENH3-2C	626.332	EWN32	2	41 - 51	47-51	40	10	11.9	CC 06
ENH3-3C	626.333	EWN32	3	50 - 60	50-60	40	10	16.4	CC 06
ENH4-1C	626.341	EWE/EWN41	1	41 - 54	-	47	14	8.1	CC 06
ENH4-2C	626.342	EWE/EWN41	2	50 - 63	54-63	47	14	12.6	CC 06
ENH4-3C	626.343	EWE/EWN41	3	61 - 74	61-74	47	14	18.1	CC 06
ENH5-1C	626.351	EWE/EWN53	1	53 - 70	62-70	57	19	10	CC 06
ENH5-2C	626.352	EWE/EWN53	2	62 - 79	67-79	57	19	14.5	CC 09
ENH5-3C	626.353	EWE/EWN53	3	78 - 95	78-95	57	19	22.5	CC 09
ENH6-1C	626.361	EWE/EWN68	1	68 - 100	80-100	71	22	12.5	CC 09
ENH6-2C	626.362	EWE/EWN68	2	78 - 110	82-110	71	22	17.5	CC 09
ENH6-3C	626.363	EWE/EWN68	3	108 - 140	108-140	71	22	32.5	CC 09
ENH6-1C	626.361	EWE/EWN100	1	100 - 153	112-153	71/87/117	22/38/68	12.5	CC 09
ENH6-2C	626.362	EWE/EWN100	2	110 - 163	110-163	71/87/117	22/38/68	17.5	CC 09
ENH6-3C	626.363	EWE/EWN100	3	140 - 193	140-193	71/87/117	22/38/68	32.5	CC 09

B.3

Blank Insert Holder Type ENH

If required, the blanks can be hardened. [Mat. 1.2343]



Model	Order No.	Head	A	B	C	D	E
ENH1-B	626.901	EWN20	8.4	4.2	2.61	11	11.8
ENH2-B	626.902	EWN25	10.4	5.2	3.16	10	17.2
ENH3-B	626.903	EWN32	11.4	5.7	4.5	17	16
ENH4-B	626.904	EWN41	15.4	7.7	5	20	20
ENH5-B	626.905	EWN53	19	9.5	-	25	20
ENH6-B	626.906	EWN68;EWN100	29	14.5	-	40	26
ENH6-BLANK L	626.916	EWN68;EWN100	29	14.5	-	40	50

Accessories & Spare Parts

Inserts CC



► 475

Insert Holders 30°/45° TP07



Fig. 1

Fig. 2

Model	Order No.	Fig.	Head	ØD	E	C1	C2	Insert
ENH2-1T30	626.422	1	EWN25	28 - 36	6.95	35.5	29.8	TP 07
ENH2-1T45	626.423	2	EWN25	28 - 36	6.95	35.5	30.8	TP 07

Insert Holders 30°/45°/25° TC11

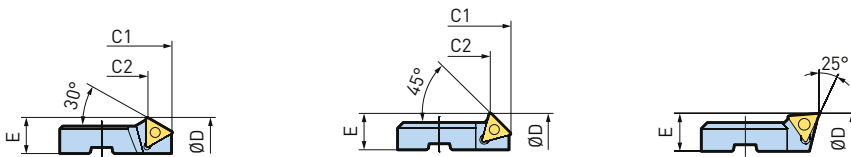


Fig. 1

Fig. 2

Fig. 3

Model	Order No.	Fig.	Head	ØD	E	C1	C2	Insert
ENH3-1T25	689.197	3	EWN32	32 - 42	7.4	-	-	TC 11
ENH3-1T30	626.432	1	EWN32	36 - 46	9.4	42	33.3	TC 11
ENH3-1T45	626.433	2	EWN32	36 - 46	9.4	42	34.8	TC 11
ENH4-1T25	689.198	3	EWN41	41 - 54	8.1	-	-	TC 11
ENH4-1T30	626.442	1	EWN41	45 - 58	10.1	49	40.3	TC 11
ENH4-1T45	626.443	2	EWN41	45 - 58	10.1	49	41.8	TC 11
ENH5-1T25	689.001	3	EWE/EWN53	53 - 70	10	-	-	TC 11
ENH5-1T30	626.452	1	EWE/EWN53	56 - 73	11.5	57	48.4	TC 11
ENH5-1T45	626.453	2	EWE/EWN53	56 - 73	11.5	57	49.8	TC 11
ENH6-1T25	689.007	3	EWE/EWN68	68 - 100	12.5	-	-	TC 11
ENH6-1T30	626.462	1	EWE/EWN68	68 - 100	12.5	87	78.3	TC 11
ENH6-1T45	626.463	2	EWE/EWN68	68 - 100	12.5	87	79.8	TC 11
ENH6-1T25	689.007	3	EWE/EWN100	100 - 153	12.5	-	-	TC 11
ENH6-1T30	626.462	1	EWE/EWN100	100 - 153	12.5	87	78.3	TC 11
ENH6-1T45	626.463	2	EWE/EWN100	100 - 153	12.5	87	79.8	TC 11

B.3

Back Boring Instructions

For back boring, it is required to enter into the bore off centre, with a tool adjusted to the back bore diameter. In this respect, the back bore diameter «ØD» as well as the diameters of the entry bore «C» and the tool body «ØD1», are related to each other. In order to check the feasibility of the back boring operation and to select the best possible tool combination, these values can be calculated as follows:

Example:

Calculation of the minimum entry bore diameter «C».

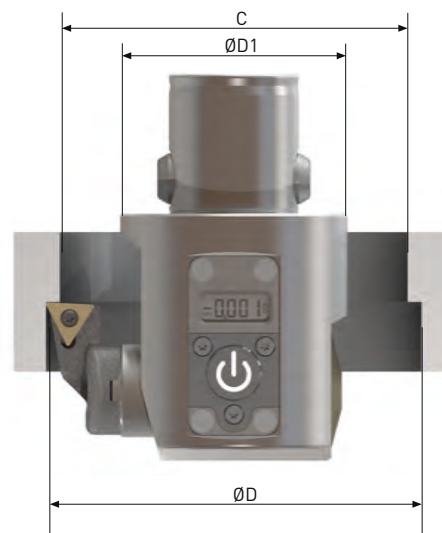
Given:

- Back bore diameter ØD = 93 mm
- Tool combination EWN53, with Insert holder no. 3, ØD1 = 50 mm

$$C = \frac{\text{ØD} + \text{ØD1}}{2} = \frac{93 + 50}{2} = 71.5 \text{ mm}$$

Caution:

- Counter clockwise spindle rotation is required for back boring operations.
- The cutting edge is at a shorter length than the boring head. Consider total length of tool. Check the space at the back side of the work piece.



Min. entry bore diameter «C»

$$C = \frac{\text{ØD} + \text{ØD1}}{2}$$

Max. back bore diameter «ØD»

$$\text{ØD} = 2C - \text{ØD1}$$

Max. tool body diameter «ØD1»

$$\text{ØD1} = 2C - \text{ØD}$$

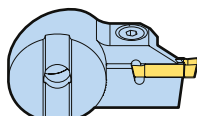
Face Grooving with EWN/EWE, Ø 53 - 3040

The insert holders and inserts are made for face grooving with the fine boring heads EWN and EWE Series 310 and with the large diameter boring tools Series 317 und 318.

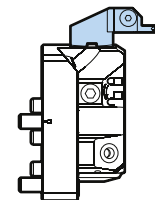
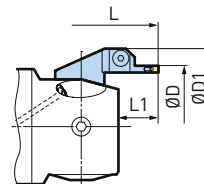
Insert Holders



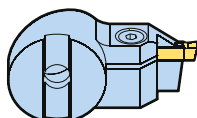
Type 1



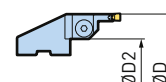
Type 1



Type 2



Type 2



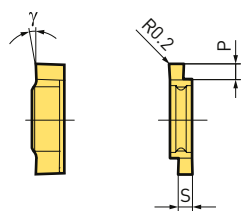
EWN/EWE 310

EWN/EWE 200

For Boring Head	Insert holder									
	Type 1				Type 2				L *	L1
	ØD	ØD1	Model	Order No.	ØD	ØD2	Model	Order No.		
EWN/EWE53 (310.501)/(310.850)	53 - 70	ØD + 22	ENH5-1FG4	626.935	73 - 90	ØD - 30	ENH5-1FG4R	626.945	73	20
EWN/EWE68 (310.601)/(310.860)	68 - 100	ØD + 24	ENH6-1FG4	626.936	88 - 120	ØD - 28	ENH6-2FG4R	626.946	88	21
	94 - 126		ENH6-2FG4	626.937	114 - 146		ENH6-3FG4R	626.947		
EWN/EWE100 (310.602)/(310.865)	100 - 153	ØD + 24	ENH6-1FG4	626.936	120 - 173	ØD - 28	ENH6-2FG4R	626.946	88	21
	126 - 179		ENH6-2FG4	626.937	146 - 199		ENH6-3FG4R	626.947		
EWN/EWE100 (310.701)/(310.870)	100 - 153	ØD + 24	ENH6-1FG4	626.936	120 - 173	ØD - 28	ENH6-2FG4R	626.946	104	21
	126 - 179		ENH6-2FG4	626.937	146 - 199		ENH6-3FG4R	626.947		
EWN100L (310.708)	100 - 153	ØD + 24	ENH6-1FG4	626.936	120 - 173	ØD - 28	ENH6-2FG4R	626.946	134	21
	126 - 179		ENH6-2FG4	626.937	146 - 199		ENH6-3FG4R	626.947		
EWN/EWE200 (318.101)/(318.104)	200 - 3000	ØD + 21	ENH7-1FG4	626.938	220 - 3040	ØD - 28	ENH7-2FG4R	626.948	134	21

1. * Tool length to the CK connection.

Inserts

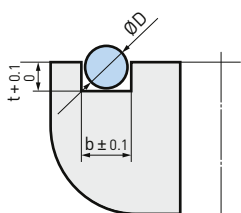


Inserts for Steel and Cast Iron			
S	P	g	Order No.
2.5	2.7	5°	958.425
3.0	3.3	5°	958.430
3.3	3.6	5°	958.433
3.5	3.8	5°	958.435
4.0	4.3	5°	958.440

Inserts for Aluminium			
S	P	g	Order No.
2.5	2.7	15°	958.475
3.0	3.3	15°	958.480
3.3	3.6	15°	958.483
3.5	3.8	15°	958.485
4.0	4.3	15°	958.490

Groove Dimensions

Recommended groove dimensions for given cross section diameters of O-rings, for static sealing.

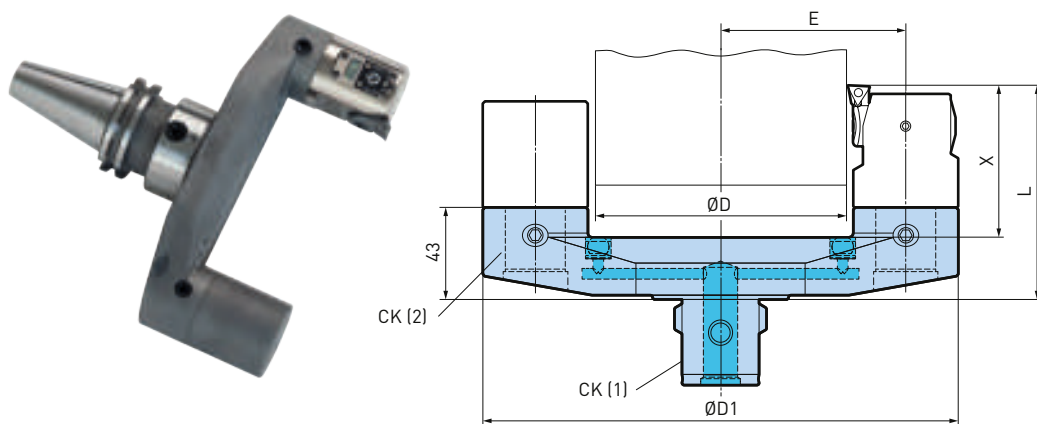


ØD	Groove Width b	Groove Depth t
1.78	2.5	1.3
2.0	2.5	1.6
2.5	3.3	1.9
2.62	3.5	2.05
3.0	4.0	2.4

Work Piece Material	Vc m/min	fn mm/rev
Construction-heat treatable steels	120 - 200	0.01 - 0.03
Stainless steels	60 - 120	0.01 - 0.02
Cast iron	80 - 160	0.02 - 0.04
Aluminium	200 - 400	0.02 - 0.04
Non-ferrous metals		

OD Turning with EWN/EWE/SW, Ø 16 - 120

Our standard fine and rough boring tools (EWN, EWE and SW) can be used for outer diameter turning with the OD turning bridge. Wide range is covered by 5 bridges.



Accessories & Spare Parts

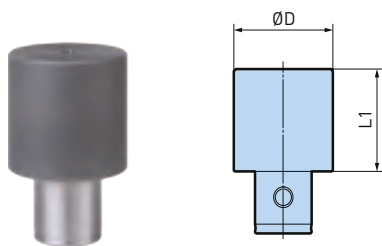


Model	Order No.	ØD	ØD1	E	L	X	CK (1)	CK (2)
OD16-44CKB5-CKB3	335.906	16 - 44	107	38	83 [113] [128]	51 [81] [96]	CKB5	CKB3
OD16-44CKB6-CKB3	335.905	16 - 44	107	38	83 [113] [128]	51 [81] [96]	CKB6	CKB3
OD34-67CKB6-CKB4	335.904	34 - 67	147	54	90 [130] [150]	58 [98] [118]	CKB6	CKB4
OD57-90CKB6-CKB4	335.903	57 - 90	170	65.5	90 [130] [150]	58 [98] [118]	CKB6	CKB4
OD78-120CKB6-CKB5	335.902	78 - 120	222	86.5	100 [160] [190]	68 [128] [158]	CKB6	CKB5

1. The numbers in brackets indicate the tool length (L) and the max. pin length (X) with the use of the corresponding extensions.
2. Attention: Counter-clockwise rotation of spindle! Vc max. 450m/min

B.3

Counter Weight for OD Turning



Model	Order No.	CK	ØD	L1
CW-CK3	335.915	CK3	31.3	35
CW-CK4	335.913	CK4	39	36.4
CW-CK5	335.912	CK5	49	49.5

1. For use of SW / EWN / EWE boring head

Selection of the Insert Holder

Fine Boring

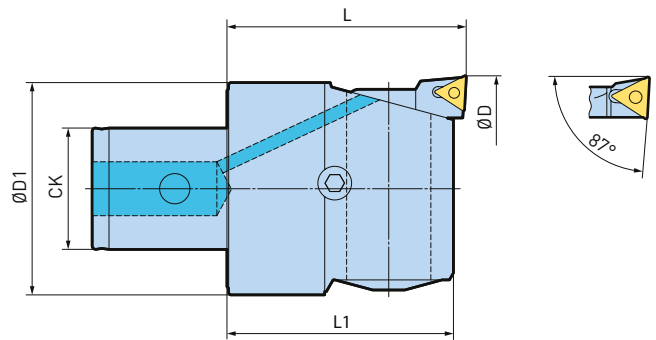
Rough Boring

ØD	Tool Holder	For Boring Head	Range ØD Insert Holder Order No.		
16 - 44	335.905	EWN32	16 - 26	25 - 35	34 - 44
16 - 44	335.906	EWN32	16 - 26	25 - 35	34 - 44
		310.301	626.133	626.132	626.131
34 - 67	335.904	EWE/EWN41	34 - 47	45 - 58	54 - 67
57 - 90	335.903	EWE/EWN41	57 - 70	68 - 81	77 - 90
		310.840/310.401	626.143	626.142	626.141
78 - 120	335.902	EWE/EWN53	78 - 95	91 - 108	103 - 120
		310.850/310.501	626.153	626.152	626.151

ØD	Tool Holder	For Boring Head	Range ØD Insert Holder Order No.	
25 - 44	335.905	SW32	25 - 35	34 - 44
25 - 44	335.906	SW32	25 - 35	34 - 44
		319.301	639.437	639.433
42 - 67	335.904	SW41	42 - 55	54 - 67
65 - 90	335.903	SW41	65 - 78	77 - 90
		319.401	639.447	639.443
87 - 120	335.902	SW53	87 - 104	103 - 120
		319.501	639.457	639.453

EWB Balanced Fine Boring Head, Ø 32 - 105

Even at max. speeds balanced tools guarantee vibration-free boring, resulting in increased productivity and highest precision.

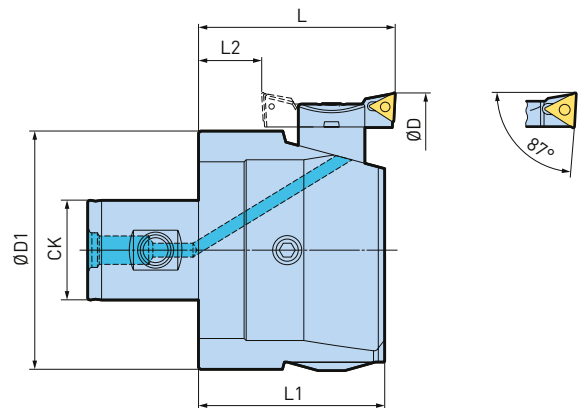


Model	Order No.	CK	ØD	ØD1	L	L1	Insert
EWB32-42CK3	310.305A	CK3	32 - 42	30	40	37	TP 07
EWB41-54CK4	310.405A	CK4	41 - 54	38	47	43	TC 11
EWB53-70CK5	310.505A	CK5	53 - 70	49	57	53	TC 11
EWB68-88CK6	310.605A	CK6	68 - 88	63	71	67.2	TC 11
EWB85-105CK6	310.606A	CK6	85 - 105	63	71	67.2	TC 11

1. EWB boring heads will be delivered with assembled insert holder.
2. Inserts are not included.

EWB-AL Balanced Fine Boring Head, Ø 100 - 203

The fine boring heads EWB-AL are made of high strength aluminium with hard coating. Together with fitting reductions and extensions, the weight for long and large diameter tool combinations is reduced by more than 50%.



Model	Order No.	CK	ØD	Back Boring ØD	ØD1	L	L1	L2	Insert
EWB100-153CK6AL	310.607A	CK6	100 - 153	112 - 153	90	71	67	25	TC 11
EWB100-153CK7AL	310.705A	CK7	100 - 153	112 - 153	90	87	83	41	TC 11
EWB150-203CK6AL	310.608A	CK6	150 - 203	150 - 203	126	71	67	25	TC 11
EWB150-203CK7AL	310.706A	CK7	150 - 203	150 - 203	126	87	83	41	TC 11

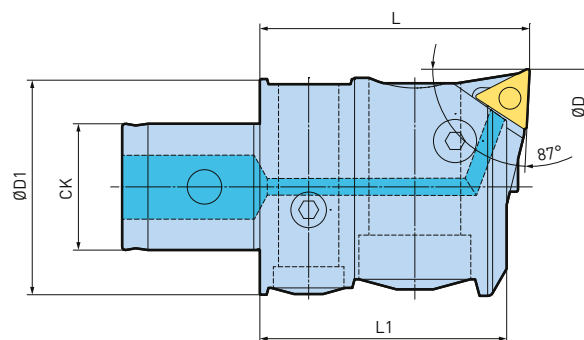
1. EWB-AL boring heads will be delivered with assembled insert holder.
2. Inserts are not included.

Accessories & Spare Parts

Insert Holder for EWB	Inserts TC	Accessories
► 507	► 472	► 507-508

EWB-UP Balanceable Fine Boring Head, Ø 25 - 100

The ultra-precise EWB-UP series sets higher standards for boring heads concerning adjustment accuracy and balance quality. Cutting speed up to $V_c \text{ max.} = 2\,000 \text{ m/min.}$



Model	Order No.	CK	ØD	ØD1	L	L1	Max. unbalance (gmm)	Insert
EWB25-33UP-CK2	309.201	CK2	25 - 33	23.4	35.5	32.5	3	TP 07
EWB32-42UP-CK3	309.301	CK3	32 - 42	30	40	37	5	TC 11
EWB41-54UP-CK4	309.401	CK4	41 - 54	38	47	43	5	TC 11
EWB53-70UP-CK5	309.501	CK5	53 - 70	49	57	53	10	TC 11
EWB68-100UP-CK6	309.601	CK6	68 - 100	64	71	67.2	30	TC 11

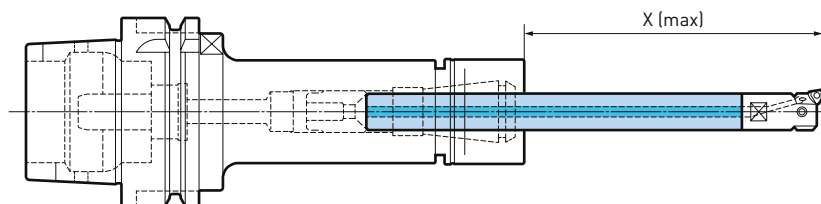
- EWB-UP boring heads will be delivered with assembled insert holder.
- Inserts are not included.

Accessories & Spare Parts

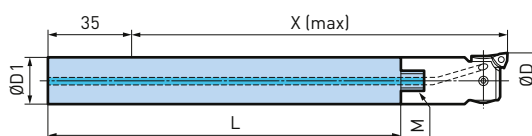
Inserts TP	Inserts TC	Accessories
		
▶ 471	▶ 472	▶ 507-508

EW Fine Boring Heads, Ø 15 - 22

These heads are designed to be used in combination with the steel or carbide-boring bars Ø 14 and Ø 16 mm from the accessory program. In conjunction with the long carbide bar, the tool is well suited for vibration-free finishing operations in bores with unfavorable Ø/L-ratios.



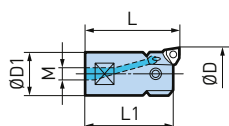
Boring Bars



Model	Order No.	Type	ØD	ØD1	M	L	X (max)
ST14-87	615.232	EW15	15 - 18.5	14	M6	87	82
ST14-117HM	615.233	EW15	15 - 18.5	14	M6	117	112
ST14-147HM	615.221	EW15	15 - 18.5	14	M6	147	142
ST16-88	615.226	EW18	18 - 22	16	M10	88	89
ST16-108HM	615.227	EW18	18 - 22	16	M10	108	109
ST16-168HM	615.229	EW18	18 - 22	16	M10	168	169

B.3

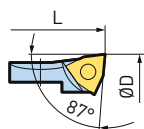
EW Fine Boring Heads, Ø 15 - 22



Model	Order No.	ØD	ØD1	L	L1	M
EW15M6	310.020	15 - 18.5	14	30	27.5	M6
EW18M10	310.030	18 - 22	16	36	33	M10

1. Insert holder is to be ordered separately.
2. Inserts are to be ordered separately.

Insert Holders for EW WC02



Model	Order No.	Head	ØD	L	Insert
15EKWC02	625.020	EW15 / EW18	15 - 18.5 / 18 - 22	30 / 36	WC 02

1. Inserts are to be ordered separately.

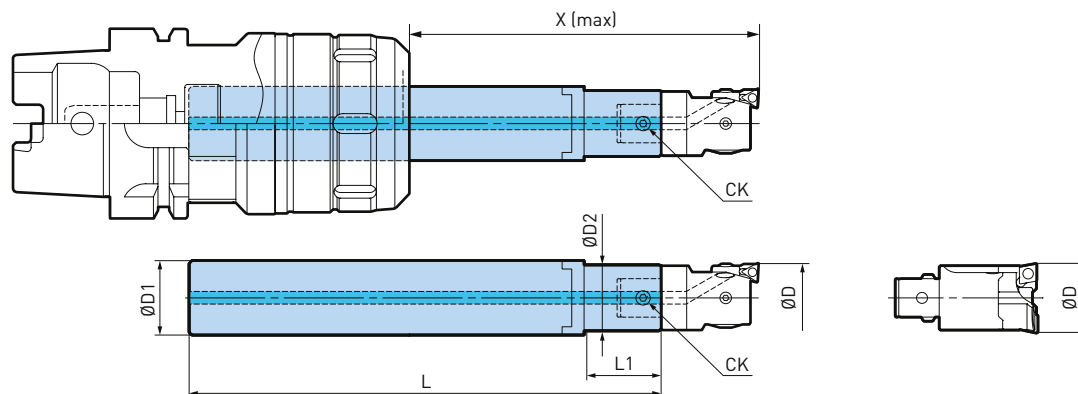
Accessories & Spare Parts

Accessories	Inserts WC
<p>► 507-508</p>	<p>► 470</p>

Carbide Bars ST Ø 20 - 74

Due to maximum rigidity, a carbide bar, optimized in length and with the biggest possible diameter, guarantees the best result when machining deep bores.

For the work range from Ø 20 - 33 [47] mm, the fine graduated carbide bar program contains bars with 6 different diameters and 3 different lengths per diameter. Therefore, for every deep bore machining in this range, the optimal carbide bar is always available. The program is completed with carbide bars Ø 31 and Ø 40 mm in 3 different lengths each, for the boring range from Ø 32 - 54 [74] mm.



CKB1, CKB2, CKB3, CKB4

Model	Order No.	Head	CK	ØD	ØD1	ØD2	L	L1	HMC X max	MEG-A25N X max	HDC X max
ST19-CKB1-140HM	335.320	SW20,EWN20	CKB1	20 - 36	19	19	140	-	98	120	130
ST19-CKB1-190HM	335.321	SW20,EWN20	CKB1	20 - 36	19	19	190	-	148	170	180
ST19-CKB1-240HM	335.322	SW20,EWN20	CKB1	20 - 36	19	19	240	-	198	220	230
ST21-CKB1-140HM	335.380	SW20,EWN20	CKB1	20 - 36	21	19	140	26	98	120	-
ST21-CKB1-190HM	335.381	SW20,EWN20	CKB1	20 - 36	21	19	190	26	148	170	-
ST21-CKB1-240HM	335.382	SW20,EWN20	CKB1	20 - 36	21	19	240	26	198	220	-
ST23-CKB1-140HM	335.383	SW20,EWN20	CKB1	20 - 36	23	19	140	26	98	120	-
ST23-CKB1-190HM	335.384	SW20,EWN20	CKB1	20 - 36	23	19	190	26	148	170	-
ST23-CKB1-240HM	335.385	SW20,EWN20	CKB1	20 - 36	23	19	240	26	198	220	-
ST24-CKB2-160HM	335.323	SW25,EWN25	CKB2	25 - 47	24	24	160	-	121	140	150
ST24-CKB2-220HM	335.324	SW25,EWN25	CKB2	25 - 47	24	24	220	-	181	200	210
ST24-CKB2-290HM	335.325	SW25,EWN25	CKB2	25 - 47	24	24	290	-	251	270	280
ST27-CKB2-160HM	335.386	SW25,EWN25	CKB2	25 - 47	27	24	160	28	121	-	-
ST27-CKB2-220HM	335.387	SW25,EWN25	CKB2	25 - 47	27	24	220	28	181	-	-
ST27-CKB2-290HM	335.388	SW25,EWN25	CKB2	25 - 47	27	24	290	28	251	-	-
ST29-CKB2-160HM	335.389	SW25,EWN25	CKB2	25 - 47	29	24	160	28	121	-	-
ST29-CKB2-220HM	335.390	SW25,EWN25	CKB2	25 - 47	29	24	220	28	181	-	-
ST29-CKB2-290HM	335.391	SW25,EWN25	CKB2	25 - 47	29	24	290	28	251	-	-
ST31-CKB3-200HM	335.326	SW32,EWN32	CKB3	32 - 60	31	31	200	-	168	-	184
ST31-CKB3-260HM	335.331	SW32,EWN32	CKB3	32 - 60	31	31	260	-	228	-	244
ST31-CKB3-350HM	335.327	SW32,EWN32	CKB3	32 - 60	31	31	350	-	318	-	334
ST40-CKB4-235HM	335.328	SW41,EWN41,EWE41	CKB4	41 - 74	40	40	235	-	207	-	-
ST40-CKB4-335HM	335.329	SW41,EWN41,EWE41	CKB4	41 - 74	40	40	335	-	307	-	-
ST40-CKB4-435HM	335.330	SW41,EWN41,EWE41	CKB4	41 - 74	40	40	435	-	407	-	-

1. X (max and min) for HMC shanks varies depending on the type (HSK, BBT, BDV, BIG CAPTO). Please contact BIG KAISER team for detailed information.

Recommended combination for Carbide Bars ST

To clamp BIG KAISER carbide bars with shank diameter \varnothing 19, 21, 23, 24, 27, 29, 31 and 40 milling chuck are highly recommended, Additional clamping possibilities are MEGA NEW Baby Chucks or Hydraulic Chucks.

Hydraulic Chuck



Hi-Power Milling Chuck



MEGA New Baby Chuck



Clamping options for carbide bars $\geq \varnothing$ 19mm

Schank	Holder	Carbide bar size	Collet
HSK-A50	MEGA25N	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24	NBC25
HSK-A63	HMC32S	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24 / \varnothing 27 / \varnothing 29	OCA32
HSK-A63	HDC31	\varnothing 31 direct clamping	
HSK-A100	HMC32	\varnothing 19 / \varnothing 24 / \varnothing 31	OCA32
HSK-A100	HMC42	\varnothing 19 / \varnothing 24 / \varnothing 31	OCA42
		\varnothing 31 / \varnothing 40	C42
BBT30	MEGA25N	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24	NBC25
BBT30	HMC32S	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24 / \varnothing 27 / \varnothing 29	OCA32
BBT40	MEGA25N	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24	NBC25
BBT40	HMC32S	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24 / \varnothing 27 / \varnothing 29	OCA32
BBT40	HDC31	\varnothing 31 direct clamping	
BBT50	MEGA25N	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24	NBC25
BBT50	HMC32S	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24 / \varnothing 27 / \varnothing 29	OCA32
BBT50	HDC19	\varnothing 19 direct clamping	
BBT50	HDC24	\varnothing 24 direct clamping	
BBT50	HDC31	\varnothing 31 direct clamping	
BBT50	HMC42	\varnothing 19 / \varnothing 24 / \varnothing 31	OCA42
		\varnothing 31 / \varnothing 40	C42
BVD40	MEGA25N	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24	NBC25
BVD40	HMC32S	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24 / \varnothing 27 / \varnothing 29	OCA32
BVD40	HDC31	\varnothing 31 direct clamping	
BVD50	MEGA25N	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24	NBC25
BVD50	HMC32S	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24 / \varnothing 27 / \varnothing 29	OCA32
BVD50	HMC42	\varnothing 19 / \varnothing 24 / \varnothing 31	OCA42
		\varnothing 31 / \varnothing 40	C42
C6	HMC32S	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24 / \varnothing 27 / \varnothing 29	OCA32
C8	HMC32S	\varnothing 19 / \varnothing 21 / \varnothing 23 / \varnothing 24 / \varnothing 27 / \varnothing 29	OCA32

Guidelines

Major Influences of Fine Boring

- The amount of stock to be removed (D.O.C.)
- Feed rate
- Cutting speed

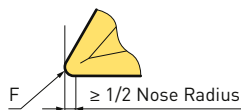
For all of these influences, a balance must be obtained for optimal machining. Too much stock or too heavy of a feed rate will generate excessive cutting forces that can result in inconsistent bore size. When stock or feed rates are too light, the possibility of chatter increases due to deflection.

D.O.C



High Possibility for Deflection & Chatter:

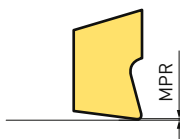
When D.O.C. is less than half the insert nose radius, the resulting forces (F) are almost 100% radial.



Good Stable Cut:

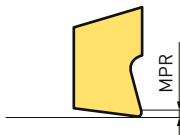
When D.O.C. is greater than or equal to half the insert nose radius, the resulting forces (F) are almost 100% axial.

Feed Rate



High Possibility for Deflection & Chatter:

When the feed rate is less than the hone on the insert tip, the risk of vibration increases.



Good Stable Cut:

When the feed rate is larger than the hone on the insert tip, full use of the chip breaker is allowed. This results in lower cutting forces.

B.3

Cutting Speed

Higher Speeds:

- Better surface finish
- Shorter machining times
- Better chip evacuation

As a general rule, the tool's length/diameter ratio and insert radius will determine optimum cutting speed.

*For smaller diameter bores, carbide or heavy metal bars may be required to eliminate vibration & chatter

Lower Speeds:

- Poorer surface finish
- Low chance for chatter
- Longer machining times
- High chance for built-up edge, results in shorter insert life

L/D Ratio	Max. Insert Radius	Speed Reduction
≤ 4:1	0.8	100% of optimum
≤ 5:1	0.4	75% of optimum
≤ 6:1	0.2	60% of optimum
≥ 7:1	0.2	50% of optimum

Troubleshooting

Under certain conditions, it may be necessary to modify or adapt recommended cutting data and/or tooling configurations of the application. Below are general solutions to common problems.

Problem	Possible Cause	Remedy
Poor Tool Life	Wrong insert grade	Change to higher wear resistant grade
	Excessive speed	Reduce Vc
	Poor cooling of insert	Apply through-tool coolant
	Excessive stock allowance	Decrease depth of cut
Chatter & Vibration	Excessive speed	Reduce Vc, check cutting data tables
	Extreme length/diameter ratio	Shorten tool to increase stiffness
		Increase boring bar diameter to larger size
		Change boring bar to carbide or heavy metal
	Wrong insert	Reduce nose radius of insert Use ground geometry inserts
Incorrect stock allowance	Check cutting data tables	
Poor Size Repeatability	Inaccurate tool changes	Worn and/or damaged tool shank; replace Clean spindle and tool shank
	Variation of stock allowance	Semi-finish with rough insert boring head
	Excessive spindle looseness	Use ground geometry inserts
Unacceptable Roundness	Excessive boring tool imbalance	Change to auto-balance or balanceable head
		Balance tool assembly
		Reduce speed
	Excessive cutting forces	Check stock allowance and feed rate
Insufficient workpiece clamping	Check for uniform workpiece clamping	
Workpiece non-symmetrical	Reduce cutting forces; change to ground insert Increase cutting speed, reduce feed	
Unacceptable Position	Original bore off position	Semi-finish with rough insert boring head
	Excessive stock allowance	Decrease depth of cut
		Decrease insert radius Reduce cutting forces; change to ground insert
Poor Surface Finish	Wrong insert radius	Use larger insert radius
	Excessive feed rate	Reduce feed; maximum 25% of insert radius
	Poor chip evacuation	Increase bore to boring bar clearances
		Apply through-tool coolant; adjust nozzles
		Change insert to higher rake angle Check depth of cut
Taper	Premature insert wear	Change to higher wear resistance insert grade
		Increase insert radius
		Change from ground to pressed geometry insert
		Increase coolant flow