

Boring Heads

Milling Accessories



E01-E104

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Adjustable Boring Heads



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Adjustable Boring Heads



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61140 E98



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61160 E99



61170 E100



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61230 E104

C type Boring Head series

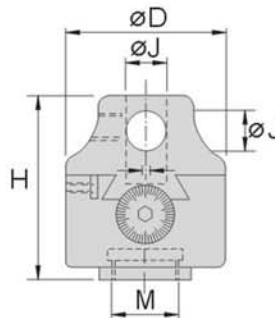
59200 BHC2 Boring Head



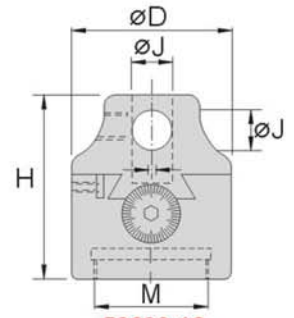
Graduation reading

Features :

- ▶ Inch/Metric graduation div. 0.0005" / 0.01mm.
- ▶ Inch/Metric standard is available.



59200-11

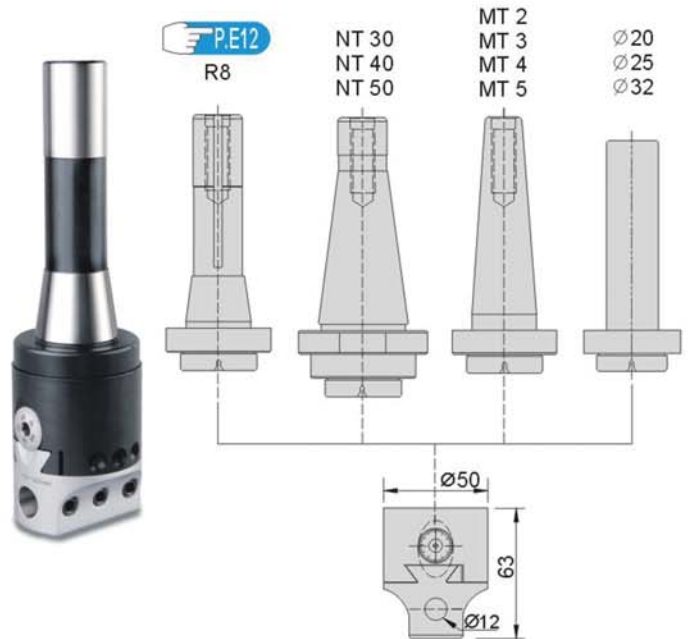


59200-12
59200-13

Order No.	Model	D	H	Boring Bar Hole Dia.(ØJ)	Center Dist. Btw holes(K)	Adjustable Feed	M	N.W.
59200-11	BHC2 inch	Ø2"	2-7/16"	1/2"	5/8"	5/8"	7/8"-20	0.7kg
59200-12	BHC2 m/m	Ø50	63	12	15	15	1-1/2"-18	0.7kg
59200-13	BHC2 inch	2"Dia	2-7/16"	1/2"	5/8"	5/8"	1-1/2"-18	0.7kg

59200A BHC2 Boring Head+Shank

Order No.	Model	Spec.	N.W.
59200A-02	BHC2+BT40	M16xP2.0	2.0kg
59200A-04	BHC2+BT50	M24xP3.0	4.7kg
59200A-06	BHC2+R8	7/16"x20UNF	1.3kg
59200A-08	BHC2+NT30	1/2"x12UNC	1.3kg
59200A-10	BHC2+NT30	M12xP1.75	1.3kg
59200A-12	BHC2+NT40	5/8"x11UNC	2.0kg
59200A-14	BHC2+NT40	M16xP2.0	2.0kg
59200A-16	BHC2+NT50	1"x8UNC	3.9kg
59200A-18	BHC2+NT50	M24xP3.0	3.9kg
59200A-20	BHC2+MT2	3/8"x16UNC	1.0kg
59200A-22	BHC2+MT2	M10xP1.5	1.0kg
59200A-24	BHC2+MT3	3/8"x16UNC	1.2kg
59200A-26	BHC2+MT3	1/2"x13UNC	1.2kg
59200A-28	BHC2+MT3	1/2"x12UNC	1.2kg
59200A-30	BHC2+MT3	M12xP1.75	1.2kg
59200A-32	BHC2+MT4	5/8"x11UNC	1.6kg
59200A-34	BHC2+MT4	M16xP2.0	1.6kg
59200A-36	BHC2+MT5	1"x8UNC	2.1kg
59200A-38	BHC2+MT5	M24xP3.0	2.1kg
59200A-40	BHC2+MT2	TANGED	1.1kg
59200A-42	BHC2+MT3	TANGED	1.2kg
59200A-44	BHC2+MT4	TANGED	1.5kg
59200A-46	BHC2+MT5	TANGED	2.6kg



Straight Shank

Order No.	Model	Spec.	N.W.
59200A-48	BHC2+ Ø20	Ø20x60L	1.1kg
59200A-50	BHC2+ Ø25	Ø25x60L	1.2kg
59200A-52	BHC2+ Ø32	Ø32x60L	1.4kg

BORING HEAD



Features :

- ▶ Min. boring range $\varnothing 20\text{mm}$.
- ▶ Max. boring range $\varnothing 70\text{mm}$.
- ▶ Max. boring depth 60mm.
- ▶ Adjustable Feed 15mm.
- ▶ Inch/Metric standard available.

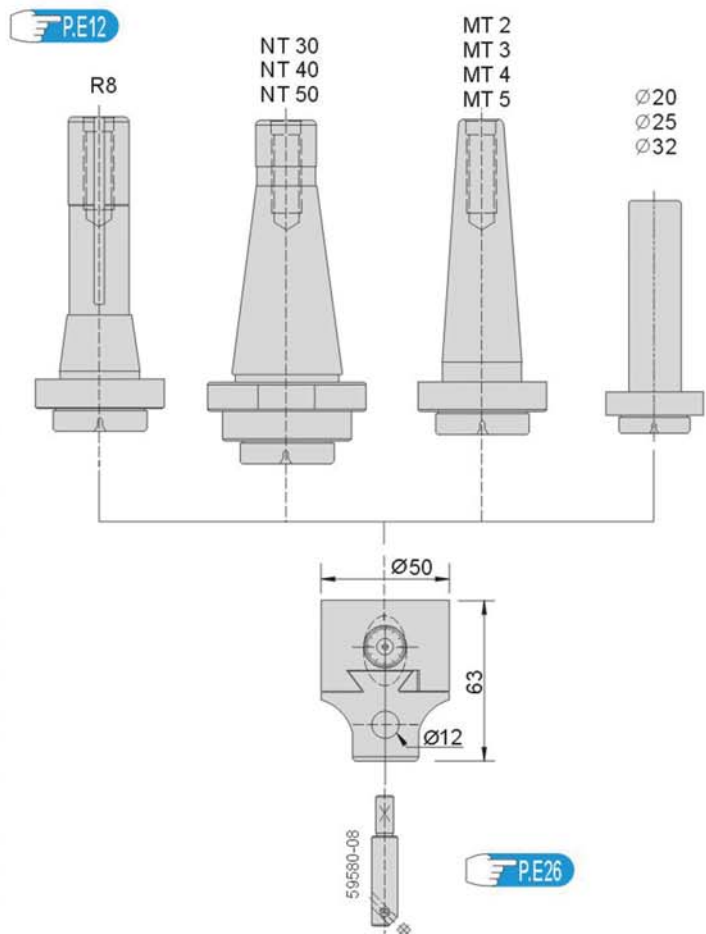
Standard Accessories :

Shank x 1pc
Boring bar x 1pc

Optional Accessories :

(See Fig. A in page E03)
59982-1236 Boring bar x 1pc
Boring range: $\varnothing 70 \sim \varnothing 150\text{mm}$
Boring depth: 60mm

Order No.	Model	Spec.	Bar	N.W.
59200B-02	BHC2+BT40	M16xP2.0	+902063	2.1kg
59200B-04	BHC2+BT50	M24xP3.0	+902063	4.9kg
59200B-06	BHC2+R8	7/16"x20UNF	+902063	1.4kg
59200B-08	BHC2+NT30	1/2"x12UNC	+902063	1.4kg
59200B-10	BHC2+NT30	M12xP1.75	+902063	1.4kg
59200B-12	BHC2+NT40	5/8"x11UNC	+902063	2.2kg
59200B-14	BHC2+NT40	M16xP2.0	+902063	2.2kg
59200B-16	BHC2+NT50	1"x8UNC	+902063	4.0kg
59200B-18	BHC2+NT50	M24xP3.0	+902063	4.0kg
59200B-20	BHC2+MT2	3/8"x16UNC	+902063	1.2kg
59200B-22	BHC2+MT2	M10xP1.5	+902063	1.2kg
59200B-24	BHC2+MT3	3/8"x16UNC	+902063	1.4kg
59200B-26	BHC2+MT3	1/2"x13UNC	+902063	1.4kg
59200B-28	BHC2+MT3	1/2"x12UNC	+902063	1.4kg
59200B-30	BHC2+MT3	M12xP1.75	+902063	1.4kg
59200B-32	BHC2+MT4	5/8"x11UNC	+902063	1.7kg
59200B-34	BHC2+MT4	M16xP2.0	+902063	1.7kg
59200B-36	BHC2+MT5	1"x8UNC	+902063	2.3kg
59200B-38	BHC2+MT5	M24xP3.0	+902063	2.3kg
59200B-40	BHC2+MT2	TANGED	+902063	1.2kg
59200B-42	BHC2+MT3	TANGED	+902063	1.4kg
59200B-44	BHC2+MT4	TANGED	+902063	1.7kg
59200B-46	BHC2+MT5	TANGED	+902063	2.7kg



Straight Shank

Order No.	Model	Spec.	Bar	N.W.
59200B-48	BHC2+ $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	+902063	1.3kg
59200B-50	BHC2+ $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	+902063	1.4kg
59200B-52	BHC2+ $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	+902063	1.6kg

C type Boring Head series

59200C BHC2 Boring Head+Shank+Tool

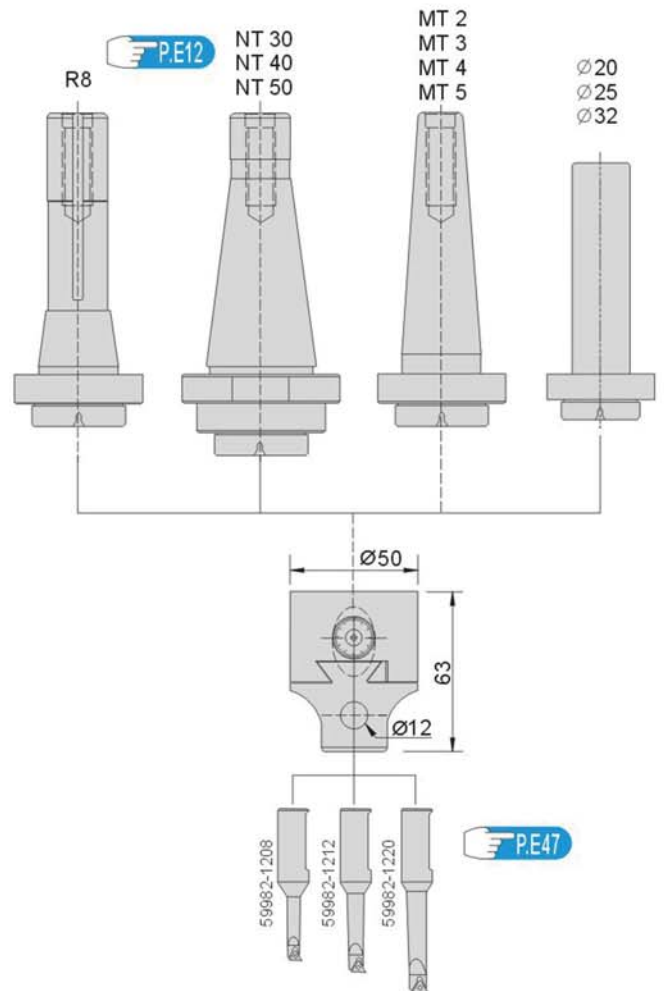
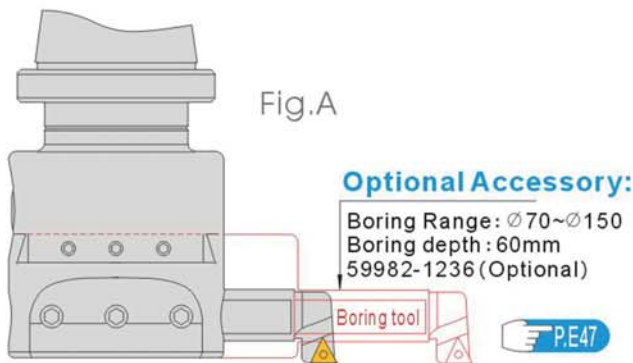


Features :

- ▶ Min. boring range $\varnothing 8\text{mm}$.
- ▶ Max. boring range $\varnothing 70\text{mm}$ (optional $\varnothing 150\text{mm}$)
- ▶ Max. boring depth 50mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 3pc



Order No.	Model	Spec.	Tool	N.W.
59200C-02	BHC2+BT40	M16xP2.0	+BH12-08/12/20	2.3kg
59200C-04	BHC2+BT50	M24xP3.0	+BH12-08/12/20	5.0kg
59200C-06	BHC2+R8	7/16"x20UNF	+BH12-08/12/20	1.6kg
59200C-08	BHC2+NT30	1/2"x12UNC	+BH12-08/12/20	1.6kg
59200C-10	BHC2+NT30	M12xP1.75	+BH12-08/12/20	1.6kg
59200C-12	BHC2+NT40	5/8"x11UNC	+BH12-08/12/20	2.3kg
59200C-14	BHC2+NT40	M16xP2.0	+BH12-08/12/20	2.3kg
59200C-16	BHC2+NT50	1"x8UNC	+BH12-08/12/20	4.1kg
59200C-18	BHC2+NT50	M24xP3.0	+BH12-08/12/20	4.1kg
59200C-20	BHC2+MT2	3/8"x16UNC	+BH12-08/12/20	1.3kg
59200C-22	BHC2+MT2	M10xP1.5	+BH12-08/12/20	1.3kg
59200C-24	BHC2+MT3	3/8"x16UNC	+BH12-08/12/20	1.5kg
59200C-26	BHC2+MT3	1/2"x13UNC	+BH12-08/12/20	1.5kg
59200C-28	BHC2+MT3	1/2"x12UNC	+BH12-08/12/20	1.5kg
59200C-30	BHC2+MT3	M12xP1.75	+BH12-08/12/20	1.5kg
59200C-32	BHC2+MT4	5/8"x11UNC	+BH12-08/12/20	1.8kg
59200C-34	BHC2+MT4	M16xP2.0	+BH12-08/12/20	1.8kg
59200C-36	BHC2+MT5	1"x8UNC	+BH12-08/12/20	2.4kg
59200C-38	BHC2+MT5	M24xP3.0	+BH12-08/12/20	2.4kg
59200C-40	BHC2+MT2	TANGED	+BH12-08/12/20	1.3kg
59200C-42	BHC2+MT3	TANGED	+BH12-08/12/20	1.5kg
59200C-44	BHC2+MT4	TANGED	+BH12-08/12/20	1.8kg
59200C-46	BHC2+MT5	TANGED	+BH12-08/12/20	2.8kg

Straight Shank

Order No.	Model	Spec.	Tool	N.W.
59200C-48	BHC2+ $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	+BH12-08/12/20	1.4kg
59200C-50	BHC2+ $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	+BH12-08/12/20	1.5kg
59200C-52	BHC2+ $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	+BH12-08/12/20	1.7kg

BORING HEAD

59200D BHC2 Boring Head Sets

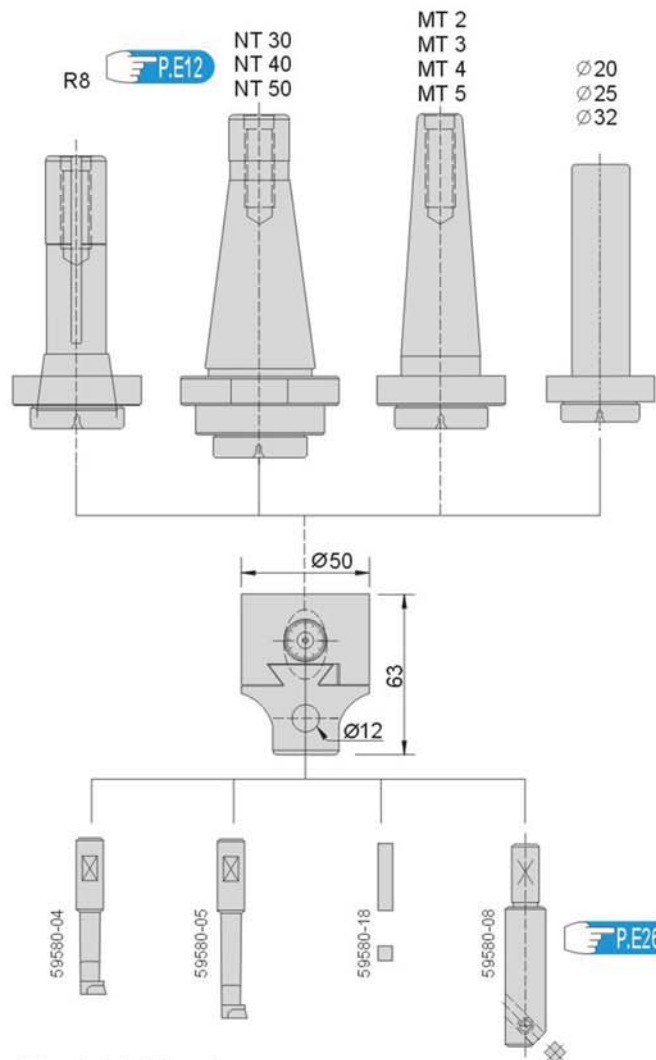
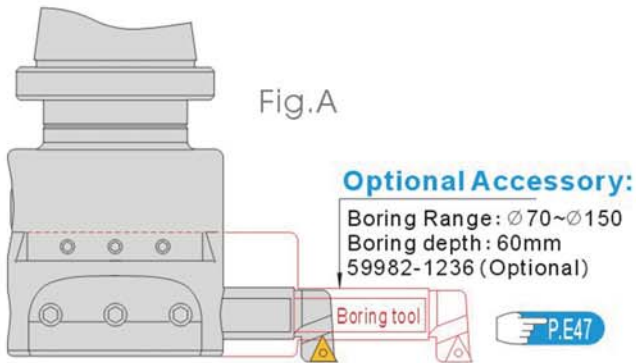


Features:

- ▶ Min. boring range $\varnothing 10\text{mm}$.
- ▶ Max. boring range $\varnothing 150\text{mm}$.
- ▶ Max. boring depth 60mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 3pcs
- Lathe cutter x 1pc



Order No.	Model	Spec.	N.W.
59200D-01	BHC2	Without shank	0.9kg
59200D-02	BHC2-BT40	M16xP2.0	2.2kg
59200D-04	BHC2-BT50	M24xP3.0	4.9kg
59200D-06	BHC2-R8	7/16"x20UNF	1.5kg
59200D-08	BHC2-NT30	1/2"x12UNC	1.5kg
59200D-10	BHC2-NT30	M12xP1.75	1.5kg
59200D-12	BHC2-NT40	5/8"x11UNC	2.2kg
59200D-14	BHC2-NT40	M16xP2.0	2.2kg
59200D-16	BHC2-NT50	1"x8UNC	4.0kg
59200D-18	BHC2-NT50	M24xP3.0	4.0kg
59200D-20	BHC2-MT2	3/8"x16UNC	1.2kg
59200D-22	BHC2-MT2	M10xP1.5	1.2kg
59200D-24	BHC2-MT3	3/8"x16UNC	1.4kg
59200D-26	BHC2-MT3	1/2"x13UNC	1.4kg
59200D-28	BHC2-MT3	1/2"x12UNC	1.4kg
59200D-30	BHC2-MT3	M12xP1.75	1.4kg
59200D-32	BHC2-MT4	5/8"x11UNC	1.8kg
59200D-34	BHC2-MT4	M16xP2.0	1.8kg
59200D-36	BHC2-MT5	1"x8UNC	2.3kg
59200D-38	BHC2-MT5	M24xP3.0	2.3kg
59200D-40	BHC2-MT2	TANGED	1.3kg
59200D-42	BHC2-MT3	TANGED	1.4kg
59200D-44	BHC2-MT4	TANGED	1.4kg
59200D-46	BHC2-MT5	TANGED	2.7kg

Straight Shank

Order No.	Model	Spec.	N.W.
59200D-48	BHC2- $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	1.3kg
59200D-50	BHC2- $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	1.4kg
59200D-52	BHC2- $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	1.6kg

C type Boring Head series

59250

BHC3

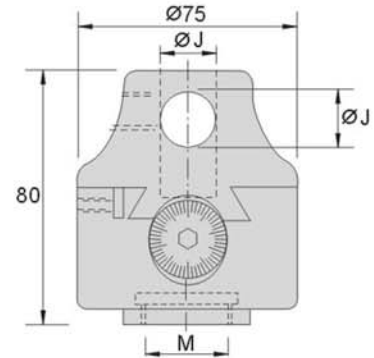
Boring Head



Graduation reading

Features:

- ▶ Inch/Metric graduation, min. 0.0005" / 0.01mm.
- ▶ Inch/Metric standard is available.



Order No.	Model	D	H	M	Boring Bar Hole Dia.(ØJ)	Center Dist. Btw holes(K)	Adjustable Feed	N.W.
59250-11	BHC3 inch	Ø3"	3-5/32"	1-1/2"-18	3/4"	15/16"	1"	2kg
59250-12	BHC3 m/m	75	80	1-1/2"-18	18	23	25	1.9kg

59250A

BHC3

Boring Head+Shank

Order No.	Model	Spec.	N.W.
59250A-02	BHC3+BT40	M16xP2.0	3.1kg
59250A-04	BHC3+BT50	M24xP3.0	5.9kg
59250A-06	BHC3+R8	7/16"x20UNF	2.5kg
59250A-08	BHC3+NT30	1/2"x12UNC	2.5kg
59250A-10	BHC3+NT30	M12xP1.75	2.5kg
59250A-12	BHC3+NT40	5/8"x11UNC	3.2kg
59250A-14	BHC3+NT40	M16xP2.0	3.2kg
59250A-16	BHC3+NT50	1"x8UNC	5kg
59250A-18	BHC3+NT50	M24xP3.0	5kg
59250A-20	BHC3+MT2	3/8"x16UNC	2.2kg
59250A-22	BHC3+MT2	M10xP1.5	2.2kg
59250A-24	BHC3+MT3	3/8"x16UNC	2.4kg
59250A-26	BHC3+MT3	1/2"x13UNC	2.4kg
59250A-28	BHC3+MT3	1/2"x12UNC	2.4kg
59250A-30	BHC3+MT3	M12xP1.75	2.4kg
59250A-32	BHC3+MT4	5/8"x11UNC	2.7kg
59250A-34	BHC3+MT4	M16xP2.0	2.7kg
59250A-36	BHC3+MT5	1"x8UNC	3.3kg
59250A-38	BHC3+MT5	M24xP3.0	3.3kg
59250A-40	BHC3+MT2	TANGED	2.2kg
59250A-42	BHC3+MT3	TANGED	2.2kg
59250A-44	BHC3+MT4	TANGED	2.7kg
59250A-46	BHC3+MT5	TANGED	3.7kg



Straight Shank

Order No.	Model	Spec.	N.W.
59250A-48	BHC3+Ø20	Ø20x60L	2.3kg
59250A-50	BHC3+Ø25	Ø25x60L	2.4kg
59250A-52	BHC3+Ø32	Ø32x60L	2.6kg

59250B
BHC3
Boring Head+Shank+Bar


Features :

- ▶ Min. boring range $\varnothing 20$ mm.
- ▶ Max. boring range $\varnothing 250$ mm.
- ▶ Max. boring depth 90mm.
- ▶ Adjustable Feed 25mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

Shank x 1pc

Boring tool x 1pc

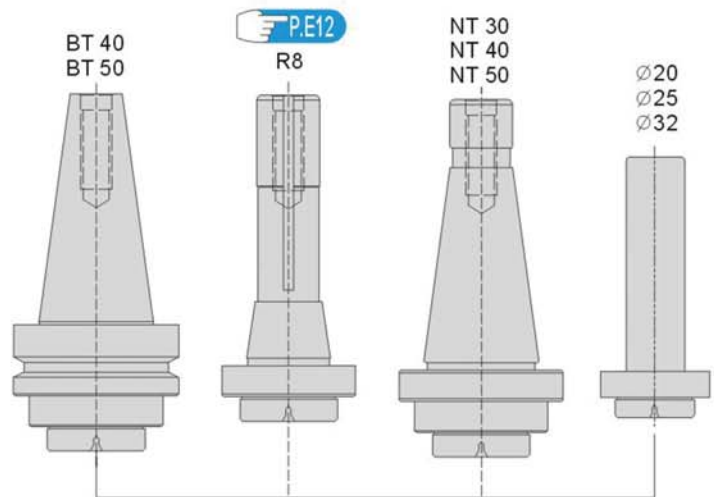
Optional Accessory:

(See Fig. A in page E07)

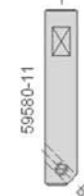
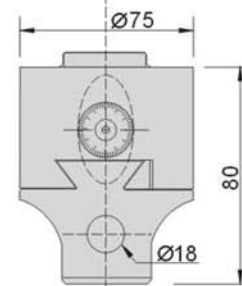
59990-1836 Boring bar x 1pc

 Boring range: $\varnothing 100 \sim \varnothing 250$ mm

Boring depth: 80mm



Order No.	Model	Spec.	Bar	N.W.
59250B-02	BHC3+BT40	M16xP2.0	+902023	3.4kg
59250B-04	BHC3+BT50	M24xP3.0	+902023	6.1kg
59250B-06	BHC3+R8	7/16"x20UNF	+902023	2.7kg
59250B-08	BHC3+NT30	1/2"x12UNC	+902023	2.7kg
59250B-10	BHC3+NT30	M12xP1.75	+902023	2.7kg
59250B-12	BHC3+NT40	5/8"x11UNC	+902023	3.4kg
59250B-14	BHC3+NT40	M16xP2.0	+902023	3.4kg
59250B-16	BHC3+NT50	1"x8UNC	+902023	5.2kg
59250B-18	BHC3+NT50	M24xP3.0	+902023	5.2kg
59250B-20	BHC3+MT2	3/8"x16UNC	+902023	2.4kg
59250B-22	BHC3+MT2	M10xP1.5	+902023	2.4kg
59250B-24	BHC3+MT3	3/8"x16UNC	+902023	2.6kg
59250B-26	BHC3+MT3	1/2"x13UNC	+902023	2.6kg
59250B-28	BHC3+MT3	1/2"x12UNC	+902023	2.6kg
59250B-30	BHC3+MT3	M12xP1.75	+902023	2.6kg
59250B-32	BHC3+MT4	5/8"x11UNC	+902023	2.9kg
59250B-34	BHC3+MT4	M16xP2.0	+902023	2.9kg
59250B-36	BHC3+MT5	1"x8UNC	+902023	3.5kg
59250B-38	BHC3+MT5	M24xP3.0	+902023	3.5kg
59250B-40	BHC3+MT2	TANGED	+902023	2.4kg
59250B-42	BHC3+MT3	TANGED	+902023	2.4kg
59250B-44	BHC3+MT4	TANGED	+902023	2.9kg
59250B-46	BHC3+MT5	TANGED	+902023	3.9kg



P.E26

Straight Shank

Order No.	Model	Spec.	Bar	N.W.
59250B-48	BHC3+ $\varnothing 20$	$\varnothing 20 \times 60$ L	+902023	2.5kg
59250B-50	BHC3+ $\varnothing 25$	$\varnothing 25 \times 60$ L	+902023	2.6kg
59250B-52	BHC3+ $\varnothing 32$	$\varnothing 32 \times 60$ L	+902023	2.8kg

BORING HEAD

C type Boring Head series

59250C BHC3 Boring Head+Shank+Tool

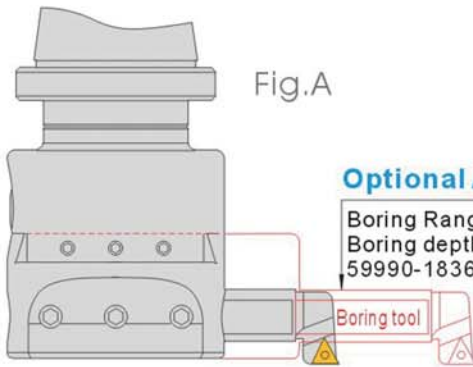


Fig.A

Optional Accessory:

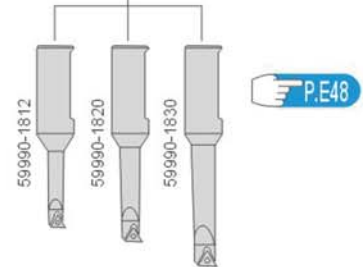
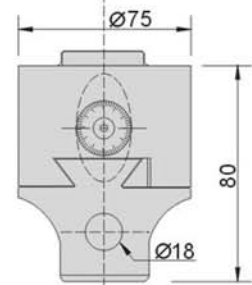
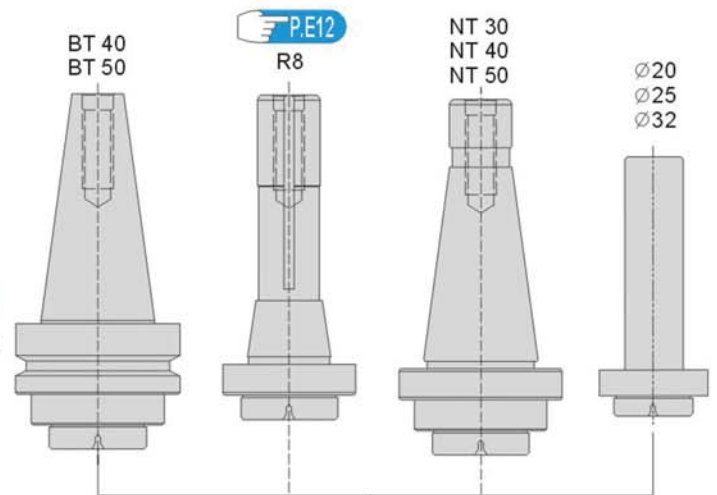
Boring Range: $\varnothing 100 \sim \varnothing 250$
 Boring depth: 80mm
 59990-1836 (Optional)

Features:

- ▶ Min. boring range $\varnothing 12$ mm.
- ▶ Max. boring range $\varnothing 120$ mm(optional $\varnothing 250$ mm)
- ▶ Max. boring depth 110mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

Shank x 1pc
 Boring tool x 3pc



Order No.	Model	Spec.	Tool	N.W.
59250C-02	BHC3+BT40	M16xP2.0	+BH18-12/20/30	3.9kg
59250C-04	BHC3+BT50	M24xP3.0	+BH18-12/20/30	6.6kg
59250C-06	BHC3+R8	7/16"x20UNF	+BH18-12/20/30	3.2kg
59250C-08	BHC3+NT30	1/2"x12UNC	+BH18-12/20/30	3.2kg
59250C-10	BHC3+NT30	M12xP1.75	+BH18-12/20/30	3.2kg
59250C-12	BHC3+NT40	5/8"x11UNC	+BH18-12/20/30	3.9kg
59250C-14	BHC3+NT40	M16xP2.0	+BH18-12/20/30	3.9kg
59250C-16	BHC3+NT50	1"x8UNC	+BH18-12/20/30	5.8kg
59250C-18	BHC3+NT50	M24xP3.0	+BH18-12/20/30	5.8kg
59250C-20	BHC3+MT2	3/8"x16UNC	+BH18-12/20/30	2.9kg
59250C-22	BHC3+MT2	M10xP1.5	+BH18-12/20/30	2.9kg
59250C-24	BHC3+MT3	3/8"x16UNC	+BH18-12/20/30	3.1kg
59250C-26	BHC3+MT3	1/2"x13UNC	+BH18-12/20/30	3.1kg
59250C-28	BHC3+MT3	1/2"x12UNC	+BH18-12/20/30	3.1kg
59250C-30	BHC3+MT3	M12xP1.75	+BH18-12/20/30	3.1kg
59250C-32	BHC3+MT4	5/8"x11UNC	+BH18-12/20/30	3.5kg
59250C-34	BHC3+MT4	M16xP2.0	+BH18-12/20/30	3.5kg
59250C-36	BHC3+MT5	1"x8UNC	+BH18-12/20/30	4.0kg
59250C-38	BHC3+MT5	M24xP3.0	+BH18-12/20/30	4.0kg
59250C-40	BHC3+MT2	TANGED	+BH18-12/20/30	3.0kg
59250C-42	BHC3+MT3	TANGED	+BH18-12/20/30	3.0kg
59250C-44	BHC3+MT4	TANGED	+BH18-12/20/30	3.4kg
59250C-46	BHC3+MT5	TANGED	+BH18-12/20/30	4.5kg

Straight Shank

Order No.	Model	Spec.	Tool	N.W.
59250C-48	BHC3+ $\varnothing 20$	$\varnothing 20 \times 60L$	+BH18-12/20/30	3.0kg
59250C-50	BHC3+ $\varnothing 25$	$\varnothing 25 \times 60L$	+BH18-12/20/30	3.1kg
59250C-52	BHC3+ $\varnothing 32$	$\varnothing 32 \times 60L$	+BH18-12/20/30	3.3kg

BORING HEAD

59250D BHC3 Boring Head Sets

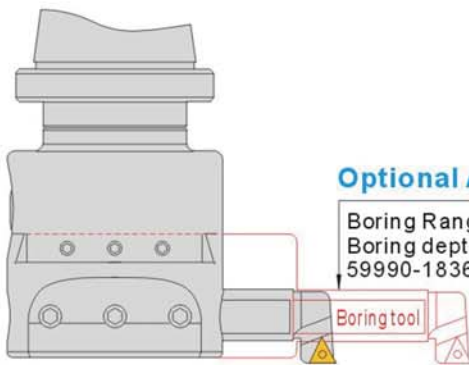


Fig.A

Optional Accessory:

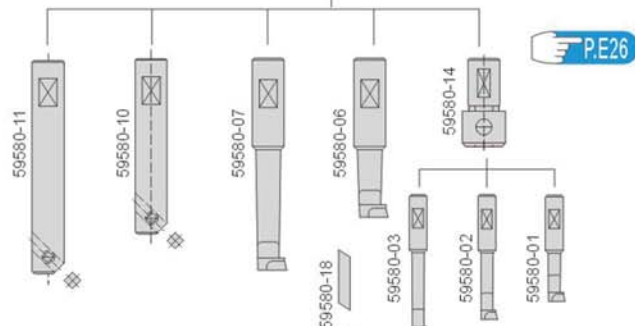
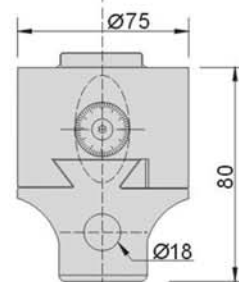
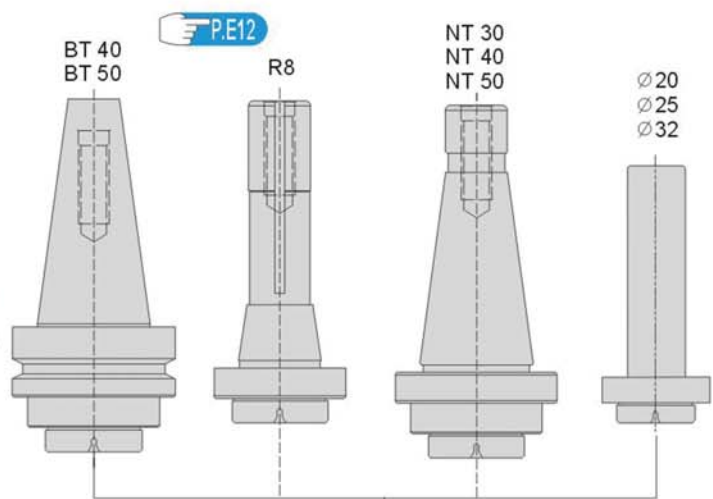
Boring Range: $\varnothing 100 \sim \varnothing 250$
 Boring depth: 80mm
 59990-1836 (Optional)

Features:

- ▶ Min. boring range $\varnothing 10\text{mm}$.
- ▶ Max. boring range $\varnothing 250\text{mm}$ (with optional)
- ▶ Max. boring depth 90mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 7pcs
- Boring sleeve x 1pc
- Lathe cutter x 1pc



Straight Shank

Order No.	Model	Spec.	N.W.
59250D-48	BHC3- $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	3.2kg
59250D-50	BHC3- $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	3.3kg
59250D-52	BHC3- $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	3.5kg

Order No.	Model	Spec.	N.W.
59250D-01	BHC3	Without shank	2.8kg
59250D-02	BHC3-BT40	M16xP2.0	4.1kg
59250D-04	BHC3-BT50	M24xP3.0	6.8kg
59250D-06	BHC3-R8	7/16"x20UNF	3.4kg
59250D-08	BHC3-NT30	1/2"x12UNC	3.4kg
59250D-10	BHC3-NT30	M12xP1.75	3.4kg
59250D-12	BHC3-NT40	5/8"x11UNC	4.1kg
59250D-14	BHC3-NT40	M16xP2.0	4.1kg
59250D-16	BHC3-NT50	1"x8UNC	5.9kg
59250D-18	BHC3-NT50	M24xP3.0	5.9kg
59250D-20	BHC3-MT2	3/8"x16UNC	3.1kg
59250D-22	BHC3-MT2	M10xP1.5	3.1kg
59250D-24	BHC3-MT3	3/8"x16UNC	3.3kg
59250D-26	BHC3-MT3	1/2"x13UNC	3.3kg
59250D-28	BHC3-MT3	1/2"x12UNC	3.3kg
59250D-30	BHC3-MT3	M12xP1.75	3.3kg
59250D-32	BHC3-MT4	5/8"x11UNC	3.6kg
59250D-34	BHC3-MT4	M16xP2.0	3.6kg
59250D-36	BHC3-MT5	1"x8UNC	4.2kg
59250D-38	BHC3-MT5	M24xP3.0	4.2kg
59250D-40	BHC3-MT2	TANGED	3.1kg
59250D-42	BHC3-MT3	TANGED	3.1kg
59250D-44	BHC3-MT4	TANGED	3.6kg
59250D-46	BHC3-MT5	TANGED	4.6kg

BORING HEAD

C type Boring Head series

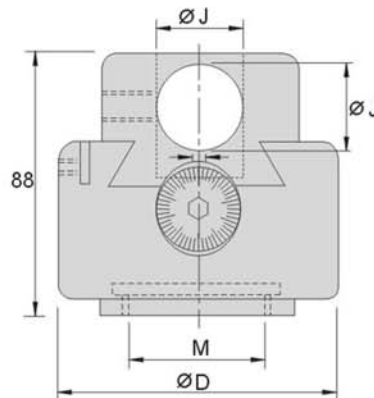
59300 BHC4 Boring Head



Graduation reading

Features:

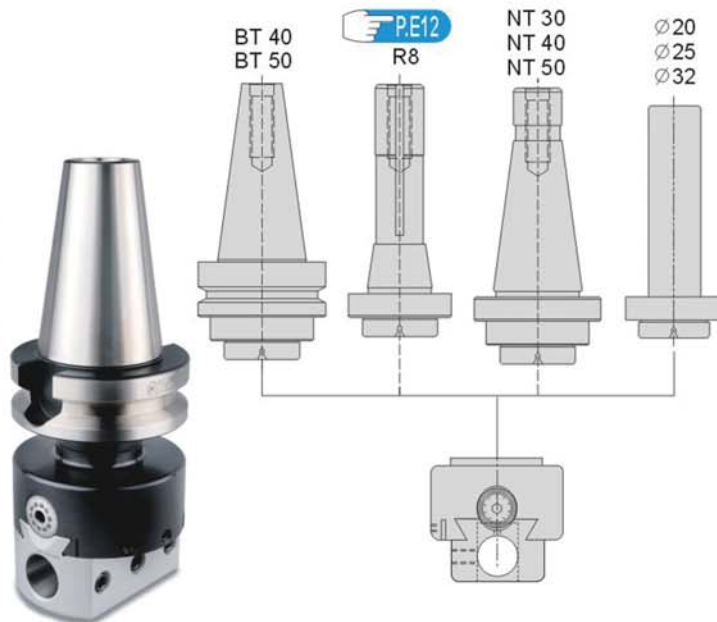
- ▶ Inch/Metric graduation, min. 0.0005" / 0.01mm.
- ▶ Inch/Metric standard is available.



Order No.	Model	D	H	M	Boring Bar Hole Dia.(ØJ)	Center Dist. Btw holes(K)	Adjustable Feed	N.W.
59300-11	BHC4 inch	Ø4"	3-1/2"	1-1/2"-18	1"	1-1/4"	1"	4kg
59300-12	BHC4 m/m	100	88	1-1/2"-18	25	31	25	3.5kg

59300A BHC4 Boring Head+Shank

Order No.	Model	Spec.	N.W.
59300A-02	BHC4+BT40	M16xP2.0	4.7kg
59300A-04	BHC4+BT50	M24xP3.0	7.5kg
59300A-06	BHC4+R8	7/16"x20UNF	4.1kg
59300A-08	BHC4+NT30	1/2"x12UNC	4.1kg
59300A-10	BHC4+NT30	M12xP1.75	4.1kg
59300A-12	BHC4+NT40	5/8"x11UNC	4.8kg
59300A-14	BHC4+NT40	M16xP2.0	4.8kg
59300A-16	BHC4+NT50	1"x8UNC	6.6kg
59300A-18	BHC4+NT50	M24xP3.0	6.6kg
59300A-20	BHC4+MT2	3/8"x16UNC	3.8kg
59300A-22	BHC4+MT2	M10xP1.5	3.8kg
59300A-24	BHC4+MT3	3/8"x16UNC	4.0kg
59300A-26	BHC4+MT3	1/2"x13UNC	4.0kg
59300A-28	BHC4+MT3	1/2"x12UNC	4.0kg
59300A-30	BHC4+MT3	M12xP1.75	4.0kg
59300A-32	BHC4+MT4	5/8"x11UNC	4.3kg
59300A-34	BHC4+MT4	M16xP2.0	4.3kg
59300A-36	BHC4+MT5	1"x8UNC	4.9kg
59300A-38	BHC4+MT5	M24xP3.0	4.9kg
59300A-40	BHC4+MT2	TANGED	3.8kg
59300A-42	BHC4+MT3	TANGED	4.0kg
59300A-44	BHC4+MT4	TANGED	4.3kg
59300A-46	BHC4+MT5	TANGED	5.3kg



Straight Shank

Order No.	Model	Spec.	N.W.
59300A-48	BHC4+Ø20	Ø20x60L	3.9kg
59300A-50	BHC4+Ø25	Ø25x60L	4.0kg
59300A-52	BHC4+Ø32	Ø32x60L	4.2kg

BORING HEAD

59300B

BHC4

Boring Head+Shank+Tool

Features :

- ▶ Min. boring range $\varnothing 30\text{mm}$.
- ▶ Max. boring range $\varnothing 135\text{mm}$.
- ▶ Max. boring depth 150mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

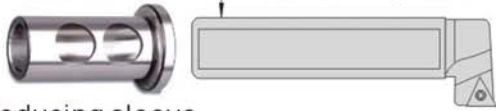
Shank x 1pc
Boring tool x 3pc



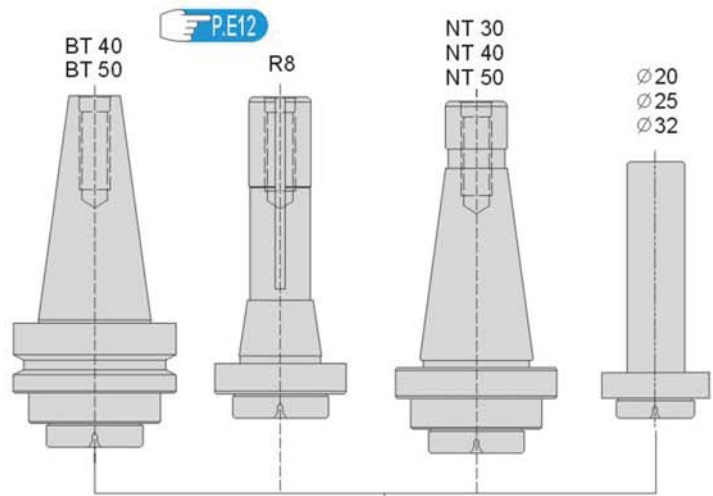
Optional Accessory:

Boring Range : $\varnothing 125 \sim \varnothing 300$
Boring depth : 90mm
59990-1836 (Optional)

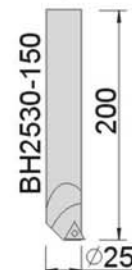
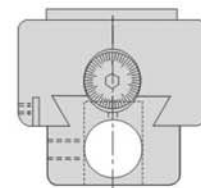
59300-1



Reducing sleeve
 $\varnothing 25$ to $\varnothing 18$ (BH1836) See Page E48.



Order No.	Model	Spec.	Tool	N.W.
59300B-02	BHC4+BT40	M16xP2.0	+BH2530	7.3kg
59300B-04	BHC4+BT50	M24xP3.0	+BH2530	10.5kg
59300B-06	BHC4+R8	7/16"x20UNF	+BH2530	6.7kg
59300B-08	BHC4+NT30	1/2"x12UNC	+BH2530	6.65kg
59300B-10	BHC4+NT30	M12xP1.75	+BH2530	6.65kg
59300B-12	BHC4+NT40	5/8"x11UNC	+BH2530	7.2kg
59300B-14	BHC4+NT40	M16xP2.0	+BH2530	7.2kg
59300B-16	BHC4+NT50	1"x8UNC	+BH2530	9.7kg
59300B-18	BHC4+NT50	M24xP3.0	+BH2530	9.7kg
59300B-20	BHC4+MT2	3/8"x16UNC	+BH2530	6.4kg
59300B-22	BHC4+MT2	M10xP1.5	+BH2530	6.4kg
59300B-24	BHC4+MT3	3/8"x16UNC	+BH2530	6.5kg
59300B-26	BHC4+MT3	1/2"x13UNC	+BH2530	6.5kg
59300B-28	BHC4+MT3	1/2"x12UNC	+BH2530	6.5kg
59300B-30	BHC4+MT3	M12xP1.75	+BH2530	6.5kg
59300B-32	BHC4+MT4	5/8"x11UNC	+BH2530	6.8kg
59300B-34	BHC4+MT4	M16xP2.0	+BH2530	6.8kg
59300B-36	BHC4+MT5	1"x8UNC	+BH2530	7.9kg
59300B-38	BHC4+MT5	M24xP3.0	+BH2530	7.9kg
59300B-40	BHC4+MT2	TANGED	+BH2530	6.4kg
59300B-42	BHC4+MT3	TANGED	+BH2530	6.5kg
59300B-44	BHC4+MT4	TANGED	+BH2530	6.9kg
59300B-46	BHC4+MT5	TANGED	+BH2530	8.2kg



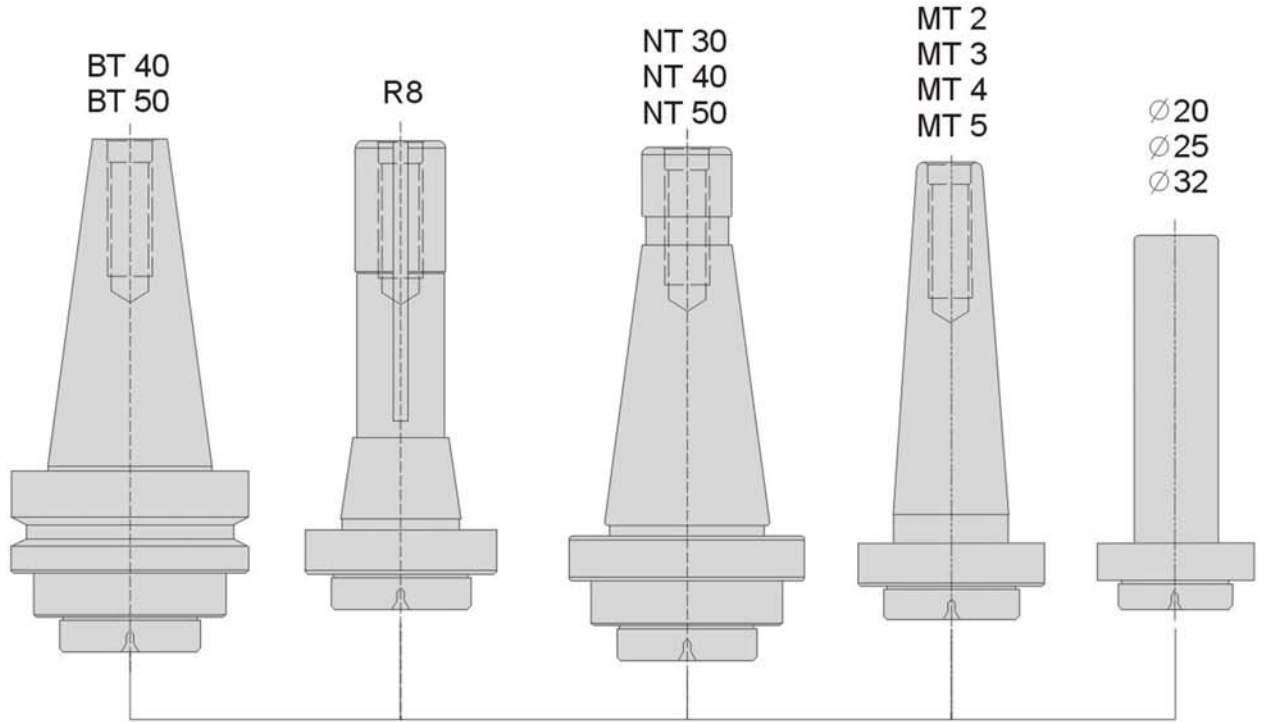
Straight Shank

Order No.	Model	Spec.	Tool	N.W.
59300B-48	BHC4+ $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	+BH25-30	2.95kg
59300B-50	BHC4+ $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	+BH25-30	3.05kg
59300B-52	BHC4+ $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	+BH25-30	3.15kg

BORING HEAD

C type Boring Head series

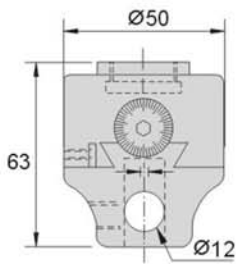
Boring Head+Shank assembly illustration



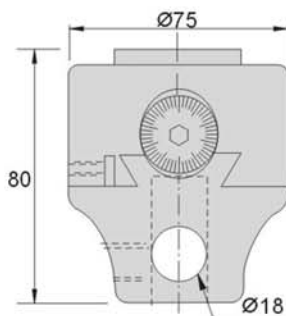
See Page E12 for more information.



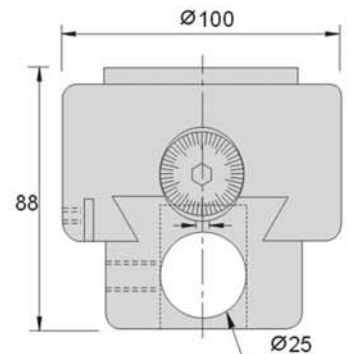
BHC2



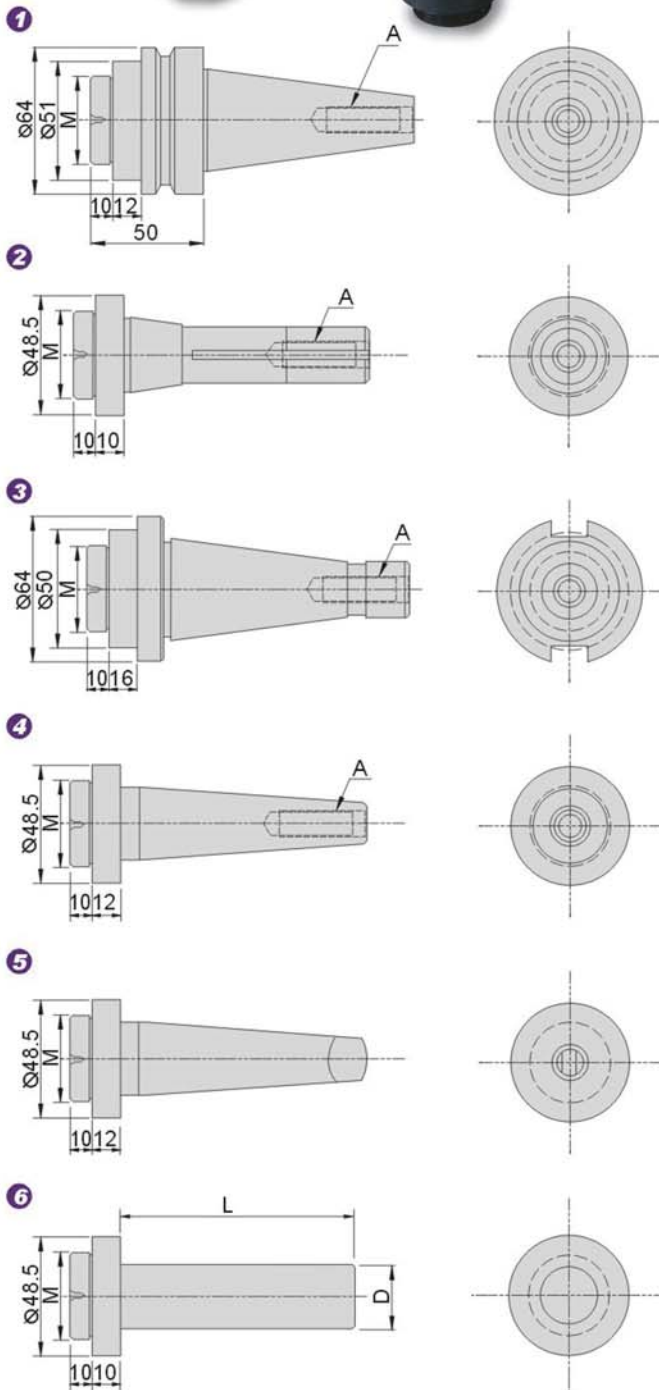
BHC3



BHC4



59320 BHC Boring Shank



Remark: M=11/2"-18UNF

Features :

- These shanks are for BHC2, BHC3, and BHC4 boring heads.

Fig 1

Order No.	Model	Spec.	N.W.
59320-02	BT40	M16X2.0	1.3kg
59320-04	BT50	M24X3.0	4.0kg

Fig 2

59320-06	R8	7/16"X20UNF	0.6kg
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Fig 3

59320-08	NT30	1/2"X12UNC	0.6kg
59320-10	NT30	M12XP1.75	0.6kg
59320-12	NT40	5/8"X11UNC	1.3kg
59320-14	NT40	M16XP2.0	1.3kg
59320-16	NT50	1"X8UNC	3.1kg
59320-18	NT50	M24XP3.0	3.1kg

Fig 4

59320-20	MT2	3/8"X16UNC	0.3kg
59320-22	MT2	M10XP1.5	0.3kg
59320-24	MT3	3/8"X16UNC	0.5kg
59320-26	MT3	1/2"X13UNC	0.5kg
59320-28	MT3	1/2"X12UNC	0.5kg
59320-30	MT3	M12XP1.75	0.5kg
59320-32	MT4	5/8"X11UNC	0.8kg
59320-34	MT4	M16XP2.0	0.8kg
59320-36	MT5	1"X8UNC	1.4kg
59320-38	MT5	M24XP3.0	1.4kg

Fig 5

59320-40	MT2	TANGED	0.3kg
59320-42	MT3	TANGED	0.5kg
59320-44	MT4	TANGED	0.8kg
59320-46	MT5	TANGED	1.9kg

Fig 6

STRAIGHT SHANK

Order No.	Model	D	L	N.W.
59320-48	Ø20	20	60	0.4kg
59320-50	Ø25	25	60	0.5kg
59320-52	Ø32	32	60	0.7kg

B type Boring Head series

59450A

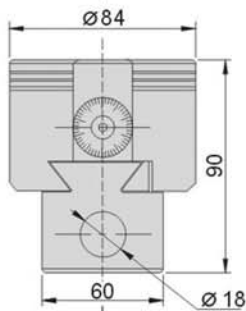
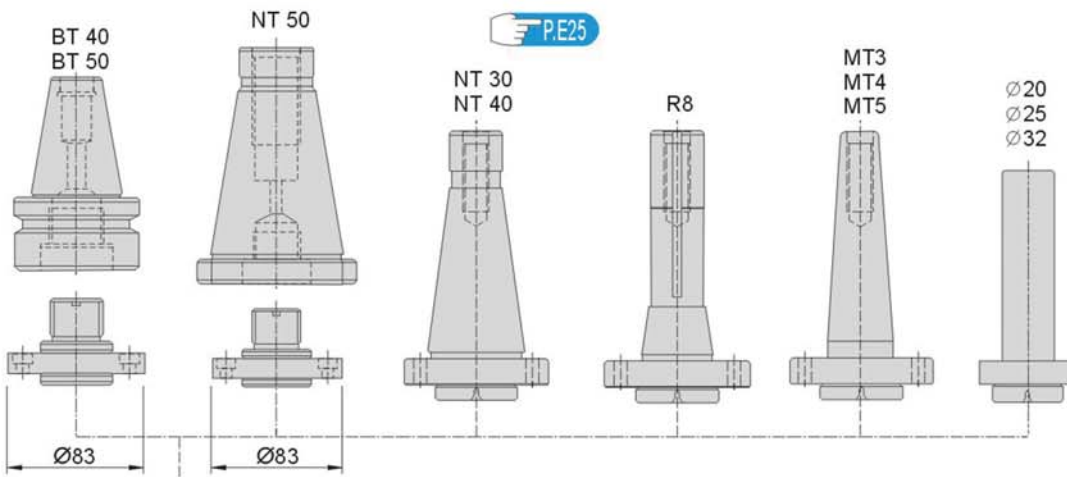
BHB

Boring Head+Shank



Features:

- ▶ Graduation reading min. 0.005mm(Ø0.01mm)
- ▶ Adjustable feed 25mm (1")
- ▶ Inch/Metric standard is available.



Graduation reading



3 Boring Bar holes

59450

Order No.	Model	Spec.	N.W.
59450A-02	BHB+BT40	M16xP2.0	3.6kg
59450A-04	BHB+BT50	M24xP3.0	8.5kg
59450A-06	BHB+R8	7/16"x20UNF	3.7kg
59450A-08	BHB+NT30	1/2"x12UNC	3.4kg
59450A-10	BHB+NT30	M12xP1.75	3.4kg
59450A-12	BHB+NT40	5/8"x11UNC	3.9kg
59450A-14	BHB+NT40	M16xP2.0	3.9kg
59450A-16	BHB+NT50	1"x8UNC	6.7kg
59450A-18	BHB+NT50	M24xP3.0	6.7kg
59450A-20	BHB+MT3	1/2"x13UNC	3.5kg
59450A-22	BHB+MT3	M12xP1.75	3.5kg
59450A-24	BHB+MT4	5/8"x11UNC	3.9kg
59450A-26	BHB+MT4	M16xP2.0	3.9kg
59450A-28	BHB+MT5	1"-8UNC	4.5kg
59450A-30	BHB+MT5	M24xP3.0	4.5kg
59450A-32	BHB+MT3	TANGED	3.7kg
59450A-34	BHB+MT4	TANGED	3.9kg
59450A-36	BHB+MT5	TANGED	4.9kg

Straight Shank

Order No.	Model	Spec.	N.W.
59450A-38	BHB+ Ø 20	Ø20x60L	3.4kg
59450A-40	BHB+ Ø 25	Ø25x60L	3.5kg
59450A-42	BHB+ Ø 32	Ø32x60L	3.7kg

59450B

BHB

Boring Head+Shank+Bar

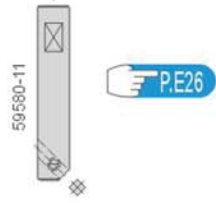
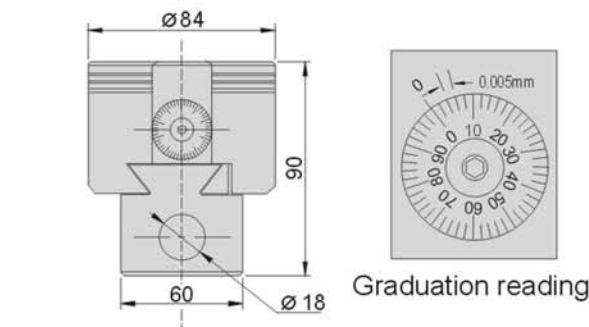
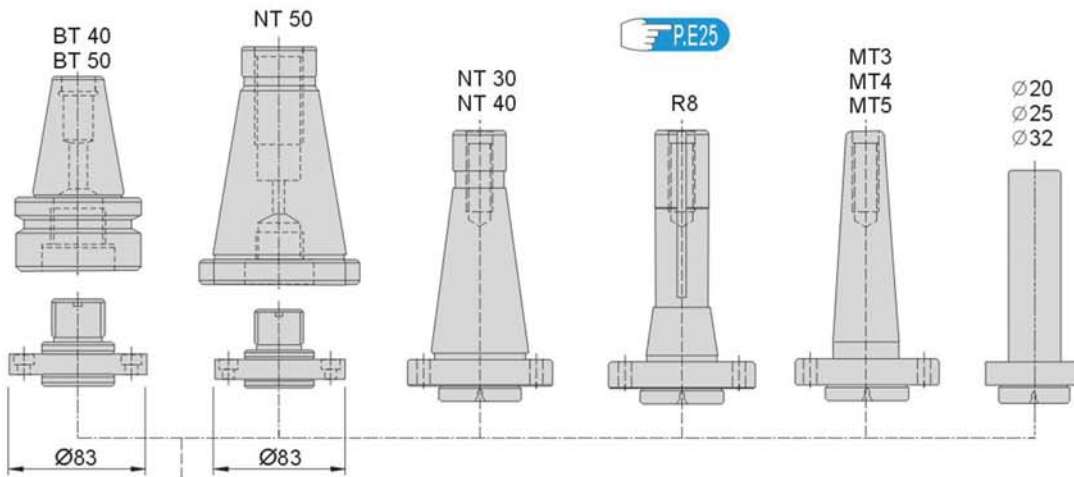


Features:

- ▶ Graduation reading min. 0.005mm(ø0.01mm)
- ▶ Inch/Metric standard is available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 1pc
- Lathe cutter x 1pc



Order No.	Model	Spec.	Bar	N.W.
59450B-02	BHB+BT40	M16xP2.0	+ 902023	3.8kg
59450B-04	BHB+BT50	M24xP3.0	+ 902023	8.7kg
59450B-06	BHB+R8	7/16"x20UNF	+ 902023	3.9kg
59450B-08	BHB+NT30	1/2"x12UNC	+ 902023	3.6kg
59450B-10	BHB+NT30	M12xP1.75	+ 902023	3.6kg
59450B-12	BHB+NT40	5/8"x11UNC	+ 902023	4.1kg
59450B-14	BHB+NT40	M16xP2.0	+ 902023	4.1kg
59450B-16	BHB+NT50	1"x8UNC	+ 902023	6.9kg
59450B-18	BHB+NT50	M24xP3.0	+ 902023	6.9kg
59450B-20	BHB+MT3	1/2"x13UNC	+ 902023	3.7kg
59450B-22	BHB+MT3	M12xP1.75	+ 902023	3.7kg
59450B-24	BHB+MT4	5/8"x11UNC	+ 902023	4.1kg
59450B-26	BHB+MT4	M16xP2.0	+ 902023	4.1kg
59450B-28	BHB+MT5	1"-8UNC	+ 902023	4.7kg
59450B-30	BHB+MT5	M24xP3.0	+ 902023	4.7kg
59450B-32	BHB+MT3	TANGED	+ 902023	3.9kg
59450B-34	BHB+MT4	TANGED	+ 902023	4.1kg
59450B-36	BHB+MT5	TANGED	+ 902023	5.1kg

Straight Shank

Order No.	Model	Spec.	Bar	N.W.
59450B-38	BHB+Ø 20	Ø20x60L	+ 902023	3.6kg
59450B-40	BHB+Ø 25	Ø25x60L	+ 902023	3.7kg
59450B-42	BHB+Ø 32	Ø32x60L	+ 902023	3.9kg

BORING HEAD

B type Boring Head series

59450C BHB Boring Head+Shank+Tool

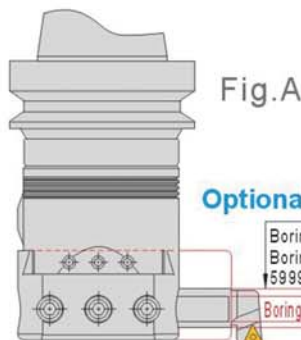
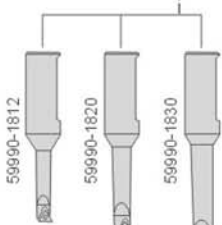
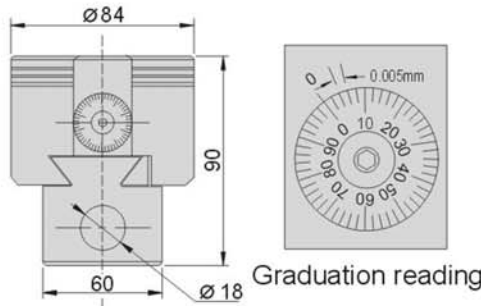
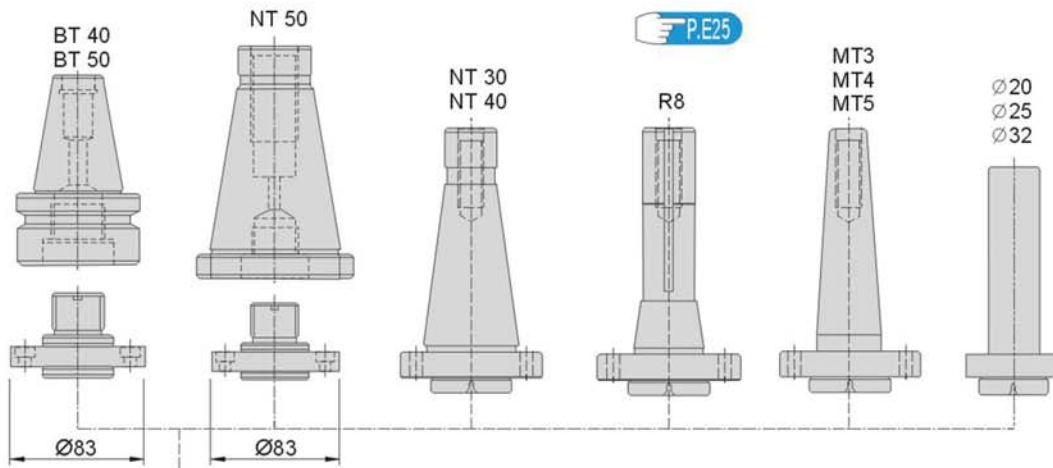


Features:

- ▶ Min. boring range $\varnothing 12\text{mm}$.
- ▶ Max. boring range $\varnothing 120\text{mm}$ (optional 260mm)
- ▶ Max. boring depth 110mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 3pc



Order No.	Model	Spec.	Tool	N.W.
59450C-02	BHB+BT40	M16xP2.0	+BH18-12/20/30	5.1kg
59450C-04	BHB+BT50	M24xP3.0	+BH18-12/20/30	9.2kg
59450C-06	BHB+R8	7/16"x20UNF	+BH18-12/20/30	4.4kg
59450C-08	BHB+NT30	1/2"x12UNC	+BH18-12/20/30	4.1kg
59450C-10	BHB+NT30	M12xP1.75	+BH18-12/20/30	4.1kg
59450C-12	BHB+NT40	5/8"x11UNC	+BH18-12/20/30	4.6kg
59450C-14	BHB+NT40	M16xP2.0	+BH18-12/20/30	4.6kg
59450C-16	BHB+NT50	1"x8UNC	+BH18-12/20/30	7.4kg
59450C-18	BHB+NT50	M24xP3.0	+BH18-12/20/30	7.4kg
59450C-20	BHB+MT3	1/2"x13UNC	+BH18-12/20/30	4.2kg
59450C-22	BHB+MT3	M12xP1.75	+BH18-12/20/30	4.2kg
59450C-24	BHB+MT4	5/8"x11UNC	+BH18-12/20/30	4.6kg
59450C-26	BHB+MT4	M16xP2.0	+BH18-12/20/30	4.6kg
59450C-28	BHB+MT5	1"-8UNC	+BH18-12/20/30	5.2kg
59450C-30	BHB+MT5	M24xP3.0	+BH18-12/20/30	5.2kg
59450C-32	BHB+MT3	TANGED	+BH18-12/20/30	4.4kg
59450C-34	BHB+MT4	TANGED	+BH18-12/20/30	4.6kg
59450C-36	BHB+MT5	TANGED	+BH18-12/20/30	5.6kg

Straight Shank

Order No.	Model	Spec.	Tool	N.W.
59450C-38	BHB+ $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	+BH18-12/20/30	4.1kg
59450C-40	BHB+ $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	+BH18-12/20/30	4.3kg
59450C-42	BHB+ $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	+BH18-12/20/30	4.5kg

59450D BHB Boring Head Sets

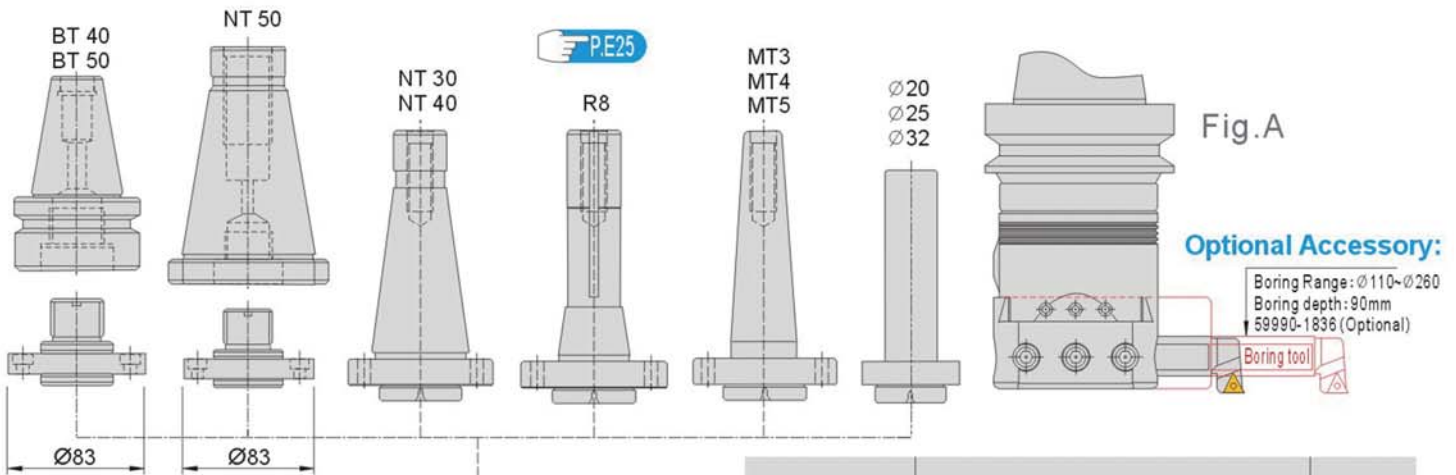


Features:

- ▶ Min. boring range $\varnothing 8\text{mm}$.
- ▶ Max. boring range $\varnothing 260\text{mm}$ (with optional)
- ▶ Max. boring depth 90mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 4pcs
- Sleeve x 1pc
- Lathe cutter x 1pc



Order No.	Model	Spec.	N.W.
59450D-01	BHB	Without shank	4.6kg
59450D-02	BHB-BT40	M16xP2.0	4.5kg
59450D-04	BHB-BT50	M24xP3.0	9.4kg
59450D-06	BHB-R8	7/16"x20UNF	4.6kg
59450D-08	BHB-NT30	1/2"x12UNC	4.3kg
59450D-10	BHB-NT30	M12xP1.75	4.3kg
59450D-12	BHB-NT40	5/8"x11UNC	4.8kg
59450D-14	BHB-NT40	M16xP2.0	4.8kg
59450D-16	BHB-NT50	1"x8UNC	7.6kg
59450D-18	BHB-NT50	M24xP3.0	7.6kg
59450D-20	BHB-MT3	1/2"x13UNC	4.4kg
59450D-22	BHB-MT3	M12xP1.75	4.4kg
59450D-24	BHB-MT4	5/8"x11UNC	4.8kg
59450D-26	BHB-MT4	M16xP2.0	4.8kg
59450D-28	BHB-MT5	1"-8UNC	5.4kg
59450D-30	BHB-MT5	M24xP3.0	5.4kg
59450D-32	BHB-MT3	TANGED	4.6kg
59450D-34	BHB-MT4	TANGED	4.8kg
59450D-36	BHB-MT5	TANGED	5.8kg

Straight Shank

Order No.	Model	Spec.	N.W.
59450D-38	BHB- $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	4.3kg
59450D-40	BHB- $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	4.4kg
59450D-42	BHB- $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	4.6kg

BORING HEAD

B type Boring Head series

59480A

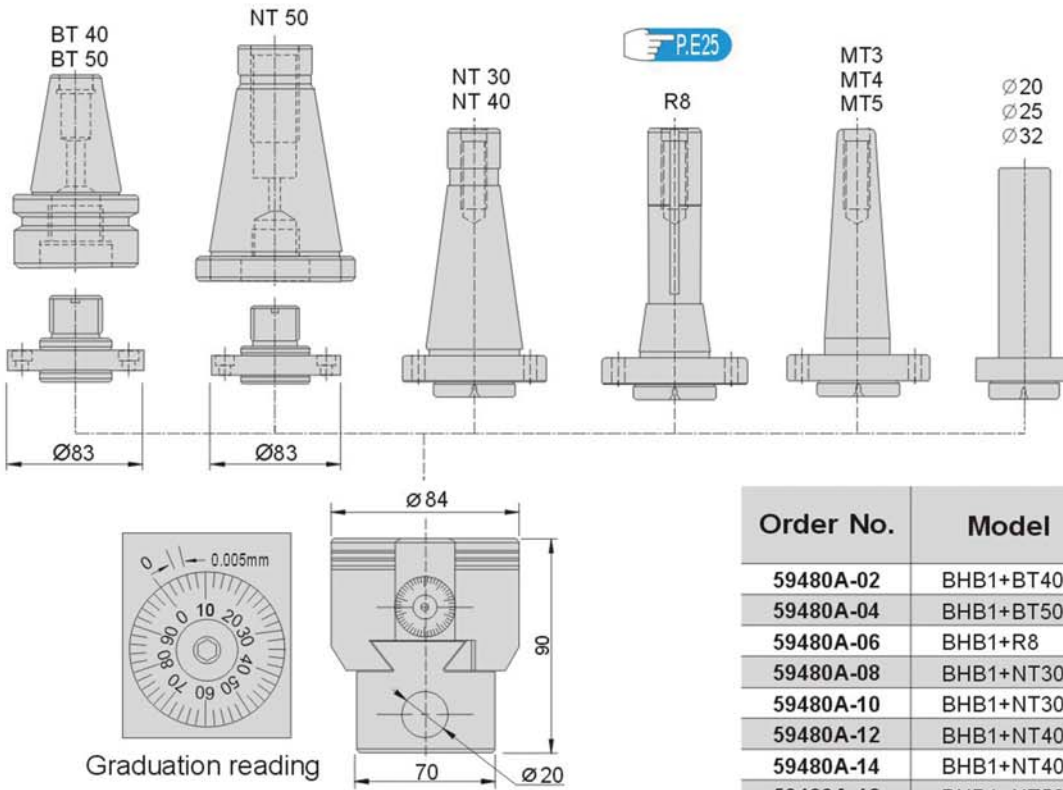
BHB1

Boring Head+Shank



Features:

- ▶ Graduation, min. 0.005mm (Dia. 0.01mm).
- ▶ Adjustable feed 25mm (1")
- ▶ Inch/Metric standard is available.



59480

Order No.	Model	Spec.	N.W.
59480A-02	BHB1+BT40	M16xP2.0	3.6kg
59480A-04	BHB1+BT50	M24xP3.0	8.5kg
59480A-06	BHB1+R8	7/16"x20UNF	3.7kg
59480A-08	BHB1+NT30	1/2"x12UNC	3.4kg
59480A-10	BHB1+NT30	M12xP1.75	3.4kg
59480A-12	BHB1+NT40	5/8"x11UNC	3.9kg
59480A-14	BHB1+NT40	M16xP2.0	3.9kg
59480A-16	BHB1+NT50	1"x8UNC	6.7kg
59480A-18	BHB1+NT50	M24xP3.0	6.7kg
59480A-20	BHB1+MT3	1/2"x13UNC	3.5kg
59480A-22	BHB1+MT3	M12xP1.75	3.5kg
59480A-24	BHB1+MT4	5/8"x11UNC	3.9kg
59480A-26	BHB1+MT4	M16xP2.0	3.9kg
59480A-28	BHB1+MT5	1"-8UNC	4.5kg
59480A-30	BHB1+MT5	M24xP3.0	4.5kg
59480A-32	BHB1+MT3	TANGED	3.7kg
59480A-34	BHB1+MT4	TANGED	3.9kg
59480A-36	BHB1+MT5	TANGED	4.9kg

Straight Shank

Order No.	Model	Spec.	N.W.
59480A-38	BHB1+Ø20	Ø20x60L	3.4kg
59480A-40	BHB1+Ø25	Ø25x60L	3.5kg
59480A-42	BHB1+Ø32	Ø32x60L	3.7kg

BORING HEAD

59480B BHB1 Boring Head+Shank+Bar

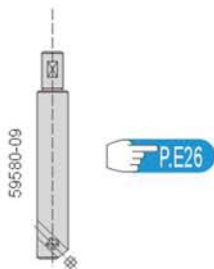
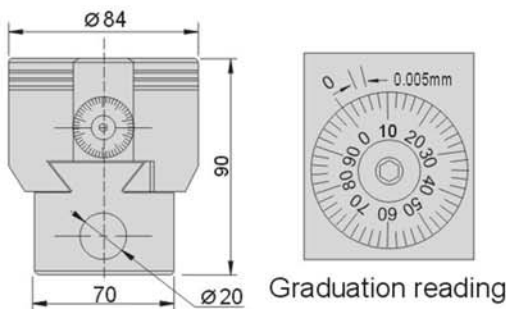
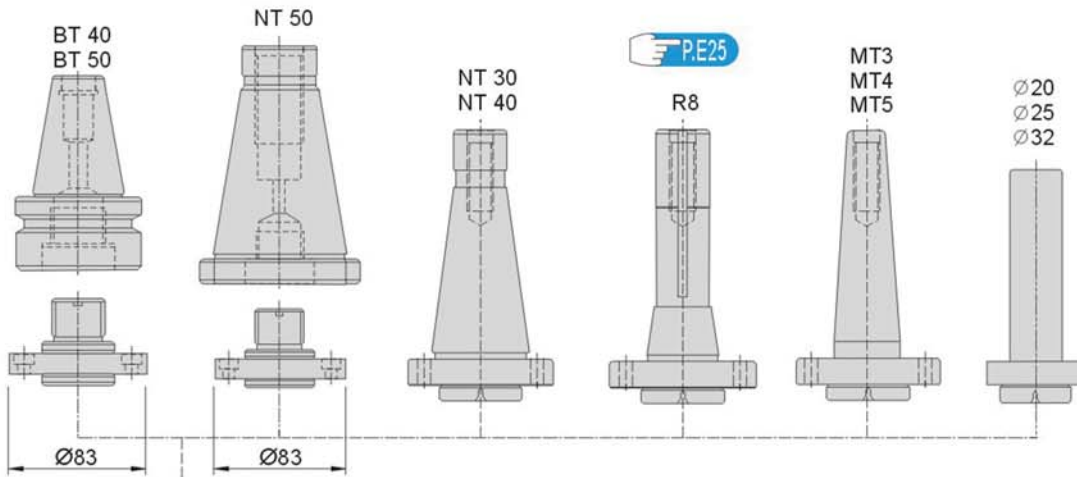


Features:

- ▶ Graduation, min. 0.005mm (Dia. 0.01mm).
- ▶ Inch/Metric standard is available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 1pc



Order No.	Model	Spec.	Bar	N.W.
59480B-02	BHB1+BT40	M16xP2.0	+ 902028	4.1kg
59480B-04	BHB1+BT50	M24xP3.0	+ 902028	9.0kg
59480B-06	BHB1+R8	7/16"x20UNF	+ 902028	4.2kg
59480B-08	BHB1+NT30	1/2"x12UNC	+ 902028	3.9kg
59480B-10	BHB1+NT30	M12xP1.75	+ 902028	3.9kg
59480B-12	BHB1+NT40	5/8"x11UNC	+ 902028	4.4kg
59480B-14	BHB1+NT40	M16xP2.0	+ 902028	4.4kg
59480B-16	BHB1+NT50	1"x8UNC	+ 902028	7.2kg
59480B-18	BHB1+NT50	M24xP3.0	+ 902028	7.2kg
59480B-20	BHB1+MT3	1/2"x13UNC	+ 902028	4.0kg
59480B-22	BHB1+MT3	M12xP1.75	+ 902028	4.0kg
59480B-24	BHB1+MT4	5/8"x11UNC	+ 902028	4.4kg
59480B-26	BHB1+MT4	M16xP2.0	+ 902028	4.4kg
59480B-28	BHB1+MT5	1"-8UNC	+ 902028	5.0kg
59480B-30	BHB1+MT5	M24xP3.0	+ 902028	5.0kg
59480B-32	BHB1+MT3	TANGED	+ 902028	4.2kg
59480B-34	BHB1+MT4	TANGED	+ 902028	4.4kg
59480B-36	BHB1+MT5	TANGED	+ 902028	5.4kg

Straight Shank

Order No.	Model	Spec.	Bar	N.W.
59480B-38	BHB1+Ø20	Ø20x60L	+ 902028	3.9kg
59480B-40	BHB1+Ø25	Ø25x60L	+ 902028	4.0kg
59480B-42	BHB1+Ø32	Ø32x60L	+ 902028	4.2kg

BORING HEAD

B type Boring Head series

59480C BHB1 Boring Head+Shank+Tool

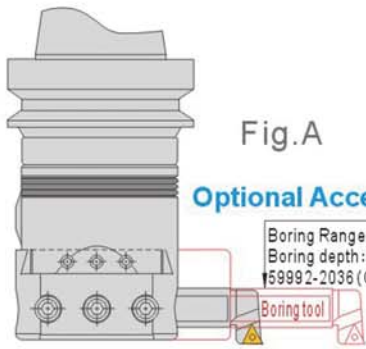
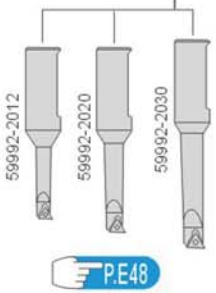
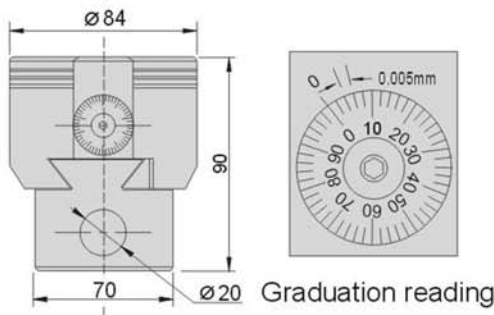
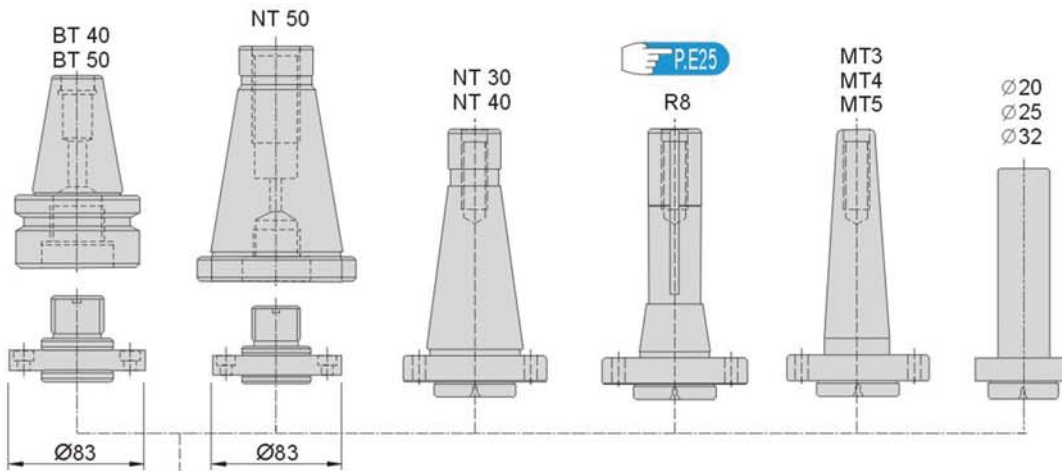


Features:

- ▲ Min. boring range $\varnothing 12\text{mm}$.
- ▲ Max. boring range $\varnothing 120\text{mm}$.
- ▲ Max. boring depth 110mm.
- ▲ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 3pc



Optional Accessory:

Boring Range: $\varnothing 110 \sim \varnothing 270$
 Boring depth: 90mm
 59992-2036 (Optional)

Order No.	Model	Spec.	Tool	N.W.
59480C-02	BHB1+BT40	M16xP2.0	+BH20-12/20/30	4.4kg
59480C-04	BHB1+BT50	M24xP3.0	+BH20-12/20/30	9.3kg
59480C-06	BHB1+R8	7/16"x20UNF	+BH20-12/20/30	4.5kg
59480C-08	BHB1+NT30	1/2"x12UNC	+BH20-12/20/30	4.2kg
59480C-10	BHB1+NT30	M12xP1.75	+BH20-12/20/30	4.2kg
59480C-12	BHB1+NT40	5/8"x11UNC	+BH20-12/20/30	4.7kg
59480C-14	BHB1+NT40	M16xP2.0	+BH20-12/20/30	4.7kg
59480C-16	BHB1+NT50	1"x8UNC	+BH20-12/20/30	7.5kg
59480C-18	BHB1+NT50	M24xP3.0	+BH20-12/20/30	7.5kg
59480C-20	BHB1+MT3	1/2"x13UNC	+BH20-12/20/30	4.3kg
59480C-22	BHB1+MT3	M12xP1.75	+BH20-12/20/30	4.3kg
59480C-24	BHB1+MT4	5/8"x11UNC	+BH20-12/20/30	4.7kg
59480C-26	BHB1+MT4	M16xP2.0	+BH20-12/20/30	4.7kg
59480C-28	BHB1+MT5	1"-8UNC	+BH20-12/20/30	5.3kg
59480C-30	BHB1+MT5	M24xP3.0	+BH20-12/20/30	5.3kg
59480C-32	BHB1+MT3	TANGED	+BH20-12/20/30	4.5kg
59480C-34	BHB1+MT4	TANGED	+BH20-12/20/30	4.7kg
59480C-36	BHB1+MT5	TANGED	+BH20-12/20/30	5.7kg

Straight Shank

Order No.	Model	Spec.	Tool	N.W.
59480C-38	BHB1+ $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	+BH20-12/20/30	4.2kg
59480C-40	BHB1+ $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	+BH20-12/20/30	4.4kg
59480C-42	BHB1+ $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	+BH20-12/20/30	4.6kg

BORING HEAD

59480D BHB1 Boring Head Sets

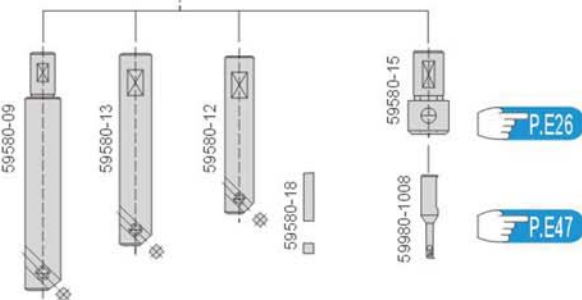
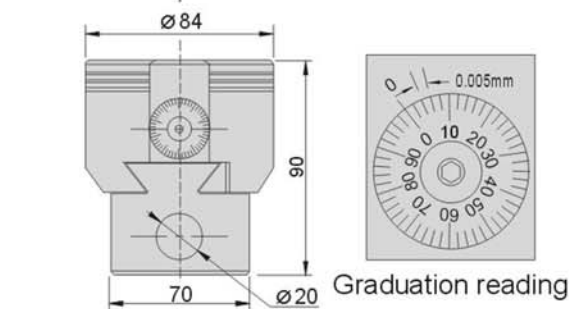
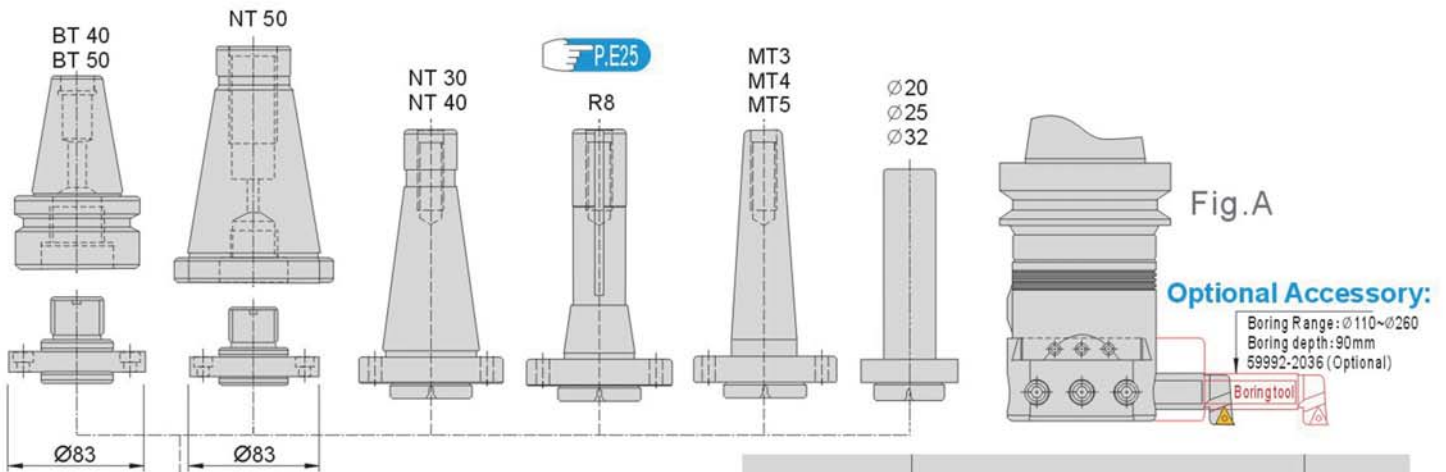


Features :

- ▶ Min. boring range $\varnothing 8\text{mm}$.
- ▶ Max. boring range $\varnothing 260\text{mm}$.
- ▶ Max. boring depth 110mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 4pcs
- Sleeve x 1pc



Order No.	Model	Spec.	N.W.
59480D-01	BHB1	Without shank	5kg
59480D-02	BHB1-BT40	M16xP2.0	6.1kg
59480D-04	BHB1-BT50	M24xP3.0	11.0kg
59480D-06	BHB1-R8	7/16"x20UNF	6.2kg
59480D-08	BHB1-NT30	1/2"x12UNC	5.9kg
59480D-10	BHB1-NT30	M12xP1.75	5.9kg
59480D-12	BHB1-NT40	5/8"x11UNC	6.4kg
59480D-14	BHB1-NT40	M16xP2.0	6.4kg
59480D-16	BHB1-NT50	1"x8UNC	9.2kg
59480D-18	BHB1-NT50	M24xP3.0	9.2kg
59480D-20	BHB1-MT3	1/2"x13UNC	6.0kg
59480D-22	BHB1-MT3	M12xP1.75	6.0kg
59480D-24	BHB1-MT4	5/8"x11UNC	6.4kg
59480D-26	BHB1-MT4	M16xP2.0	6.4kg
59480D-28	BHB1-MT5	1"-8UNC	7.0kg
59480D-30	BHB1-MT5	M24xP3.0	7.0kg
59480D-32	BHB1-MT3	TANGED	6.2kg
59480D-34	BHB1-MT4	TANGED	6.4kg
59480D-36	BHB1-MT5	TANGED	7.4kg

Straight Shank

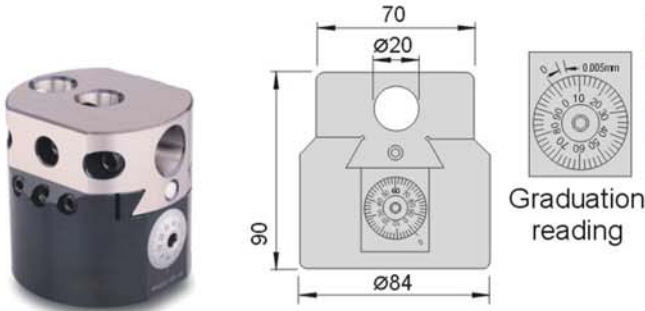
Order No.	Model	Spec.	N.W.
59480D-38	BHB1- $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	5.9kg
59480D-40	BHB1- $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	6.1kg
59480D-42	BHB1- $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	6.3kg

B type Boring Head series

59490

BH2084

Boring Head



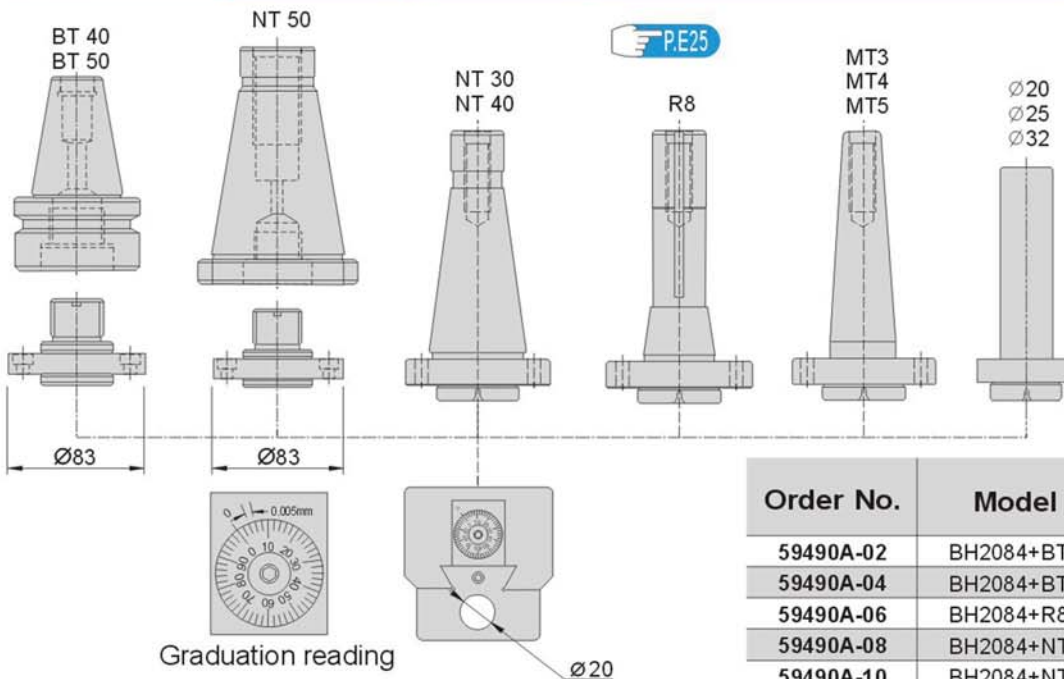
Features:

- With high precision thread rod each graduation reading is 0.005mm ($\varnothing 0.01$ mm).
- Adopting 6 screws to assembly between Shank and BH2084 for better stability (See Page E25).

59490A

BH2084

Boring Head+Shank



Order No.	Model	Spec.	N.W.
59490A-02	BH2084+BT40	M16xP2.0	4.9kg
59490A-04	BH2084+BT50	M24xP3.0	8kg
59490A-06	BH2084+R8	7/16"x20UNF	4.2kg
59490A-08	BH2084+NT30	1/2"x12UNC	3.9kg
59490A-10	BH2084+NT30	M12xP1.75	3.9kg
59490A-12	BH2084+NT40	5/8"x11UNC	4.35kg
59490A-14	BH2084+NT40	M16xP2.0	4.35kg
59490A-16	BH2084+NT50	1"x8UNC	7.4kg
59490A-18	BH2084+NT50	M24xP3.0	7.4kg
59490A-20	BH2084+MT3	1/2"x13UNC	4kg
59490A-22	BH2084+MT3	M12xP1.75	4kg
59490A-24	BH2084+MT4	5/8"x11UNC	4.25kg
59490A-26	BH2084+MT4	M16xP2.0	4.25kg
59490A-28	BH2084+MT5	1"-8UNC	5kg
59490A-30	BH2084+MT5	M24xP3.0	5kg
59490A-32	BH2084+MT3	TANGED	4.1kg
59490A-34	BH2084+MT4	TANGED	4.4kg
59490A-36	BH2084+MT5	TANGED	4.7kg

Straight Shank

Order No.	Model	Spec.	N.W.
59490A-38	BH2084+ $\varnothing 20$	$\varnothing 20 \times 60L$	4kg
59490A-40	BH2084+ $\varnothing 25$	$\varnothing 25 \times 60L$	4kg
59490A-42	BH2084+ $\varnothing 32$	$\varnothing 32 \times 60L$	4.2kg



59490C

BH2084

Boring Head+Shank+Tool

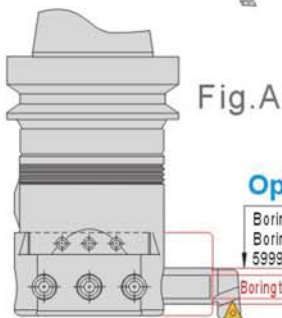
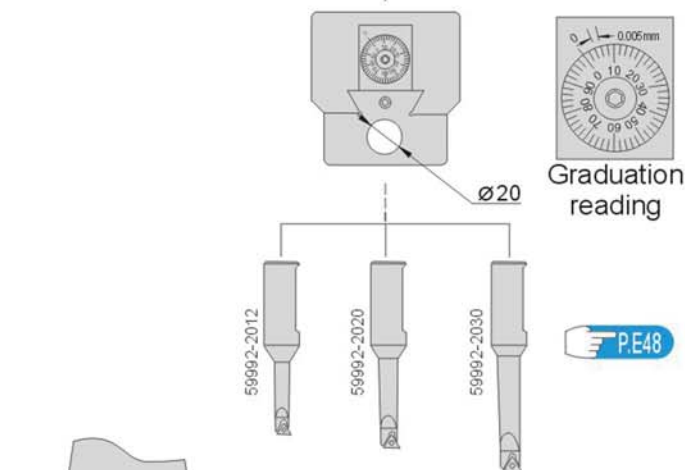
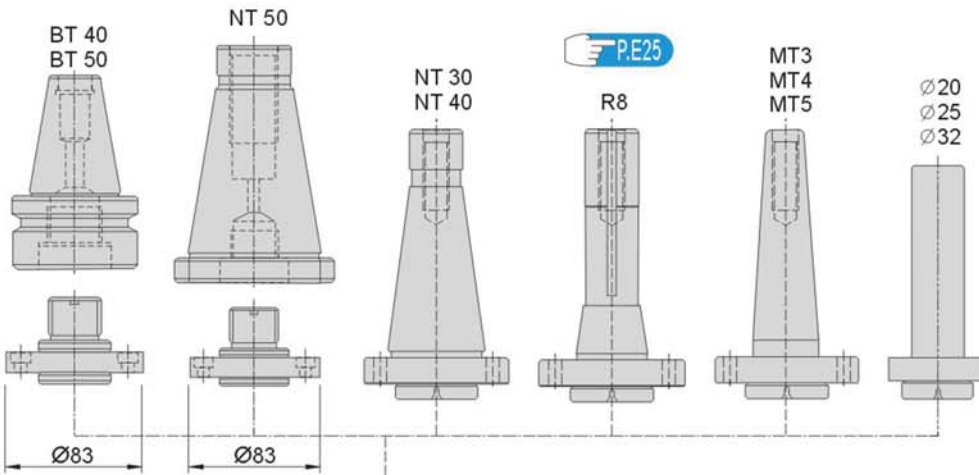


Features :

- ▶ Min. boring range $\varnothing 12\text{mm}$.
- ▶ Max. boring range $\varnothing 120\text{mm}$.
- ▶ Max. boring depth 110mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring bar x 3pcs
- Inserts x 3pc



Optional Accessory:

Boring Range: $\varnothing 110\text{--}\varnothing 260$
 Boring depth: 90mm
 † 59992-2036 (Optional)

Order No.	Model	Spec.	Tool	N.W.
59490C-02	BH2084+BT40	M16xP2.0	+BH20-12/20/30	5.7
59490C-04	BH2084+BT50	M24xP3.0	+BH20-12/20/30	8.8
59490C-06	BH2084+R8	7/16"x20UNF	+BH20-12/20/30	5.0
59490C-08	BH2084+NT30	1/2"x12UNC	+BH20-12/20/30	4.7
59490C-10	BH2084+NT30	M12xP1.75	+BH20-12/20/30	4.7
59490C-12	BH2084+NT40	5/8"x11UNC	+BH20-12/20/30	5.2
59490C-14	BH2084+NT40	M16xP2.0	+BH20-12/20/30	5.2
59490C-16	BH2084+NT50	1"x8UNC	+BH2012/20/30	8.2
59490C-18	BH2084+NT50	M24xP3.0	+BH20-12/20/30	8.2
59490C-20	BH2084+MT3	1/2"x13UNC	+BH20-12/20/30	4.8
59490C-22	BH2084+MT3	M12xP1.75	+BH20-12/20/30	4.8
59490C-24	BH2084+MT4	5/8"x11UNC	+BH20-12/20/30	5.1
59490C-26	BH2084+MT4	M16xP2.0	+BH20-12/20/30	5.1
59490C-28	BH2084+MT5	1"-8UNC	+BH20-12/20/30	5.8
59490C-30	BH2084+MT5	M24xP3.0	+BH20-12/20/30	5.8
59490C-32	BH2084+MT3	TANGED	+BH20-12/20/30	4.9
59490C-34	BH2084+MT4	TANGED	+BH20-12/20/30	5.2
59490C-36	BH2084+MT5	TANGED	+BH20-12/20/30	6.5

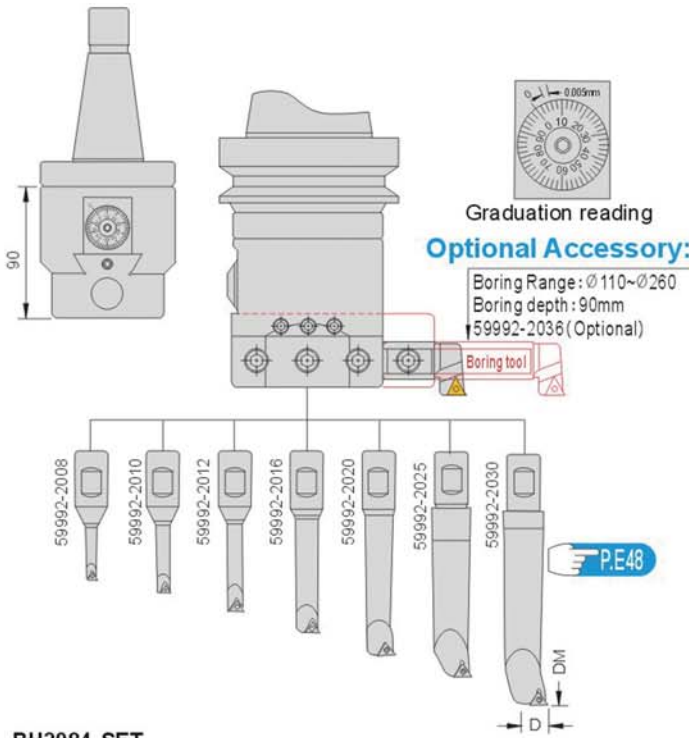
Straight Shank

Order No.	Model	Spec.	Tool	N.W.
59490C-38	BH2084+ $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	+BH20-12/20/30	4.8
59490C-40	BH2084+ $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	+BH20-12/20/30	4.8
59490C-42	BH2084+ $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	+BH20-12/20/30	5

BORING HEAD

B type Boring Head series

59490D BH2084 Boring Head Sets



Features:

▶ Graduation reading min. 0.005mm (∅0.01mm).

Standard Accessories:

Shank x 1pc
Boring bar x 8pcs

BH2084 SET

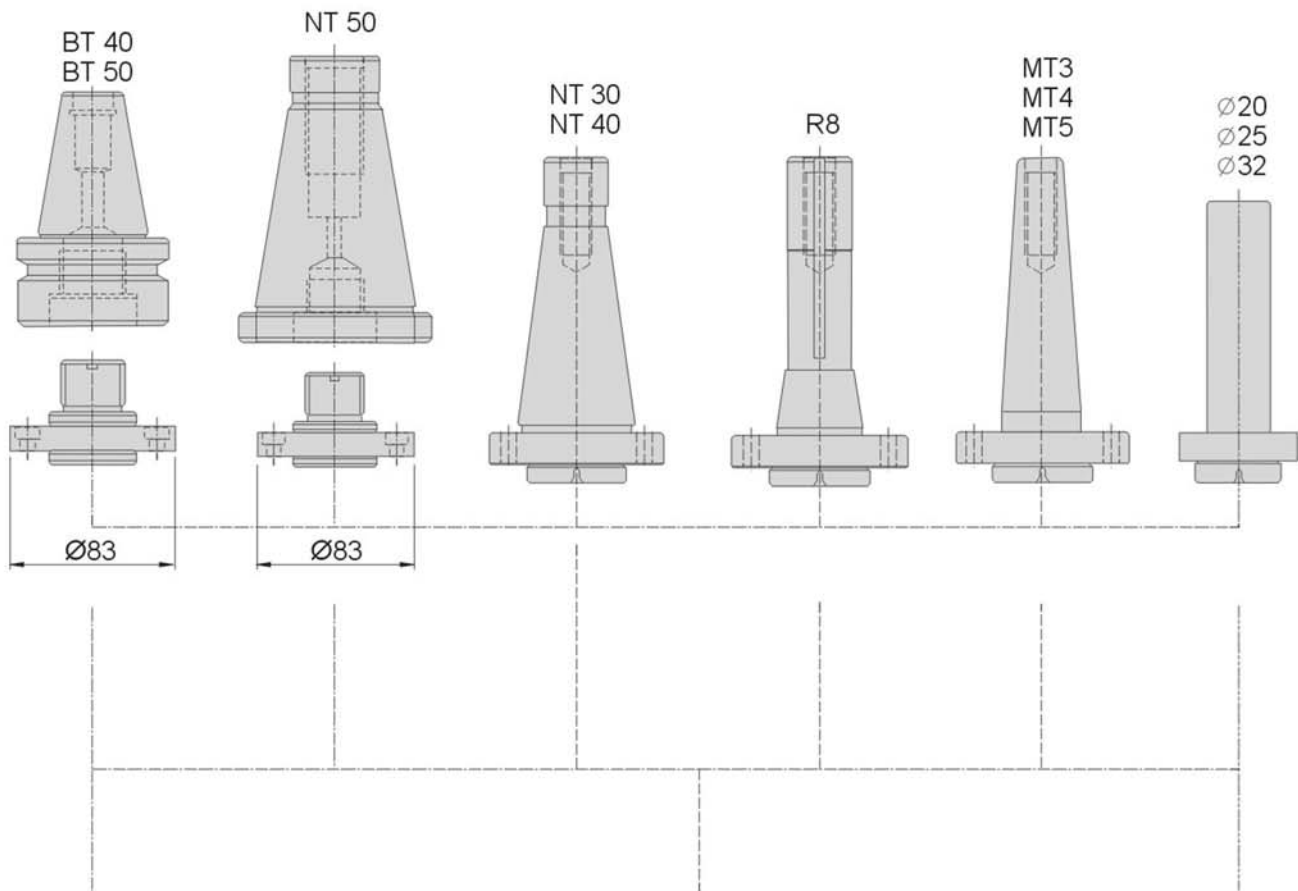
Order No.	Model	Spec.	Boring Range		Max.Boring Depth	N.W.
			Min.	Max.		
59490D-01	BH2084	Without shank	8	270	110	7.45
59490D-02	BH2084-BT 40	M16xP2.0	8	270	110	9
59490D-04	BH2084-BT 50	M24xP3.0	8	270	110	11.5
59490D-06	BH2084-R8	7/16"-20UNF	8	270	110	8.2
59490D-08	BH2084-NT30	1/2"-12UNC	8	270	110	8
59490D-10	BH2084-NT30	M12xP1.75	8	270	110	8
59490D-12	BH2084-NT40	5/8"-11UNC	8	270	110	8.4
59490D-14	BH2084-NT40	M16xP2.0	8	270	110	8.4
59490D-16	BH2084-NT50	1"-8UNC	8	270	110	11
59490D-18	BH2084-NT50	M24xP3.0	8	270	110	11
59490D-20	BH2084-MT3	1/2"-12UNC	8	270	110	8.1
59490D-22	BH2084-MT3	M12xP1.75	8	270	110	8.1
59490D-24	BH2084-MT4	5/8"-11UNC	8	270	110	8.3
59490D-26	BH2084-MT4	M16xP2.0	8	270	110	8.3
59490D-28	BH2084-MT5	1"-8UNC	8	270	110	9
59490D-30	BH2084-MT5	M24xP3.0	8	270	110	9
59490D-32	BH2084-MT3	TANGED	8	270	110	8.1
59490D-34	BH2084-MT4	TANGED	8	270	110	8.45
59490D-36	BH2084-MT5	TANGED	8	270	110	9.4

Straight Shank

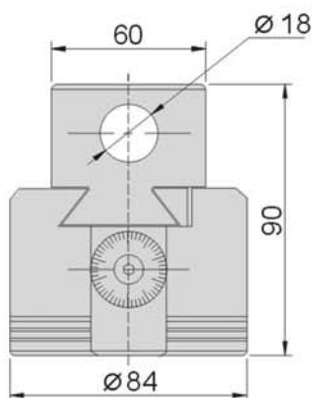
Order No.	Model	Spec.	Boring Range		Max.Boring Depth	N.W.
			Min.	Max.		
59490D-38	BH2084-20	∅20x60	8	270	110	8
59490D-40	BH2084-25	∅25x60	8	270	110	8.1
59490D-42	BH2084-32	∅32x60	8	270	110	8.2

BORING HEAD

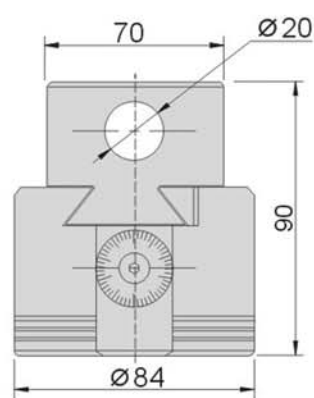
Boring Head+Shank assembly illustration



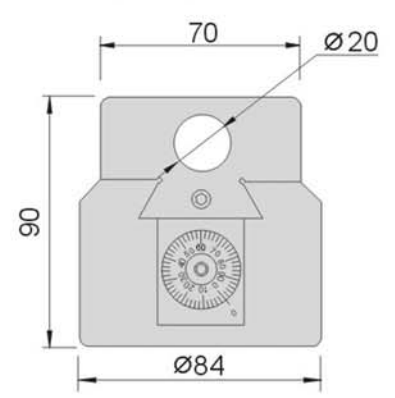
BHB



BHB1



BH2084

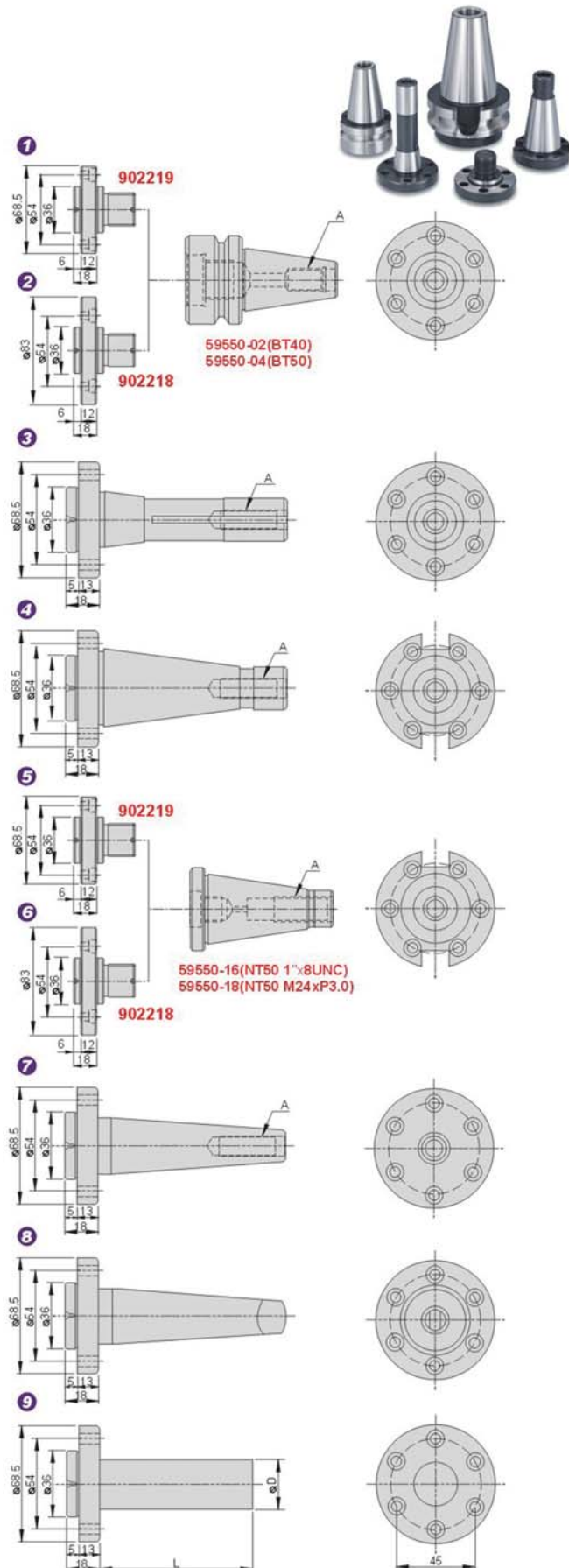


B type Boring Head series

59550

BHB

Boring Shank



Features :

- These shanks are for BHB, BHB1, BH2084 and BHAM280 boring heads.

Fig.1

Order No.	Model	Spec.	N.W.
59550-02-01	BT40	M16X2.0	1.6kg
59550-04-01	BT50	M24X3.0	4.3kg

Fig.2

59550-02-02	BT40	M16X2.0	1.7kg
59550-04-02	BT50	M24X3.0	4.6kg

Fig.3

59550-06	R8	7/16"X20UNF	0.8kg
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Fig.4

59550-08	NT30	1/2"X12UNC	0.5kg
59550-10	NT30	M12XP1.75	0.5kg
59550-12	NT40	5/8"X11UNC	1.0kg
59550-14	NT40	M16XP2.0	1.0kg

Fig.5

59550-16-01	NT50	1"X8UNC	3.6kg
59550-18-01	NT50	M24XP3.0	3.6kg

Fig.6

59550-16-02	NT50	1"X8UNC	3.6kg
59550-18-02	NT50	M24XP3.0	3.6kg

Fig.7

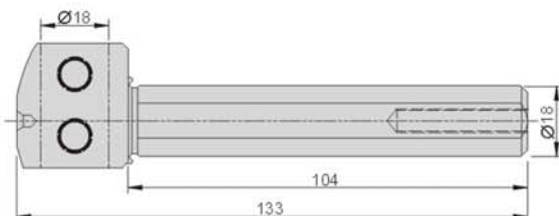
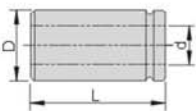
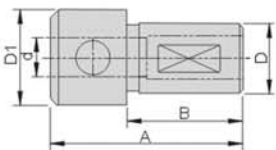
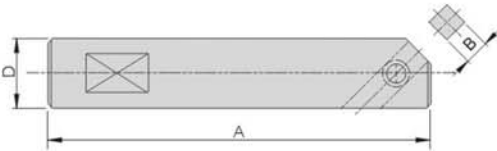
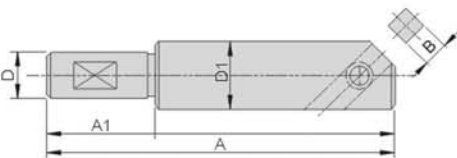
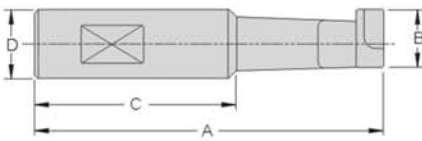
59550-20	MT3	1/2"X12UNC	0.6kg
59550-22	MT3	M12XP1.75	0.6kg
59550-24	MT4	5/8"X11UNC	1.0kg
59550-26	MT4	M16XP2.0	1.0kg
59550-28	MT5	1"-8UNC	1.6kg
59550-30	MT5	M24xP3.0	1.6kg

Fig.8

59550-32	MT3	TANGED	0.8kg
59550-34	MT4	TANGED	1.0kg
59550-36	MT5	TANGED	2.0kg

Fig.9 STRAIGHT SHANK

Order No.	Model	D	L	N.W.
59550-38	Ø20	20	60	0.5kg
59550-40	Ø25	25	60	0.7kg
59550-42	Ø32	32	60	0.9kg


Carbide tools

Order No.	Model	A	B	C	D	Spec.	N.W.	For
59580-01	902017	60	10	34	10	Ø10X60L	0.01kg	BHC3.BHB. BHB1.BHAM
59580-02	902018	70	10	34	10	Ø10X70L	0.01kg	
59580-03	902019	80	10	34	10	Ø10X80L	0.01kg	
59580-04	902061	70	11	34	12	Ø12X70L	0.01kg	BHC2
59580-05	902062	80	11	34	12	Ø12X80L	0.01kg	
59580-06	902020	90	18	51	18	Ø18X90L	0.14kg	BHC3.BHB
59580-07	902021	120	18	51	18	Ø18X120L	0.17kg	

Boring Bar

Order No.	Model	A	A1	D	D1	Spec.	N.W.	For
59580-08	902063	90	28	12	18	Ø12XØ18X90L	0.14	BHC2
59580-09	902028	150	35	20	25	Ø20XØ25X150L	0.49	BHB1

Order No.	Model	A	B	D	Spec.	N.W.	For
59580-10	902022	90	6.5	18	Ø18X90L	0.16kg	BHC3.BHB
59580-11	902023	120	6.5	18	Ø18X120L	0.23kg	
59580-12	902026	90	6.5	20	Ø20X80L	0.17kg	BHB1
59580-13	902027	120	6.5	20	Ø20X120L	0.26kg	

Boring Sleeve

Order No.	Model	A	B	D	D1	d	Spec.	N.W.	For
59580-14	902024	50	30	18	25	10	Ø18XØ25XØ10X50L	0.09kg	BHC3.BHB
59580-15	902029	50	32	20	25	10	Ø20XØ25XØ10X50L	0.09kg	BHB1

Order No.	Model	D	d	L	Spec.	N.W.	For
59580-16	902097	18	10	35	Ø18XØ10X35L	0.01kg	BHAM
59580-17	902098	18	12	35	Ø18XØ12X35L	0.01kg	

Lathe Cutter

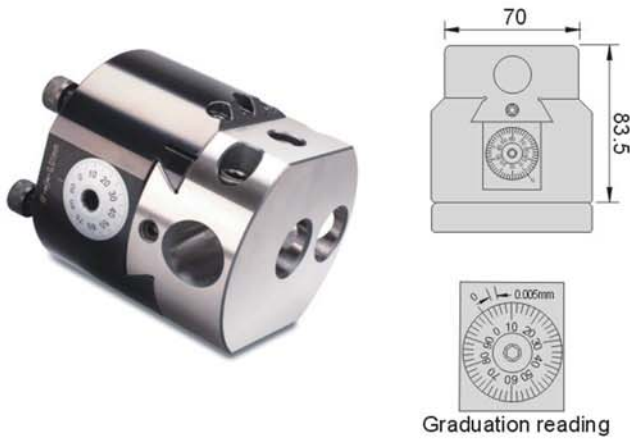
Order No.	Model	Spec.	N.W.	For
59580-18	902025	1/4"X30L	0.01kg	BHC2.BHC3.BHB.BHB1.BHAM

Extended Bar

Order No.	Model	Spec.	N.W.	For
59580-19	902096	Ø18X133L	0.36kg	BHAM

Fine-tuning Boring Head System

59600~05 NBH2084 Fine-tuning Boring Head



Features:

- ▲ Fine-tuning structure each graduation min 0.005mm(∅0.01mm)
 - ▲ Adjustable feed 27mm
- Adopting 6 screws to assembly between Shank and Boring head for better stability(See Page E25)

NBH2084 Boring Head

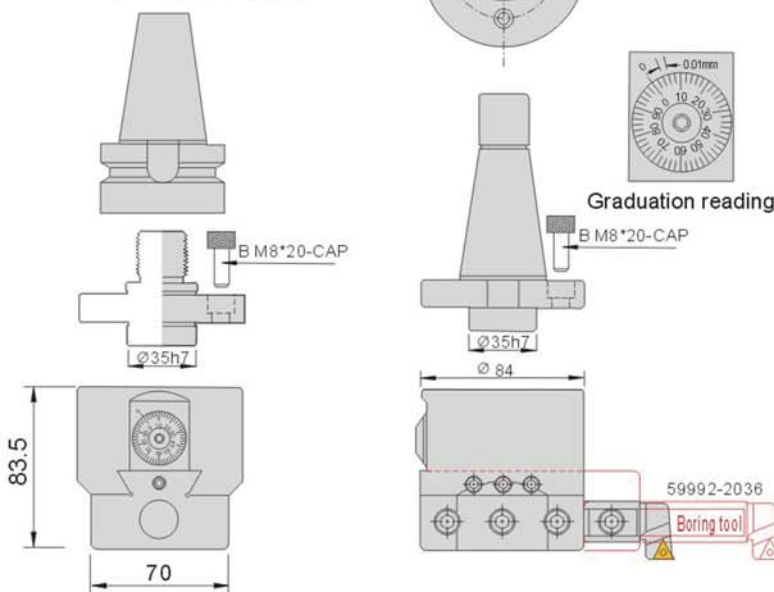
Order No.	Model	Boring Bar dia.	Wrench	N.W.
59600	NBH2084	∅20	4, 6	3.0kg

NBH2084 with shank

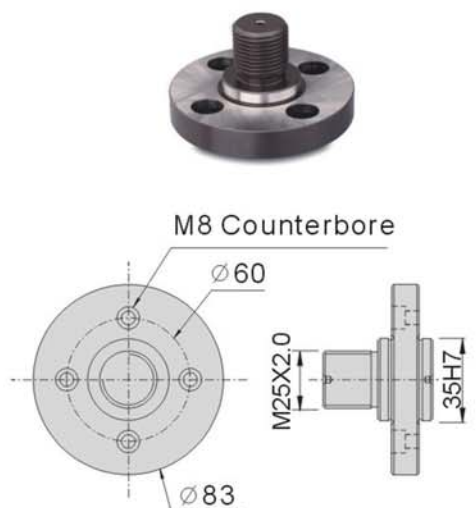
Order No.	Model	Spec.	N.W.
59600-02	BT40-NBH2084	M16xP2.0	1.8kg
59600-04	BT50-NBH2084	M24xP3.0	4.5kg
59600-06	R8-NBH2084	7/16"-20UNF	1.0kg
59600-08	NT30-NBH2084	1/2"-12UNC	0.8kg
59600-10	NT30-NBH2084	M12xP1.75	0.8kg
59600-12	NT40-NBH2084	5/8"-11UNC	1.2kg
59600-14	NT40-NBH2084	M16xP2.0	1.2kg
59600-16	NT50-NBH2084	1"-8UNC	3.6kg
59600-18	NT50-NBH2084	M24xP3.0	3.6kg



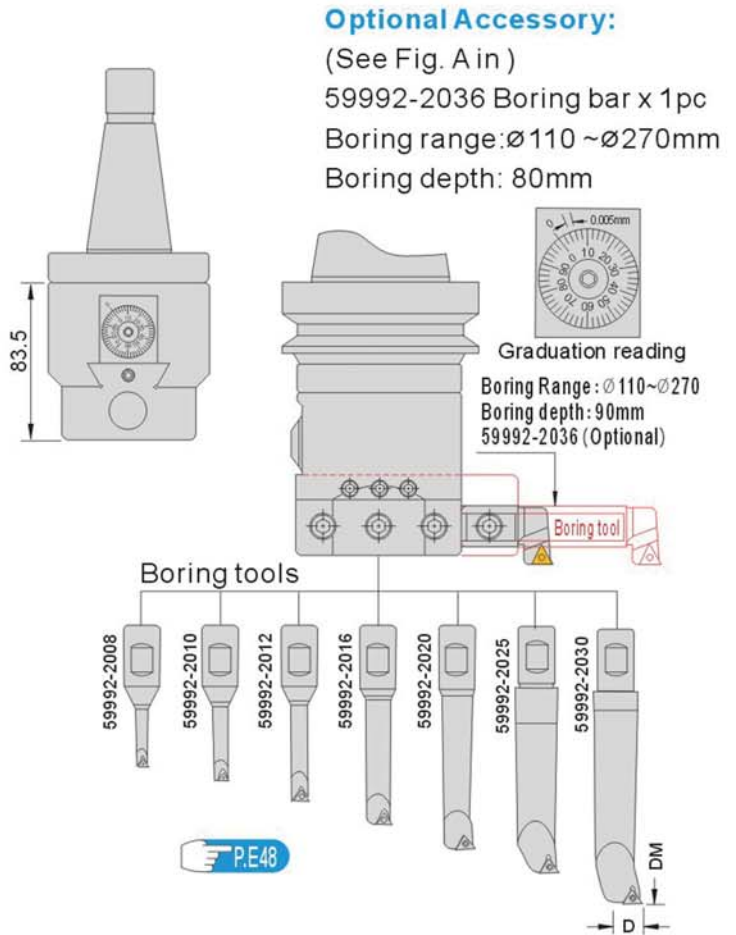
Shank (See p. E25) ①②



NBH2084 Flange for BT40 /50 & NT50
Order No. 59605



59600D NBH2084 Fine-tuning Boring Head



NBH2084(Set)

Order No.	Model	Spec.	Boring Range	N.W.
59600D-02	NBH2084-BT40	M16xP2.0	8-270	9.0kg
59600D-04	NBH2084-BT50	M24xP3.0	8-270	11.7kg
59600D-06	NBH2084-R8	7/16"-20UNF	8-270	10.0kg
59600D-08	NBH2084-NT30	1/2"-12UNC	8-270	9.8kg
59600D-10	NBH2084-NT30	M12xP1.75	8-270	9.8kg
59600D-12	NBH2084-NT40	5/8"-11UNC	8-270	10.3kg
59600D-14	NBH2084-NT40	M16xP2.0	8-270	10.3kg
59600D-16	NBH2084-NT50	1"-8UNC	8-270	10.8kg
59600D-18	NBH2084-NT50	M24xP3.0	8-270	10.8kg



Universal Boring Head

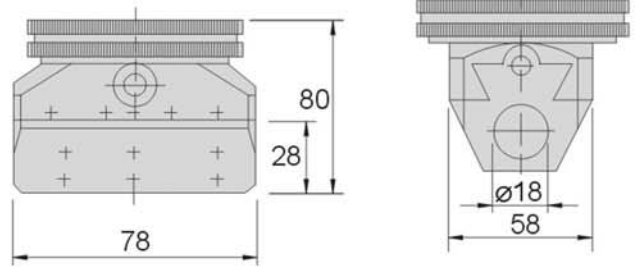
59700

BHAM

Universal Boring and Facing Master Head

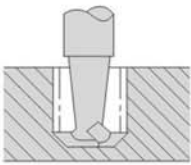
Features:

- ▶ BHAM is composed of multiple precision parts with automatic feeding and stop function.
- ▶ Boring range from $\varnothing 10\text{mm}$ to $\varnothing 250\text{mm}$

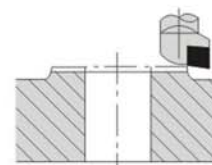
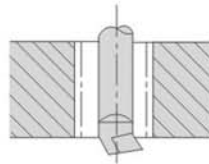


Unit: Metric

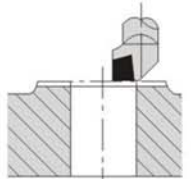
Order No.	Model	Boring Bar Hole Dia.	Center Dist. Btw holes	Adjustable Feed	N.W.
59700	BHAM	$\varnothing 18$	23	15	2.3kg



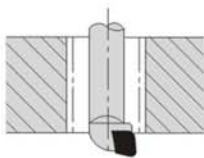
Effective boring range $\varnothing 10$ - $\varnothing 250\text{mm}$ by relevant boring bars.



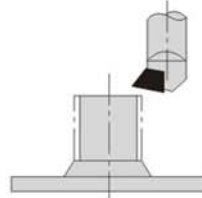
From inside outward



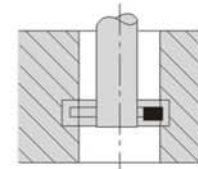
From outside inward



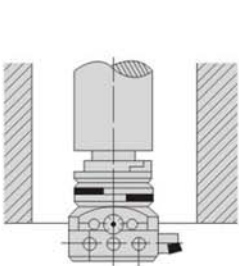
Taper turning



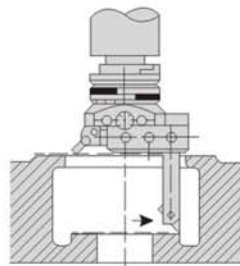
Outside turning



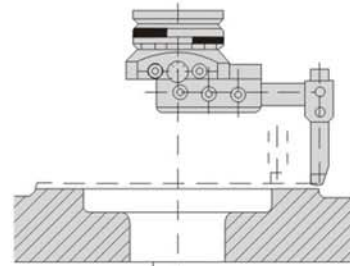
Recessing



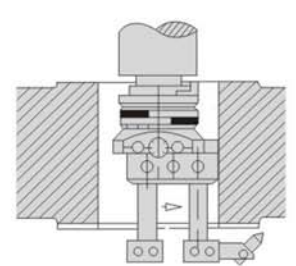
Because of the small construction of the facing and boring heads deep bores can be made. In this case the boring bit is fixed directly in the side



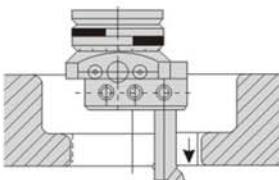
Facing in two areas with one boring bar and a boring bar holder.



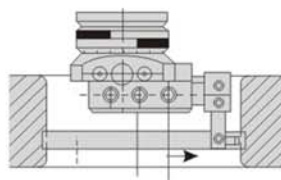
Facing of large with long boring bar holder, reinforced by rings and draw in screw.



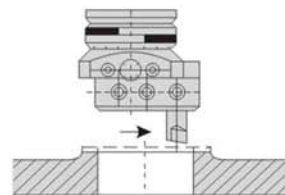
Facing of the reverse side by using boring bar holders contained in attachment.



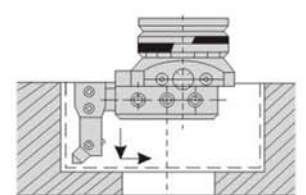
Boring with long boring bar



Recessing with short boring bar holder and a boring bar



Facing with bit fixed directly in slide

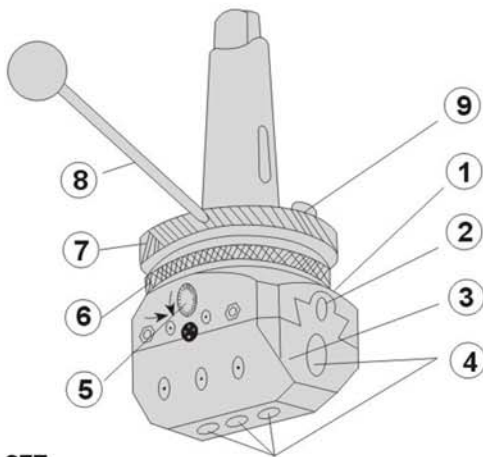


Boring and facing with short boring bar holder and a boring bar

59700D

BHAM

Universal Boring & Facing Master Head Set

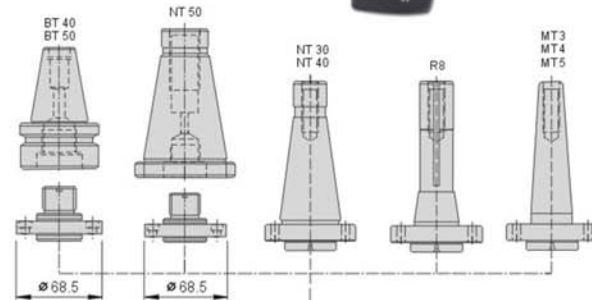


Features :

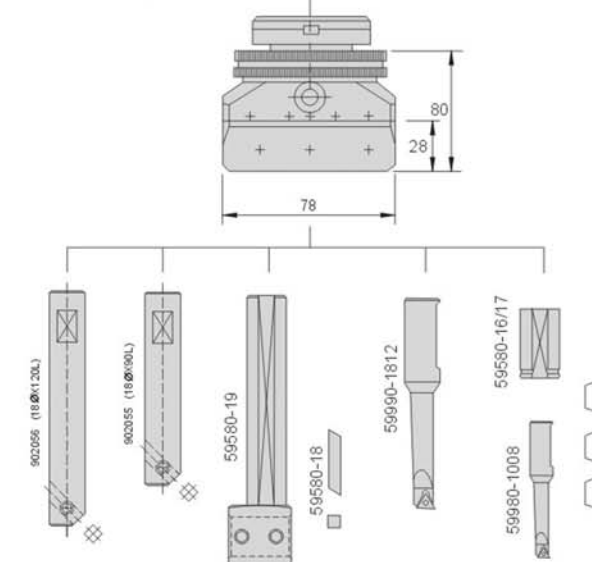
- ▶ The main body (1) is assembled with a Slide Block (3) by dovetail guideways, the Slide Block has 4 holes of $\varnothing 18\text{mm}$ for holding boring tools provided in the set.
- ▶ Boring tools can be adjusted by the aid of Graduation Dial (5) for fine-tuning of the Slide Block (3), each division reading change in effective boring range in 0.01mm diameter.
- ▶ Pre-selected feeding against Slide Block (3) is engaged with the aid of the Engagement Ring (6). After setup of the tool, the automatic transverse feeding to the Slide Block is started by braking of the Braking Ring (7) by using a handle (8).
- ▶ The clutch (9) provides for tripping of the automatic feed movement when cutting resistance increases or when the trip dog is approached. Mechanism of the boring heads has a lubrication circuit delivering oil from two lubricators to all friction surfaces.
- ▶ All parts are hardened and working surfaces are ground.

BHAM SET

Order No.	Model	Spec.	N.W.
59700D-01	BHAM	Without shank	4kg
59700D-02	BHAM-BT40	M16XP2.0	5.6kg
59700D-04	BHAM-BT50	M24XP3.0	8.3kg
59700D-06	BHAM-R8	7/16"X20UNF	4.8kg
59700D-08	BHAM-NT30	1/2"X12UNC	4.5kg
59700D-10	BHAM-NT30	M12XP1.75	4.5kg
59700D-12	BHAM-NT40	5/8"X11UNC	4.9kg
59700D-14	BHAM-NT40	M16XP2.0	4.9kg
59700D-16	BHAM-NT50	1"X8UNC	7.6kg
59700D-18	BHAM-NT50	M24XP3.0	7.6kg
59700D-20	BHAM-MT3	1/2"-12UNC	4.6kg
59700D-22	BHAM-MT3	M12XP1.75	4.6kg
59700D-24	BHAM-MT4	5/8"-11UNC	5kg
59700D-26	BHAM-MT4	M16XP2.0	5kg
59700D-28	BHAM-MT5	1"-8UNC	6kg
59700D-30	BHAM-MT5	M24XP3.0	6kg
59700D-32	BHAM-MT3	TANGED	4.6kg
59700D-34	BHAM-MT4	TANGED	5kg
59700D-36	BHAM-MT5	TANGED	6kg



P.E25



P.E26
P.E47
P.E48

BORING HEAD

Universal Boring System

59800

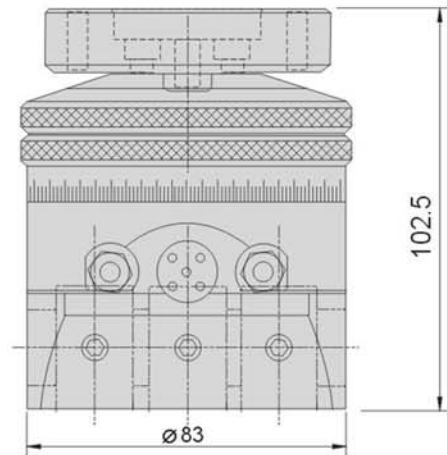
BHAM280

High Precision Universal Boring and Facing Master Head



Features :

- ▲ MAX.RPM1000rpm
- ▲ Built-in feed per rev.0.05mm
- ▲ Rapid return per rev. 2mm



Unit:mm

Order No.	Model	Boring Head Dia.	Boring Bar Hole Dia.	Total Length	Adjustable Feed	Boring Range	N.W.
59800	BHAM280	ø83	ø20	87	50	5-280	2.7kg

59800D

BHAM280

High Precision Universal Boring and Facing Master Head(sets)



BHAM280 SET

Order No.	Model	Spec.	N.W.
59800D-01	BHAM280	Without shank	6.66kg
59800D-02	BHAM280-BT40	M16xP2.0	8.16kg
59800D-04	BHAM280-BT50	M24xP3.0	10.66kg
59800D-06	BHAM280-R8	7/16"x20UNF	7.40kg
59800D-08	BHAM280-NT30	1 / 2" x12UNC	7.20kg
59800D-10	BHAM280-NT30	M12xP1.75	7.20kg
59800D-12	BHAM280-NT40	5/8"x11UNC	7.60kg
59800D-14	BHAM280-NT40	M16xP2.0	7.60kg
59800D-16	BHAM280-NT50	1"x8UNC	9.45kg
59800D-18	BHAM280-NT50	M24xP3.0	9.45kg
59800D-20	BHAM280-MT3	1 / 2"x12UNC	7.27kg
59800D-22	BHAM280-MT3	M12xP1.75	7.27kg
59800D-24	BHAM280-MT4	5/8"x11UNC	7.52kg
59800D-26	BHAM280-MT4	M16xP2.0	7.52kg
59800D-28	BHAM280-MT5	1"-8UNC	8.08kg
59800D-30	BHAM280-MT5	M24XP3.0	8.08kg
59800D-32	BHAM280-MT3	TANGED	7.32kg
59800D-34	BHAM280-MT4	TANGED	7.50kg
59800D-36	BHAM280-MT5	TANGED	8.42kg

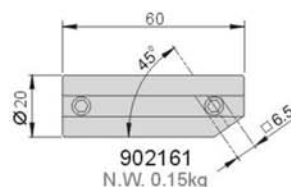
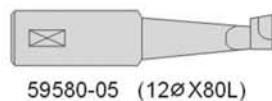
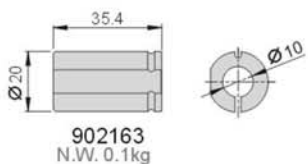
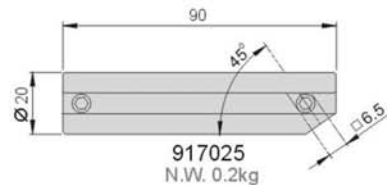
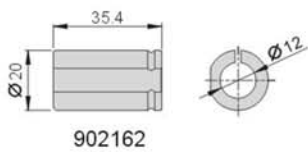
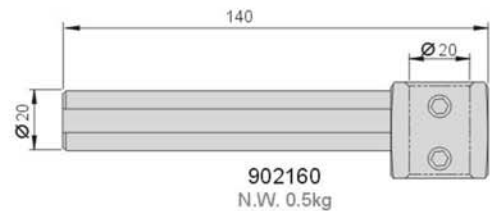
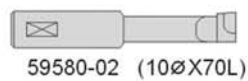
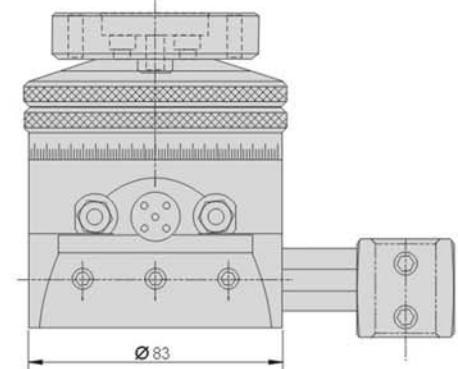
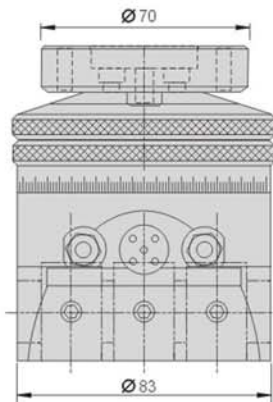
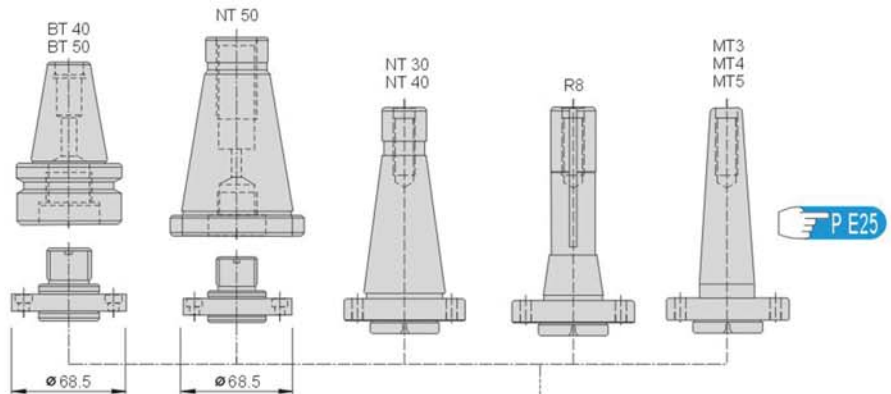
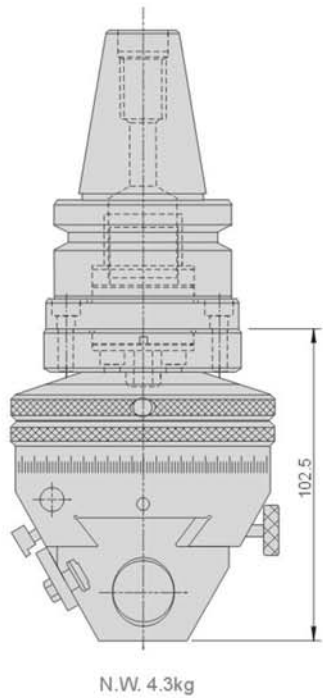
BORING HEAD

59800D BHAM280 High Precision Universal Boring and Facing Master Head(sets)



Features:

- ▶ BHAM280 is composed of multiple precision parts with automatic feeding and stop function.
- ▶ Boring range from $\varnothing 5\text{mm}$ to $\varnothing 280\text{mm}$



BORING HEAD

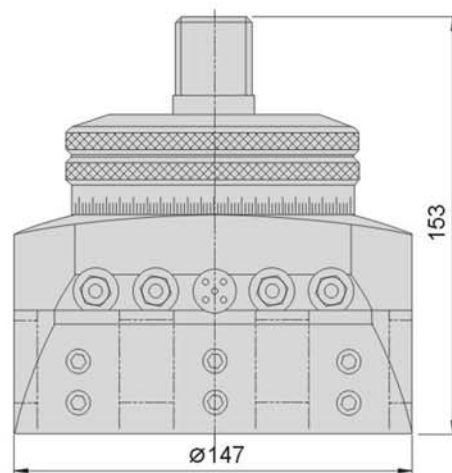
Universal Boring System

59900 BHAM460 High Precision Universal Boring and Facing Master Head



Features:

- ▲ MAX.RPM 500rpm
- ▲ Built-in feed per rev. 0.05mm
- ▲ Rapid return per rev. 2mm



Order No.	Model	Boring Head Dia.	Boring Bar Hole Dia.	Total Length	Adjustable Feed	Boring Range	N.W.
59900	BHAM460	$\varnothing 147$	$\varnothing 30$	115	100	12-500	7.5kg

Unit:mm

59900D BHAM460 High Precision Universal Boring and Facing Master Head(sets)



BHAM460 SET

Order No.	Model	Spec.	N.W.
59900D-01	BHAM460	Without shank	15.58kg
59900D-02	BHAM460-BT40	M16xP2.0	16.70kg
59900D-04	BHAM460-BT50	M24xP3.0	19.00kg
59900D-12	BHAM460-NT40	5/8"x11UNC	16.21kg
59900D-14	BHAM460-NT40	M16xP2.0	16.21kg
59900D-16	BHAM460-NT50	1"x8UNC	17.80kg
59900D-18	BHAM460-NT50	M24xP3.0	17.80kg

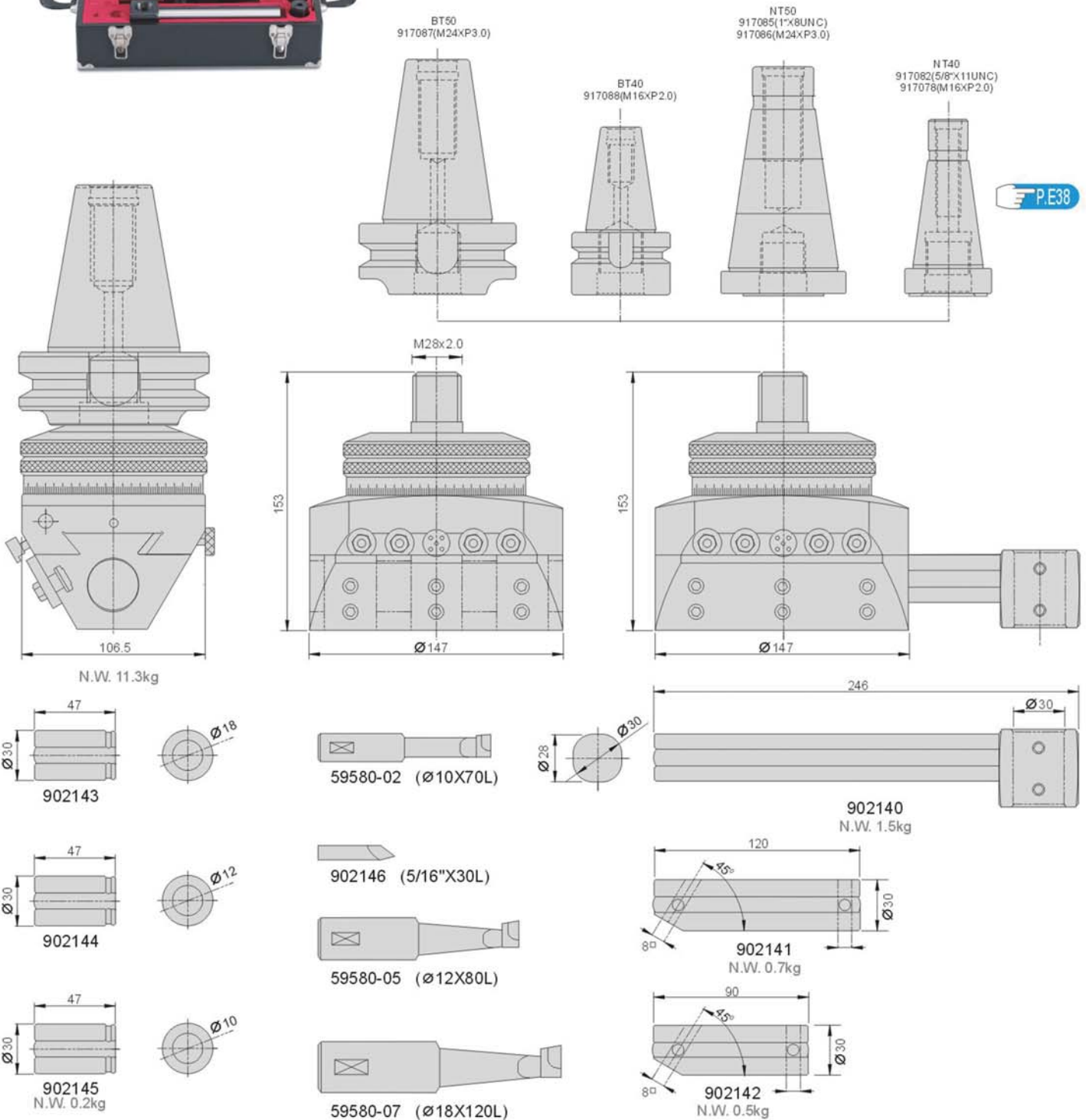
BORING HEAD

59900D

BHAM460 High Precision Universal Boring and Facing Master Head(sets)

Features:

- ▶ BHAM460 is composed of multiple precision parts with automatic feeding and stop function.
- ▶ Boring range from $\varnothing 12\text{mm}$ to $\varnothing 500\text{mm}$



BORING HEAD

Universal Boring System

59900D

BHAM460

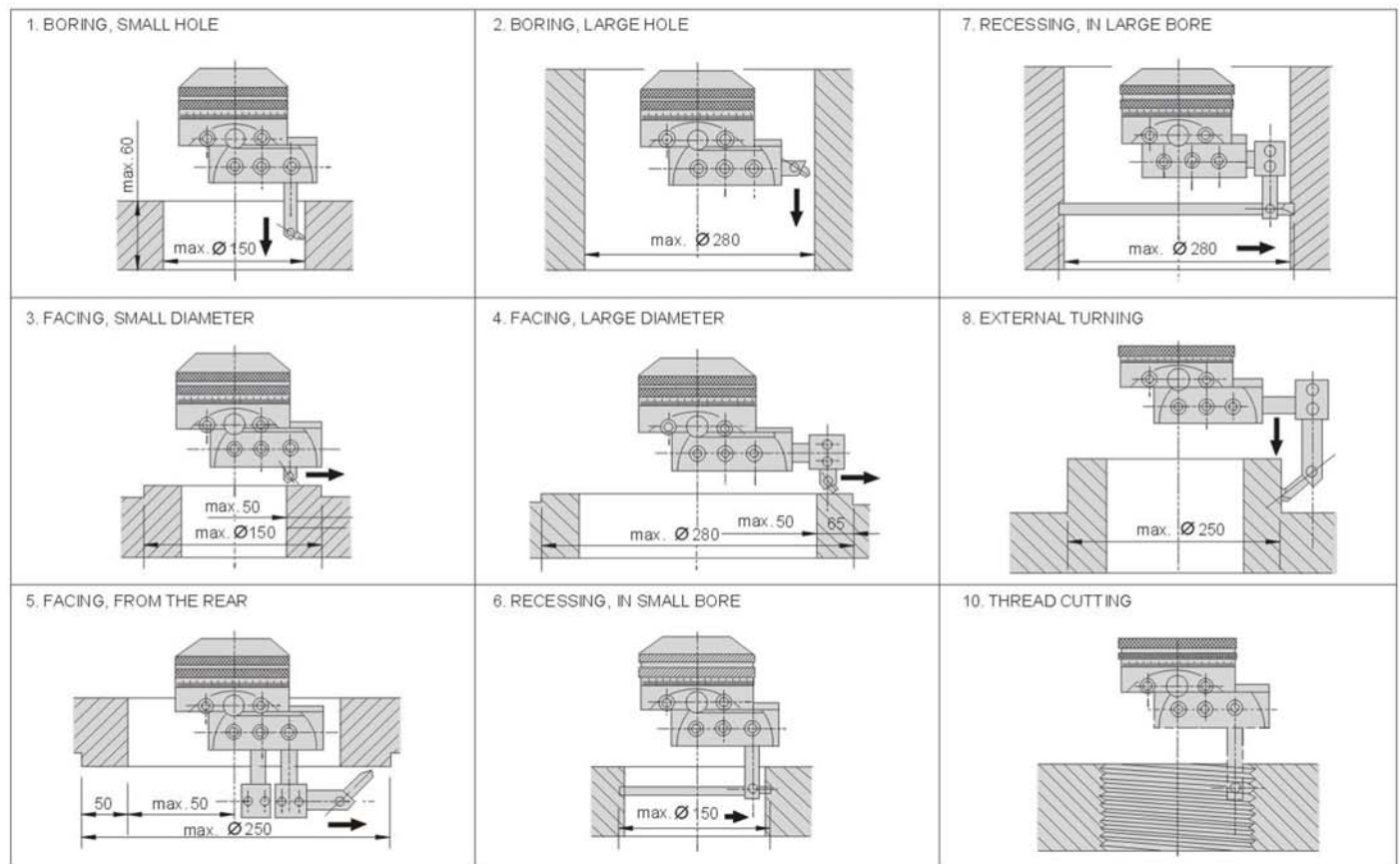
High Precision Universal Boring and Facing Master Head(sets)



Gin Tech Precision co. ltd. Produces this BHAM High Precision Universal Boring and Facing Master Head has a significant contribution to the machinery industry. This product can be used with various lathes, drilling machines, milling machines, horizontal boring machines, cutting machines, etc. It has precision and fixed tolerance control functions, this product is specially designed for all kinds of mechanical tools to improve high precision, easy operation and safety. The boring is composed of more than ten kinds of accessories, which can boring workpieces with an outer head circle of 83mm and a total height of 95mm. If the tolerance of the accessory exceeds 0.005mm, the product cannot be assembled successfully, and the precision is quite high. Each BHAM product is made of high carbon and chromium and molybdenum alloy to achieve durability.

Applications

MAJOR APPLICATIONS



59950

BHAM460

Shank / Arbor for BHAM460



BHAM460

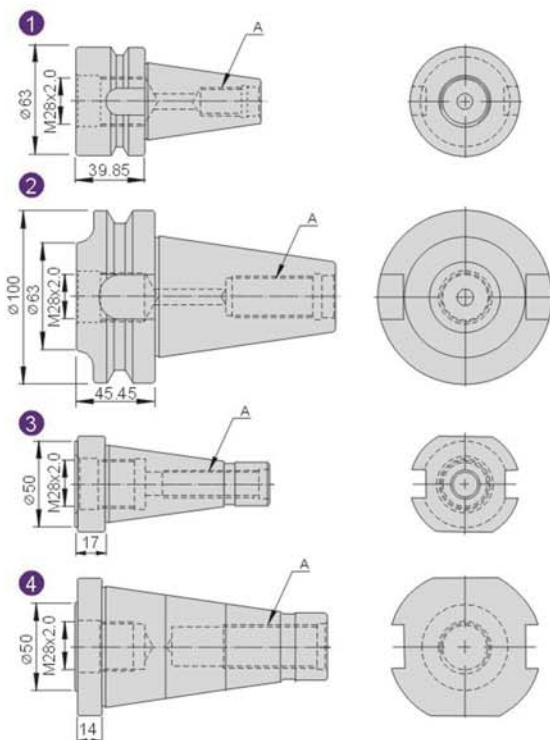


Fig. 1

Order No.	Model	Spec.	N.W.
59950-01	BT40	M16x2.0	1.1

Fig. 2

Order No.	Model	Spec.	N.W.
59950-02	BT50	M24x3.0	3.6

Fig. 3

Order No.	Model	Spec.	N.W.
59950-03	NT40	5/8"x11UNC	0.6
59950-04	NT40	M16x2.0	0.6

Fig. 4

Order No.	Model	Spec.	N.W.
59950-05	NT50	1"x8UNC	2.4
59950-06	NT50	M24x3.0	2.4

Fine Boring System

Modular Fine Boring System Chart (Ø 5 ~ Ø 880)

CK SHANK(CK1~CK7)

Any CK Shank can applied on rough or fine boring heads.

BT Shank



P.E67

Coolant Through Hole

DAT Shank



P.E68

Coolant Through Hole

HSK Shank



P.E69

Coolant Through Hole

Same Shanks applied to DIN & HSK



P.E71

High Power Milling Chuck

ST Straight Shank

Higher rigid milling processing can be achieved when applied with High Power Milling Chuck.



P.E71

NT Shank(DIN2080)

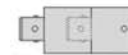
CK ACCESSORIES



Coolant Through Hole

Extension P.E70

Extends length.



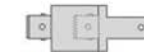
Example for multiple connects



Coolant Through Hole

Reduction P.E70

Reduce to fit smaller heads



Example.

Reduction allows CK7 holder to adapt CK6 or smaller CK holders.

CK Pre-setter P.E72

Easy Presetting with the head only.

CKP150Z



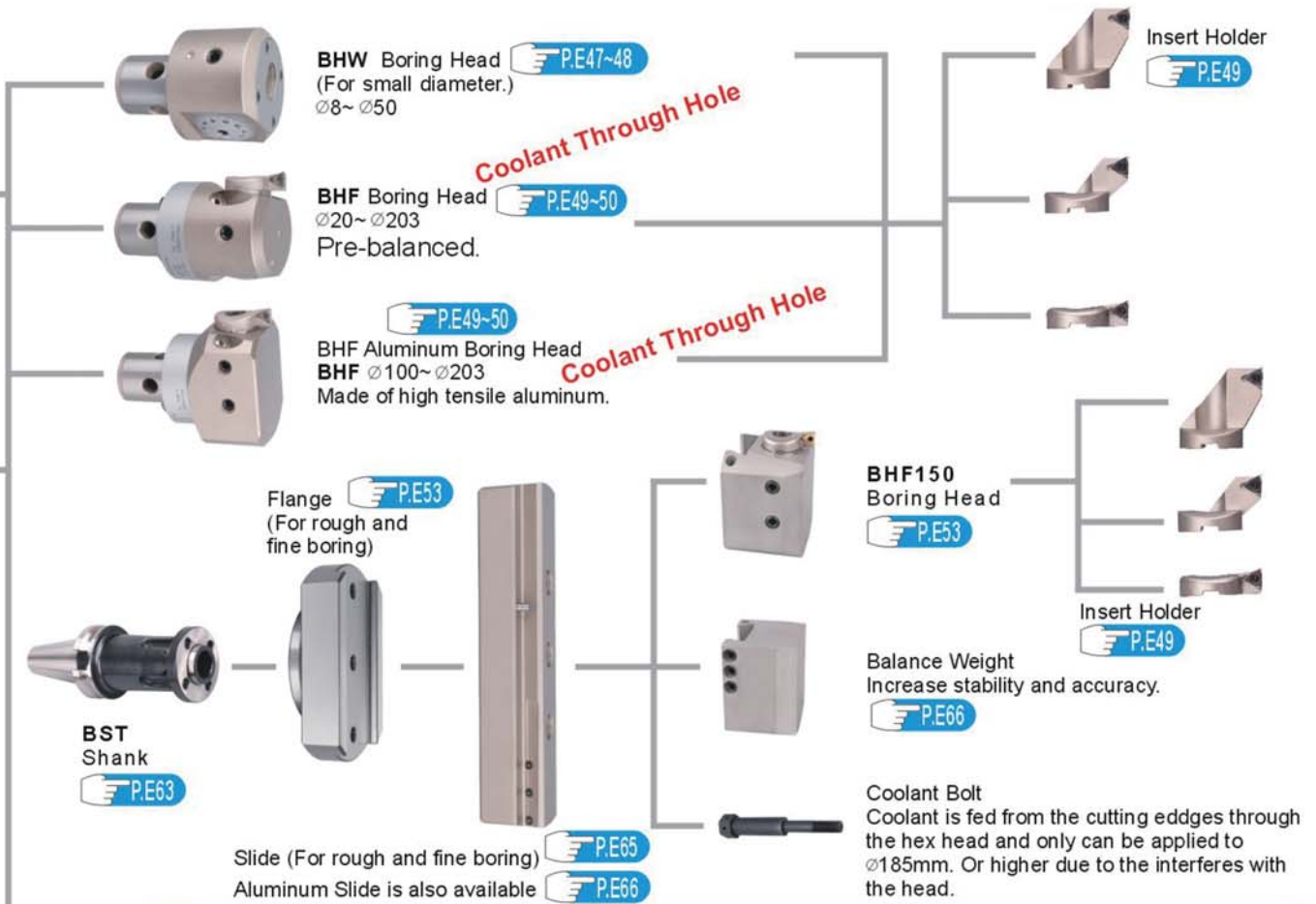
CKP550

(For large diameter)

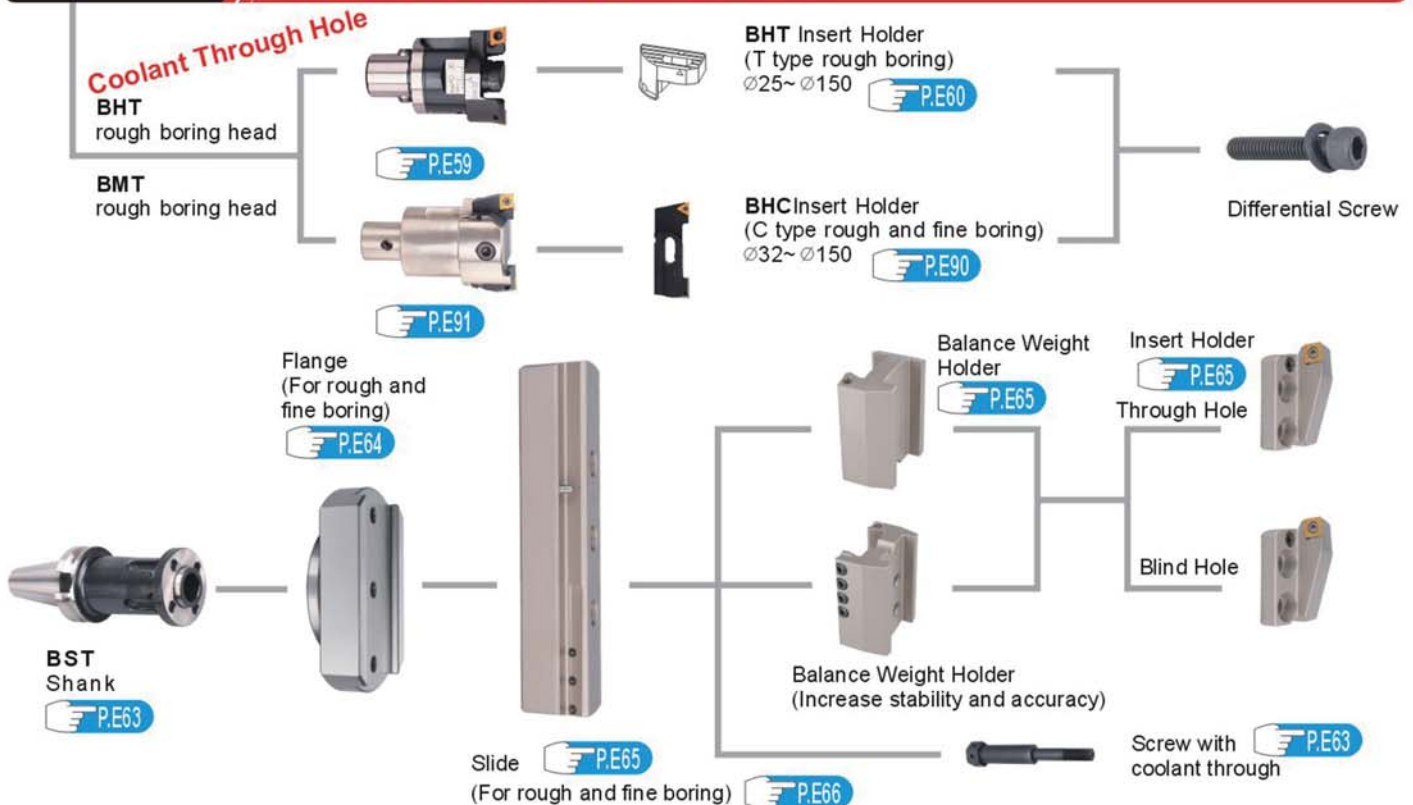


BORING HEAD

Modular Fine Boring System Chart ($\varnothing 5 \sim \varnothing 880$)



Rough Boring System With



Fine Boring System

Modular Rough & Fine Boring System

Modularisation makes various boring heads, boring tools and accessories in order to achieve processing jobs such as rough boring, fine boring, reverse boring and small & large diameter boring. Free collocation of the system even with non-standard boring tools



Rough Boring Heads



Range
 $\varnothing 20 \sim \varnothing 203$
 Adopting 3-faces wrapping to enhance rigidity



Range
 $\varnothing 25 \sim \varnothing 830$
 High rigid boring with dual steps cutting.

Hard Alloy boring bar, for depth boring.



Min. adjustable dia. $1\mu\text{m}$

Range
 $\varnothing 8 \sim \varnothing 50$
 BHW2-22, 2-32, 2-50

※Reliable technical and high precision assembly skill is the major element for best boring performance.

Large Dia. Boring Head



$\varnothing 150 \sim \varnothing 880$
 Fine precision boring
BHF150 Boring Head
 (Reverse boring too)



Min. adjustable dia. $1\mu\text{m}$

Boring Head



$\varnothing 20 \sim \varnothing 203$
 Fine precision boring
BHF Boring Head
 (Reverse boring too)



Center Coolant Trough
 (Coolant directly to insert)



Extension increase effective processing depth.



BORING HEAD

BHW, BHF, BHT Modular Rough & Fine Boring System

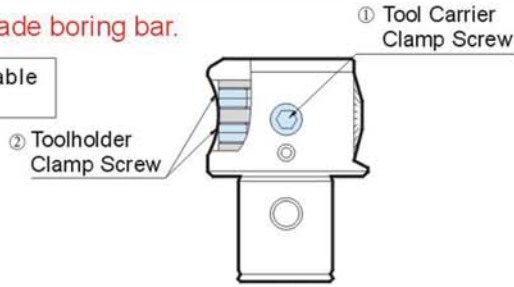
BHW Depth boring & hard alloy made boring bar.
Small Dia Boring Head

PE43-49

Range
∅8~∅50
BHW2-22, 2-32, 2-50



Min. adjustable dia. 1μm



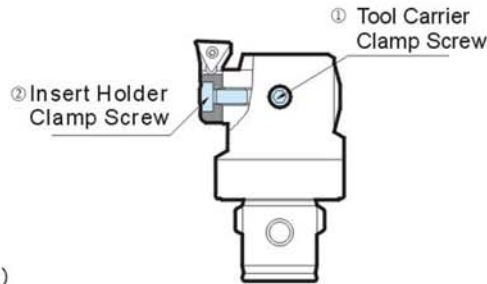
Model

BHW2-22CK4
BHW2-33CK5
BHW2-50CK6

BHF Small Dia Boring Head

PE49-50

Range
∅20~∅203
Super precision boring
BHF Boring Head (Back boring too)



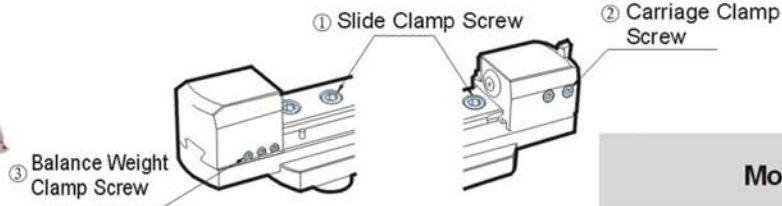
Model

BHF20-36CK1	BHF53-95CK5
BHF25-47CK2	BHF68-150CK6
BHF32-60CK3	BHF100-203CK6
BHF41-74CK4	BHF100-203CK7

BHF Large Dia. Boring Head

PE53-56

Range
∅150~∅880



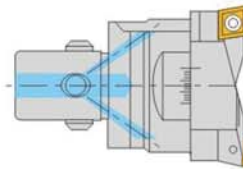
Model

BHF150-830BST

BHT Boring Heads

PE59-62

Range
∅25~∅150
Adopting 3-faces wrapping to enhance rigidity

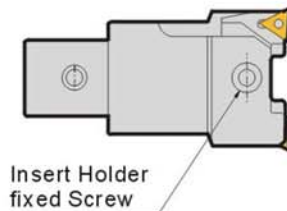


BHT25	BHT62
BHT32	BHT88
BHT44	BHT125

BHC Boring Heads

PE89-92

Range
∅32~∅150
Adopting 3-faces wrapping to enhance rigidity



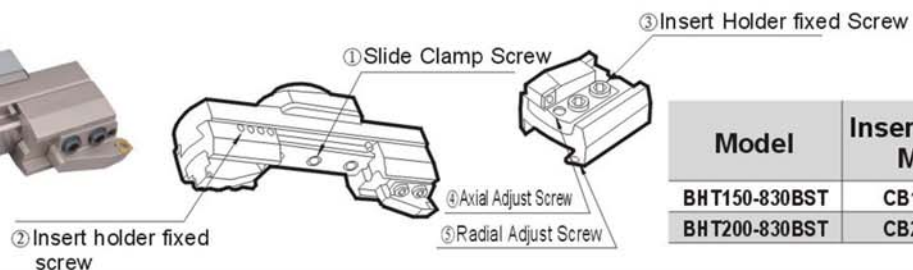
Model

BHC32-42T	BHC68-92T
40-55T	90-122T
52-70T	120-150T

BHT Large Dia. Boring Head

PE63-66

Range
∅150~∅830



Model	Insert holder Model
BHT150-830BST	CB150-200
BHT200-830BST	CB200-550



BORING HEAD

Fine Boring System

BHW

Small Diameter Fine Boring Head

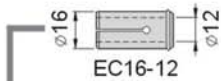
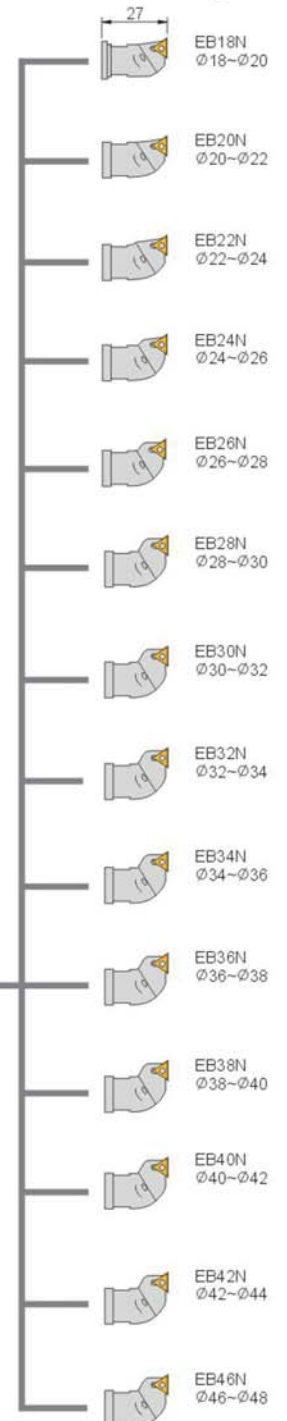
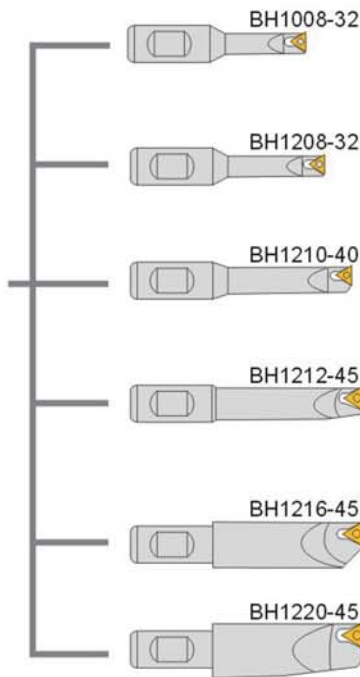


Max.
10000min⁻¹

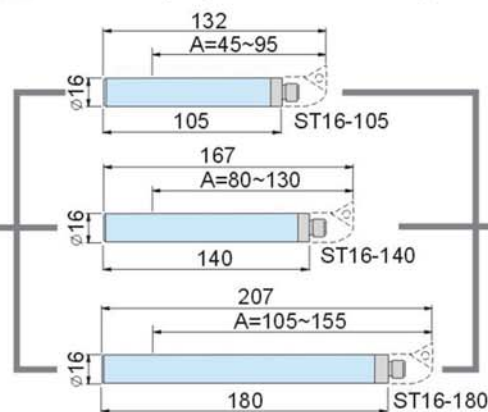
Boring Range: $\varnothing 8 \sim \varnothing 50$

(Optional Carbide boring bar is available for boring range $\varnothing 2 \sim \varnothing 8$.)

EBN Small Boring Heads

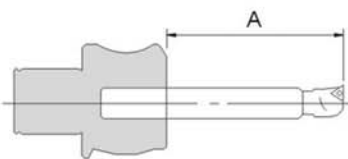


Refer to page E45 for Boring Bar



Refer to page E44 for Boring Bar

Refer to page E67 ~ 71 for Shank



A: length which exposed outside the boring head.

BORING HEAD

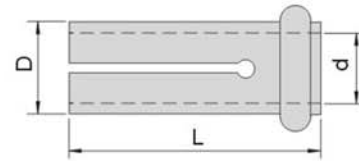
59960

EC

Collet For Solid Carbide Boring Bar

Unit:mm

Order No.	Model	D	d	L	Compatible Boring Bar
59960-06	EC16-06	16	6	37	-
59960-08	EC16-08	16	8	37	ST08
59960-10	EC16-10	16	10	37	ST10
59960-12	EC16-12	16	12	37	ST12

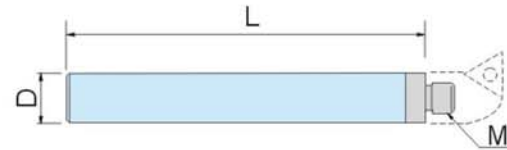


※Only made on order.

59965

ST

Anti-shaking Solid Carbide Boring Bar



Processing depth does not exceed 6 times the diameter.

Unit:mm

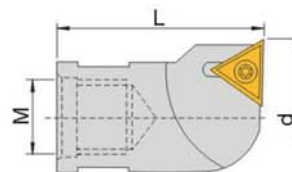
Order No.	Model	D	L	M	Compatible Insert Holder	Compatible Collet
59965-01	ST08-115	8	115	M5	EB09N、EB11N	EC16-08
59965-02	ST10-115	10	115	M6	EB12N EB14N EB16N	EC16-10
59965-03	ST10-135	10	135			EC16-10
59965-04	ST10-160	10	160			EC16-10
59965-05	ST12-135	12	135			EC16-12
59965-06	ST12-165	16	165	M10	EB18N to EB50N	-
59965-07	ST16-105	16	105			-
59965-08	ST16-140	16	140			-
59965-09	ST16-180	16	180			-

※Only made on order.

59970

EBN

Indexable Insert Holder For Boring Bar



P.E76 P.E77 Unit:mm

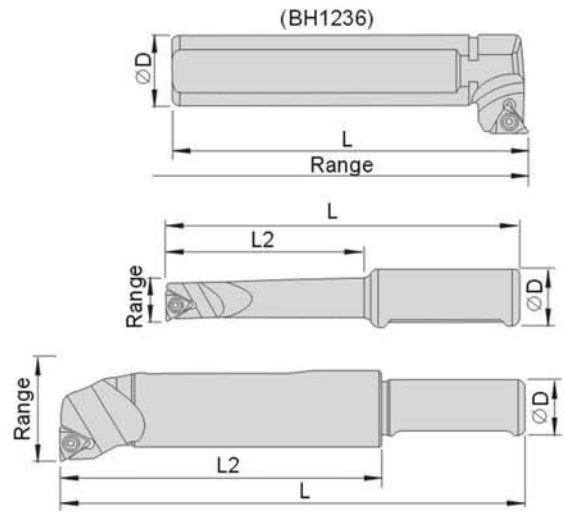
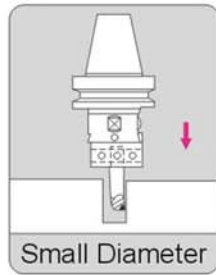
Order No.	Model	d	L	M	Boring Range	Insert Model	Screw	Wrench
59970-09	EB09N	9	18	M5	9-11	TPGH080202	M2.2x5	T6
59970-11	EB11N	11			11-12			
59970-12	EB12N	12	23	M6	12-14			
59970-14	EB14N	14			14-16			
59970-16	EB16N	16			16-18			
59970-18	EB18N	18			18-20			
59970-20	EB20N	20	27	M10	20-22			
59970-22	EB22N	22			22-24			
59970-24	EB24N	24			24-26			
59970-26	EB26N	26			26-28			
59970-28	EB28N	28			28-30			
59970-30	EB30N	30			30-32			
59970-32	EB32N	32			32-34			
59970-34	EB34N	34			34-36			
59970-36	EB36N	36			36-38			
59970-38	EB38N	38			38-40			
59970-40	EB40N	40	40-42					
59970-42	EB42N	42	42-44					
59970-44	EB44N	44	44-46					
59970-46	EB46N	46	46-48					
59970-48	EB48N	48	48-50					
59970-50	EB50N	50	50-52					

※Only made on order.

BORING HEAD

Fine Boring System

59980~84 BH Precision Boring Tool

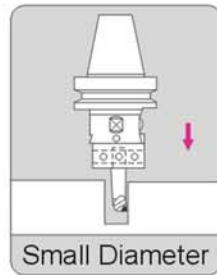


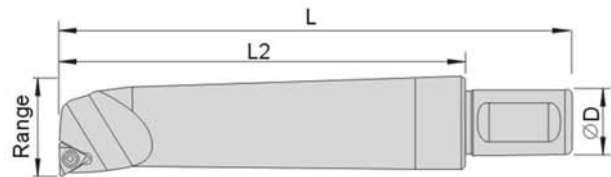
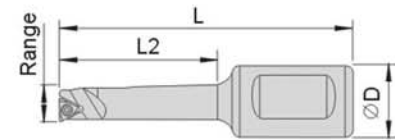
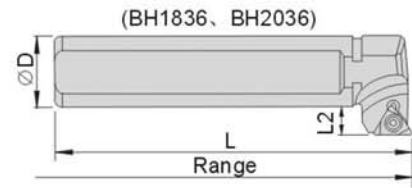
Order No.	Model	D	Range	L	L2	Insert			
59980-1008	BH1008-32	10	8-10	64	32	TBGT0601..	SB-1STR-M2	T6	
59980-1010	BH1010-40		10-12	72	40				
59980-1012	BH1012-45		12-16	77	45	TPGH0902..	SB-2TR-M2.5	T8	
59980-1016	BH1016-45		16-20	77	45				
59980-1020	BH1020-45		20-25	77	45				TPGH1103..
59980-1000	BH10(5pc/set)	BH1008-32 BH1010-40 BH1012-45 BH1016-45 BH1020-45							

Order No.	Model	D	Range	L	L2	Insert			
59982-1208	BH1208-32	12	8-10	64	32	TBGT0601..	SB-1STR-M2	T6	
59982-1210	BH1210-40		10-12	72	40				
59982-1212	BH1212-50		12-16	77	50	TPGH0902..	SB-2TR-M2.5	T8	
59982-1216	BH1216-50		16-20	77	50				
59982-1220	BH1220-50		20-25	77	50				TPGH1103..
59982-1236	BH1236		70-150	60					
59982-1200	BH12(5pc/set)	BH1208-32 BH1210-40 BH1212-45 BH1216-45 BH1220-45							

Order No.	Model	D	Range	L	L2	Insert			
59984-1606	BH1606-24	16	6-8	73	24	WBG0601..	SB-1STR-M2	T6	
59984-1608	BH1608-32		8-10	80	32				TBGT0601..
59984-1610	BH1610-40		10-12	87	40	TPGH0902..	SB-2TR-M2.5	T8	
59984-1612	BH1612-53		12-16	98	53				
59984-1616	BH1616-68		16-20	110	68				TPGH1103..
59984-1620	BH1620-83		20-25	125	83				
59984-1625	BH1625-90		25-30	128	90				
59984-1630	BH1630-90			30-40	128	90			
59984-1600	BH16(8pc/set)	BH1606-24 BH1608-32 BH1610-40 BH1612-53 BH1616-68 BH1620-83 BH1625-90 BH1630-90							

BORING HEAD


P.E76

P.E77


Order No.	Model	D	Range	L	L2	Insert			
59990-1808	BH1808-32	18	8-10	80	32	5° TBGT0601..L	SB-1STR-M2	T6	
59990-1810	BH1810-40		10-12	87	40				
59990-1812	BH1812-53		12-16	98	53	11° TPGH0902..L	SB-2TR-M2.5	T8	
59990-1816	BH1816-68		16-20	110	68				
59990-1820	BH1820-83		20-25	123	83				
59990-1825	BH1825-96		25-30	137	96				
59990-1830	BH1830-115		30-35	152	115	TPGH1103..L	SB-3TR-M3	T10	
59990-1836	BH1836		--	100	80+BTL1				
59990-1800	BH18(8pc/set)	BH1808-32 BH1810-40 BH1812-53 BH1816-68 BH1820-83 BH1825-90 BH1830-90 BH1836							

Order No.	Model	D	Range	L	L2	Insert			
59992-2008	BH2008-32	20	8-10	80	32	5° TBGT0601..L	SB-1STR-M2	T6	
59992-2010	BH2010-40		10-12	87	40				
59992-2012	BH2012-53		12-16	98	53	11° TPGH0902..L	SB-2TR-M2.5	T8	
59992-2016	BH2016-68		16-20	110	68				
59992-2020	BH2020-83		20-25	123	83				
59992-2025	BH2025-96		25-30	137	96				
59992-2030	BH2030-115		30-35	152	115	TPGH1103..L	SB-3TR-M3	T10	
59992-2036	BH2036		110-270	100	80+BTL1				
59992-2000	BH20(8pc/set)	BH2008-32 BH2010-40 BH2012-53 BH2016-68 BH2020-83 BH2025-96 BH2030-115 BH2036							



Fine Boring System

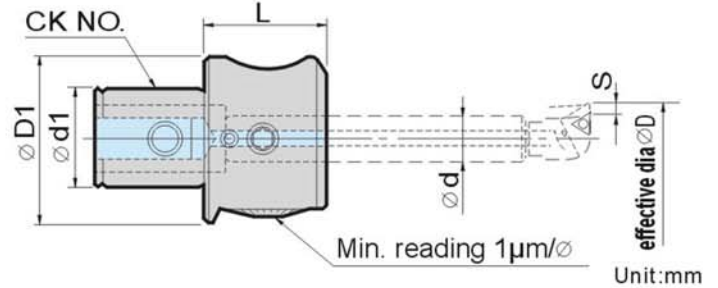
60000 BHW Small Diameter Fine Boring Head



● Model
60000-01 **BHW** **2-22** **CK4**
 ● Order No. ● BHW ● Range ● CK NO. (d1)

Features:

- ▶ Optional Carbide boring bar is available for boring range $\varnothing 2 \sim \varnothing 8$.
- ▶ Depending on the boring tools applied, effective boring range can do $\varnothing 8 \sim \varnothing 50$ mm.



Order No.	Model	CK NO.	$\varnothing d1$	$\varnothing d$	D1	L	S	Effective range $\varnothing D$	N.W.
60000-01	BHW22	CK4	22	10	39	28.5	0~2.0	8~22	0.25kg
60000-02	BHW32	CK5	28	12	50	36	0~3.5	8~32	0.50kg
60000-03	BHW50	CK6	36	16	64	48	0~4.5	8~50	1.05kg

☞ Refer to page E67~70 for Boring Bar

☞ Refer to page E74~75 for Insert

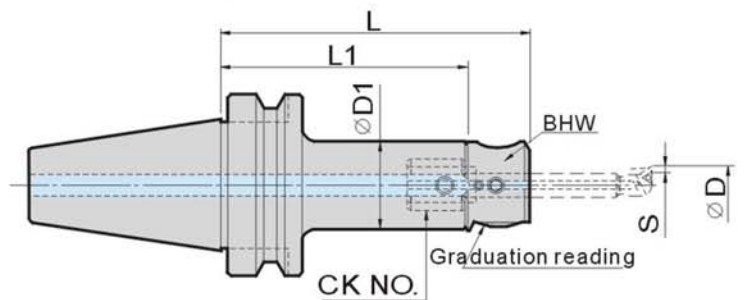
60010 BHW Small Diameter Fine Boring Head+Shank



● Model
60010-01 **BT30** **BHW222** **100**
 ● Order No. ● BT ● BHW2-22CK4

Features:

- ▶ Excellent assembly with boring head and shank.
- ▶ Modular design with various collocation for better processing purpose.



Order No.	Model	CK SHANK	BHW	CK NO.	L	L1	$\varnothing D1$	S	N.W.
60010-01	BT30-BHW22-100	BT30-CK4-73	BHW22	CK4	101.5	73	39	2	1.30kg
60010-02	BT30-BHW32-100	BT30-CK5-63	BHW32	CK5	99	63	50	3.5	1.32kg
60010-03	BT40-BHW22-115	BT40-CK4-88	BHW22	CK4	116.5	88	39	2	1.40kg
60010-04	BT40-BHW32-115	BT40-CK5-78	BHW32	CK5	114	78	50	3.5	2.20kg
60010-05	BT40-BHW50-110	BT40-CK6-64	BHW50	CK6	109	64	64	4.5	2.70kg
60010-06	BT50-BHW22-145	BT50-CK4-118	BHW22	CK4	146.5	118	39	2	4.10kg
60010-07	BT50-BHW32-145	BT40-CK5-108	BHW32	CK5	144	108	50	3.5	5.00kg
60010-08	BT50-BHW50-140	BT40-CK6-94	BHW50	CK6	139	94	64	4.5	5.80kg

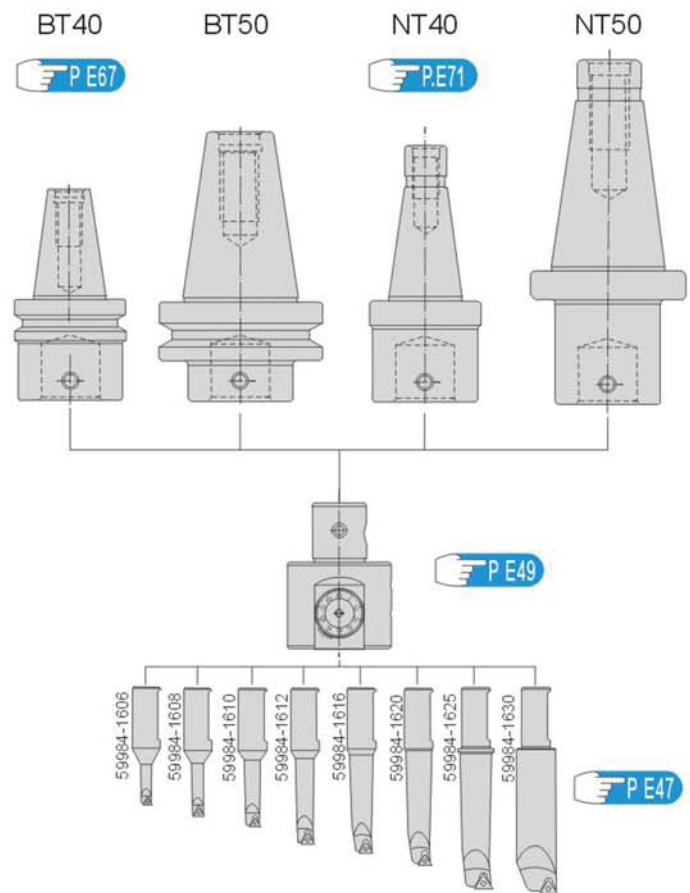
☞ Refer to page E67~71 for Boring Bar

60020
BHW16
Small Dia. Fine Boring System Set

BT40(SET)

BT50(SET)
Features :

- ▶ Boring Range $\phi 8 \sim \phi 50$.
- ▶ Max. boring depth 90mm.
Adjustable Feed: 4.5mm
- ▶ Smaller eccentric feed, suitable for high speed rotary.
- ▶ Modular design for match up with CK shanks.
- ▶ For more shanks match up, please refer to page E67~71.


Standard Accessories:

Shank x 1pc
Boring tool x 8pc (59984-1600)

Optional Accessories:

Carbide boring tool for range $\phi 2 \sim \phi 8$ mm

Boring tools for range $\phi 9 \sim \phi 50$ mm

Order No.	Model	Spec.	N.W.
60020-01	BHW50-BT40	M16XP2.0	6.9kg
60020-02	BHW50-BT50	M24XP3.0	10.3kg
60020-03	BHW50-NT40	5/8"X11UNC	6.6kg
60020-04	BHW50-NT40	M16XP2.0	6.6kg
60020-05	BHW50-NT50	1"X8UNC	9.5kg
60020-06	BHW50-NT50	M24XP3.0	9.5kg

Refer to page E67~70 for Boring Bar Refer to page E74~75 for Insert

Fine Boring System

60031-36

BHF

Small Diameter Fine Boring Head



● Model

60031-01

BHF

20-36

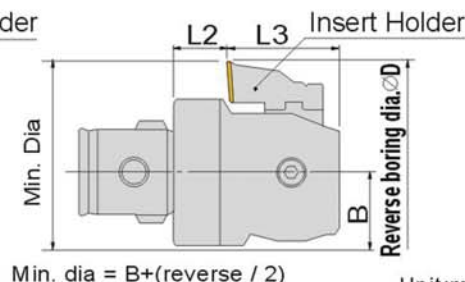
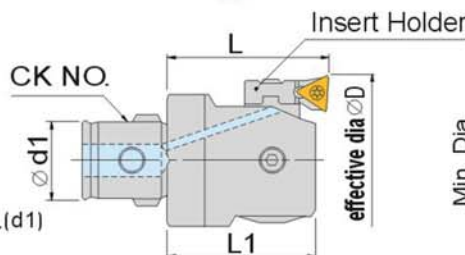
CK1

● Order No.

● BHF

● Range

● CK NO.(d1)



Min. dia = B+(reverse / 2)

Unit:mm

Features :

- ▶ Boring Range is radius R0.2 of TP08 insert, radius R0.4 of TC11 insert.
- ▶ Cylinder shall be reversing when executing reversing boring.
- ▶ F1-1 insert holder is included & insert is excluded.

Order No.	Model	CK NO.	∅d1	Insert Holder	Boring			Reverse			N.W.	Insert	
					Range ∅D	L	L1	Range ∅D	L2	L3			B
60031	BHF20	CK1	11	F1-1	20-26	32.5	29.5	-	10.5	19	10	0.07kg	TP08
				F1-2	25-31			30-31					
				F1-3	30-36			30-36					
60032	BHF25	CK2	14	F2-1	25-33	35.5	32.5	-	11.5	21	12.5	0.12kg	TP08
				F2-2	32-40			36-40					
				F2-3	39-47			39-47					
60033	BHF32	CK3	18	F3-1	32-42	40	35	-	10	25	16	0.21kg	TP08
				F3-2	41-51			46-51					
				F3-3	50-60			50-60					
60034	BHF41	CK4	22	F4-1	41-54	47	43	-	14	29	20	0.40kg	TP08
				F4-2	50-63			53-63					
				F4-3	61-74			61-74					
60035	BHF53	CK5	28	F5-1	53-70	57	53	-	19	34	25.5	1.10kg	TC11
				F5-2	65-82			65-82					
				F5-3	78-95			78-95					
60036	BHF68	CK6	36	F6-1	68-100	71	67.2	-	22	45.2	32.5	1.74kg	TC11
				F6-2	94-126			94-126					
				F6-3	118-150			118-150					
60036A	BHF100	CK6	36	F6-1	100-153	71	67.2	-	22	45.2	45.5	2.46kg	TC11
				F6-2	126-179			126-179					
				F6-3	150-203			150-203					

The max. allowable cutting speed for BHF boring head is 1200m/min, subject to actual working condition of shank length, rigidity of machine and workpieces.

☞ Refer to page E67~71 for Boring Bar

☞ Refer to page E74~75 for Insert

60041-60049

BHF

Insert Holder

F(1~6)-1



F(1~6)-2



F(1~6)-3



Features :

- ▶ Note: Insert is not included.



PE76



PE77

Order No.	Model	Demo	Match	Order No.	Model	Demo	Match	Order No.	Model	Demo	Match
60041-01	F1-1		BHF20-36CK1	60044-01	F4-1		BHF41-74CK4	60047-01	F4-1E		BHF41-74CK4
60041-02	F1-2			60044-02	F4-2			60047-02	F4-2E		
60041-03	F1-3			60044-03	F4-3			60047-03	F4-3E		
60042-01	F2-1		BHF25-47CK2	60045-01	F5-1		BHF53-95CK5	60048-01	F5-1E		BHF53-95CK5
60042-02	F2-2			60045-02	F5-2			60048-02	F5-2E		
60042-03	F2-3			60045-03	F5-3			60048-03	F5-3E		
60043-01	F3-1	Match insert TP08	BHF32-60CK3	60046-01	F6-1	Match insert TC11	BHF 68-150CK6 BHF100-203CK6 BHF100-203CK7 BHF150	60049-01	F6-1E	Match insert TC11	BHF 68-150CK6 BHF100-203CK6 BHF100-203CK7 BHF150
60043-02	F3-2			60046-02	F6-2			60049-02	F6-2E		
60043-03	F3-3			60046-03	F6-3			60049-03	F6-3E		

BHF >> **BHF Fine Boring Head**

Boring Range:
 $\varnothing 20 \sim \varnothing 203$



Feature 2:

Reverse boring is available to optimising bore concentricity.



Forward

Back boring from the same direction improves the concentricity by and simply reverse the installation of the insert holder.



Reverse

No.1 Insert Holder is not suitable for reverse boring.

Feature 1:

only change the insert holder and enlarge boring range and improve the elimination of chips.



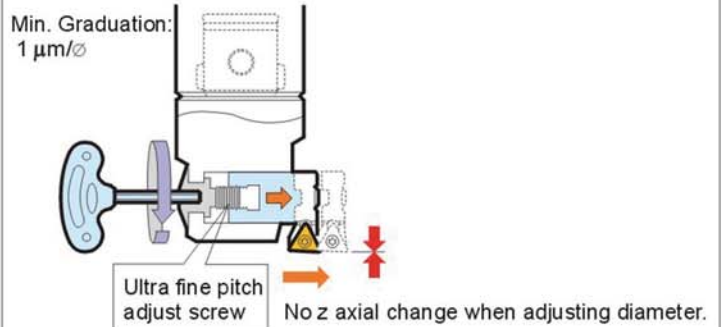
Larger space for chip elimination.

Insert Holder

Each boring head is able to allocate with 3 different insert holder and capable of increase the clearance for better chip elimination.

Feature 3:

▶ Ultra fine pitch adjust screw.



Min. Graduation:
 $1 \mu\text{m}/\varnothing$

Ultra fine pitch adjust screw

No z axial change when adjusting diameter.

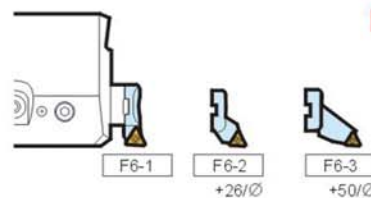
BHF150 >> **BHF150 Fine Boring Head (for large diameter)**

Feature 1:



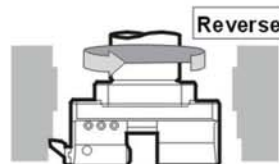
▶ Emphasis on operability which by one allen key.

Feature 2 : Boring Range: $\varnothing 20 \sim \varnothing 203$



▶ Enlarged boring capacity by changing insert holder.

Feature 3:



Reverse

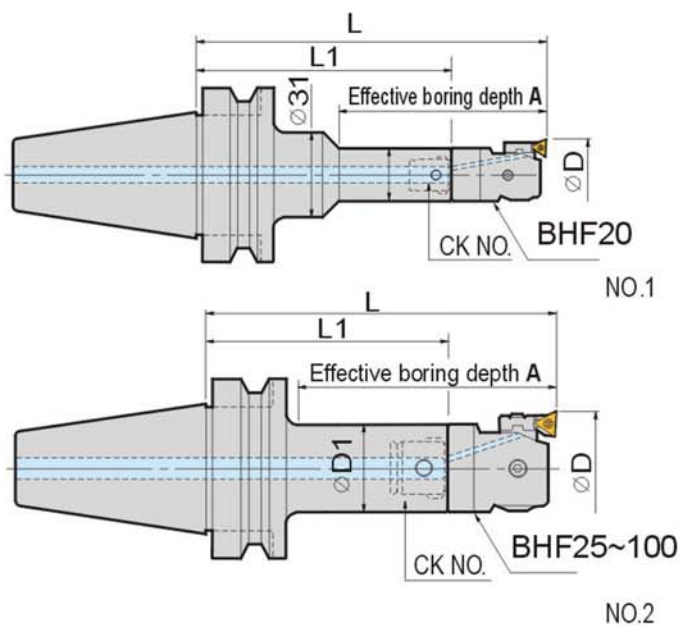
▶ Reverse boring is available by reversing insert holder. (E6-1 Insert Holder is not applicable.)

Fine Boring System

60050

BHF

Small Dia. Fine Boring Head+Shank



● Model

60050-01

BT30

BHF20

105

● Order No.

● BT

● BHF20-36CK1

Unit:mm

Order No.	Model	CK	BHF	L	L1	∅D1	∅D	A	NO.	N.W.
60050-01	BT30-BHF20-105	BT30-CK1-72	BHF 20	104.5	72	19	20-26	73	1	0.58kg
60050-03	-BHF25-120	-CK2-84	BHF 25	119.5	84	24	25-33	93	2	0.69kg
60050-05	-BHF32-120	-CK3-80	BHF 32	120	80	31	32-42			0.88kg
60050-07	-BHF41-120	-CK4-73	BHF 41	120	73	39	41-54			1.16kg
60050-08	-BHF53-120	-CK5-63	BHF 53	120	63	50	53-70			1.9kg
60050-09	BT40-BHF20-105	BT40-CK1-72	BHF 20	104.5	72	19	20-26	73	2	1.2kg
60050-12	-BHF25-120	-CK2-84	BHF 25	119.5	84	24	25-33	88		1.3kg
60050-15	-BHF32-135	-CK3-95	BHF 32	135	95	31	32-42	103		1.5kg
60050-18	-BHF41-135	-CK4-88	BHF 41	135	88	39	41-54			1.9kg
60050-21	-BHF53-135	-CK5-78	BHF 53	135	78	50	53-70			2.7kg
60050-24	-BHF68-135	-CK6-64	BHF 68	135	64	64	68-100			3.4kg
60050-27	BT50-BHF20-135	BT50-CK1-102	BHF 20	135	102	19	20-26	73	1	4.1kg
60050-30	-BHF25-150	-CK2-114	BHF 25	149.5	114	24	25-33	107	2	4.2kg
60050-33	-BHF32-165	-CK3-125	BHF 32	165	125	31	32-42	122		4.5kg
60050-36	-BHF41-165	-CK4-118	BHF 41	165	118	39	41-54	182		4.9kg
60050-37	-BHF41-225	-178		225	178					5.3kg
60050-39	-BHF53-165	-CK5-108	BHF 53	165	108	50	53-70	122		5.8kg
60050-40	-BHF53-240	-183		240	183			197		7kg
60050-41	-BHF53-285	-228		285	228			242		7.6kg
60050-42	-BHF68-165	-CK6-94		165	94			122		6.6kg
60050-43	-BHF68-240	-169	BHF 68	240	169	64	68-100	197		8.5kg
60050-44	-BHF68-300	-229		300	229			257		10kg
60050-48	-BHF100-165	-CK6-94	BHF 100	165	94	100-153	122	122	7.3kg	
60050-49	-240	-169		240	169			197	9.2kg	
60050-50	-300	-229		300	229			257	10.7kg	

Standard

Optional

F1-1

F1-2

F1-3



∅20~∅26



∅25~∅31



∅30~∅36

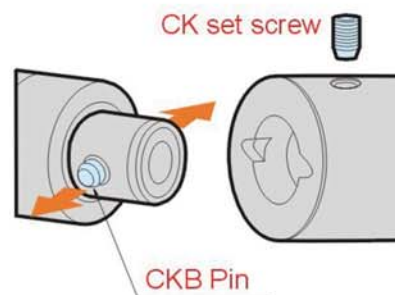
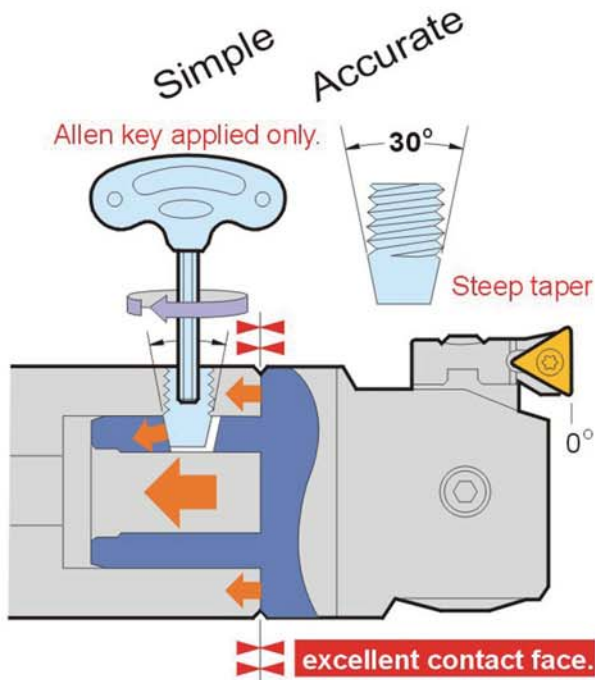
Refer to page E74~75 for Insert

Modular Fine Boring System

High Efficiency is based on a simple operation with high precision and strong face contact.

Features :

- ▶ Steep taper works to pull the boring head in an axial direction resulting excellent face contact.
- ▶ Boring operation require large stock allowance are made by CKB pin, designed to provide high torque transmission.



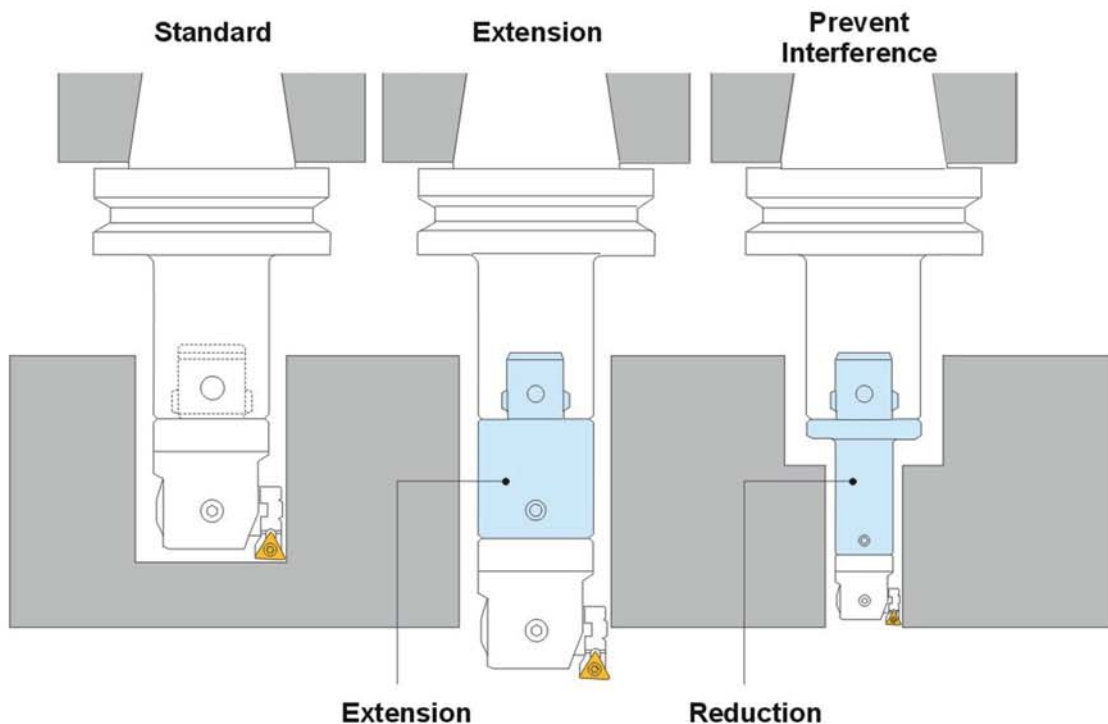
CK No.	Force
CK1	600kg
CK2	1,100kg
CK3	1,400kg
CK4	3,000kg
CK5	4,700kg
CK6	7,100kg
CK7	16,200kg

※ Caution: highly suggested that don't apply CKB Pin avoiding any tool crash causing damage on spindle.

Modular System



Depending on different sizes of workpieces, either making extension to go further depth or applying reduction for preventing interference. Smart modularisation keep rigidity and capability.



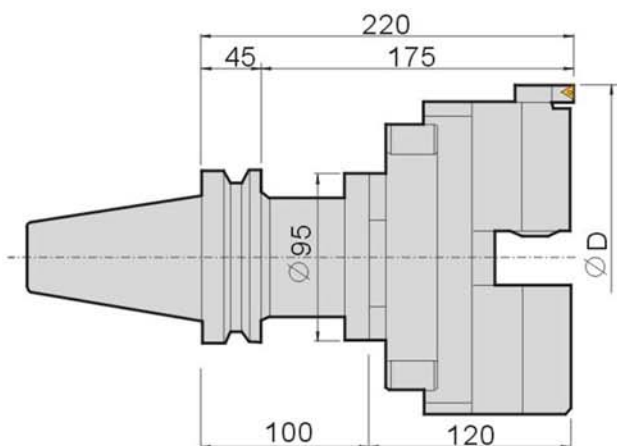
Fine Boring System

60060 BHF Large Diameter Fine Boring Head + BST Shank



Note:

- ▲ F6-1 Insert Holder is standard, optional F6-2 & F6-3 is available.
- ▲ Insert and pull stud are also optional.
- ▲ Coolant Bolt is required to be capable of coolant through screw.
- ▲ Custom made CK shank with longer length is available on request.
- ▲ Cutting edge and drive key grooves are located in the same orientation

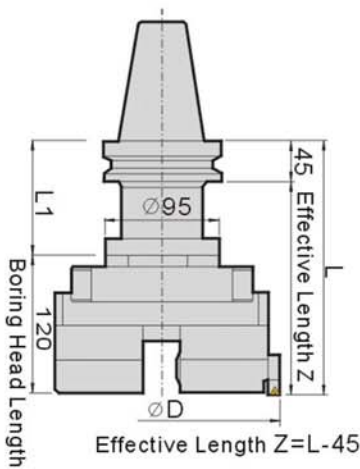


Order No.	Model	Range ØD	N.W.
60060-01	BT50-BHF150-220	150~200	12.0kg
60060-02	-BHF200-220	200~270	13.0kg
60060-03	-BHF270-220	270~340	14.4kg
60060-04	-BHF340-220	340~410	15.8kg
60060-05	-BHF410-220	410~480	17.2kg
60060-06	-BHF480-220	480~550	18.6kg
60060-07	-BHF550-220	550~620	21.4kg
60060-08	-BHF620-220	620~690	22.8kg
60060-09	-BHF690-220	690~760	24.3kg
60060-10	-BHF760-220	760~830	25.7kg

Refer table below for detail information

Collocation table												
BST Shank		Flange (FL)		Slide(SL) Order No.:P. E65			Boring Head		Balance Weight		Insert	
Model	N.W.(kg)	Model	N.W.(kg)	Model	L	N.W.(kg)	Model	N.W.(kg)	Model	N.W.(kg)		
60118-06 BT50-BST100 (P.E64)	5.0	60120-01 FL135	2.75	SL150-200	135	2.5	60067 BHF150	1.75	60068-01	BWN150-200	1.15	TC11
				SL200-270	183	3.5			60068-02 BWN200-550 (P.E66)			
				SL270-340	253	4.9						
				SL340-410	323	6.8						
				SL410-480	393	7.7						
				SL480-550	463	9.1						
		SL550-620	533	10.6								
		SL620-690	603	12.0								
		SL690-760	673	13.5								
		SL760-830	743	14.9								

Boring Head & Balance Weight E66 Slide E65 Inserts E74~75



Refer to .E64
BST(60118)



Refer to .E65 (60120)

Note: Shank BT50-BST

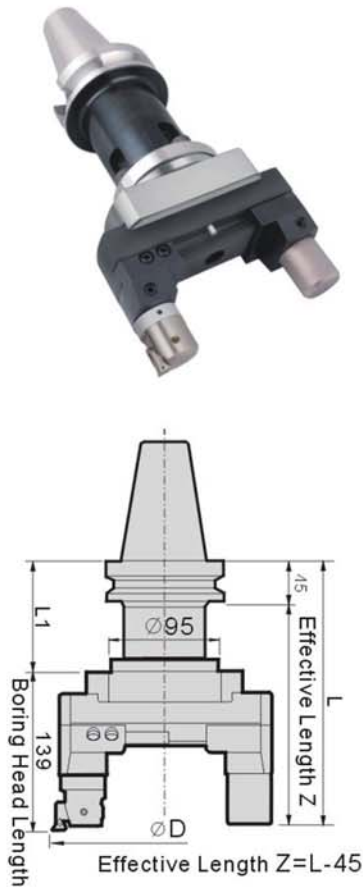
Unit:mm

Order No.	Model	Range ØD	BST	BHF	L	L1	N.W.
60061-01	BT50-BHF150-270	150~200	60118-08 BT50-BST150	BHF150	270	150	13.0kg
60061-02	BHF200-270	200~270		BHF200			14.0kg
60061-03	BHF270-270	270~340		BHF270			15.4kg
60061-04	BHF340-270	340~410		BHF340			16.8kg
60061-05	BHF410-270	410~480		BHF410			18.2kg
60061-06	BHF480-270	480~550		BHF480			19.6kg
60061-07	BHF550-270	550~620		BHF550			22.4kg
60061-08	BHF620-270	620~690		BHF620			23.8kg
60061-09	BHF690-270	690~760		BHF690			25.3kg
60061-10	BHF760-270	760~830		BHF760			26.7kg
60062-01	BT50-BHF150-320	150~200	60118-10 BT50-BST200	BHF150	320	200	14.0kg
60062-02	BHF200-320	200~270		BHF200			15.0kg
60062-03	BHF270-320	270~340		BHF270			16.4kg
60062-04	BHF340-320	340~410		BHF340			17.8kg
60062-05	BHF410-320	410~480		BHF410			19.2kg
60062-06	BHF480-320	480~550		BHF480			20.6kg
60062-07	BHF550-320	550~620		BHF550			23.4kg
60062-08	BHF620-320	620~690		BHF620			24.8kg
60062-09	BHF690-320	690~760		BHF690			26.3kg
60062-10	BHF760-320	760~830		BHF760			27.7kg
60063-01	BT50-BHF150-370	150~200	60118-12 BT50-BST250	BHF150	370	250	15.0kg
60063-02	BHF200-370	200~270		BHF200			16.0kg
60063-03	BHF270-370	270~340		BHF270			17.4kg
60063-04	BHF340-370	340~410		BHF340			18.8kg
60063-05	BHF410-370	410~480		BHF410			20.2kg
60063-06	BHF480-370	480~550		BHF480			21.6kg
60063-07	BHF550-370	550~620		BHF550			24.4kg
60063-08	BHF620-370	620~690		BHF620			25.8kg
60063-09	BHF690-370	690~760		BHF690			27.3kg
60063-10	BHF760-370	760~830		BHF760			28.7kg
60064-01	BT50-BHF150-420	150~200	60118-14 BT50-BST300	BHF150	420	300	16.0kg
60064-02	BHF200-420	200~270		BHF200			17.0kg
60064-03	BHF270-420	270~340		BHF270			18.4kg
60064-04	BHF340-420	340~410		BHF340			19.8kg
60064-05	BHF410-420	410~480		BHF410			21.2kg
60064-06	BHF480-420	480~550		BHF480			22.6kg
60064-07	BHF550-420	550~620		BHF550			25.4kg
60064-08	BHF620-420	620~690		BHF620			26.8kg
60064-09	BHF690-420	690~760		BHF690			28.3kg
60064-10	BHF760-420	760~830		BHF760			29.7kg
60065-01	BT50-BHF150-470	150~200	60118-16 BT50-BST350	BHF150	470	350	17.0kg
60065-02	BHF200-470	200~270		BHF200			18.0kg
60065-03	BHF270-470	270~340		BHF270			19.4kg
60065-04	BHF340-470	340~410		BHF340			20.8kg
60065-05	BHF410-470	410~480		BHF410			22.2kg
60065-06	BHF480-470	480~550		BHF480			23.6kg
60065-07	BHF550-470	550~620		BHF550			26.4kg
60065-08	BHF620-470	620~690		BHF620			27.8kg
60065-09	BHF690-470	690~760		BHF690			29.3kg
60065-10	BHF760-470	760~830		BHF760			30.7kg



Fine Boring System

60061AL/65AL BHF Lightweight Large Diameter Fine Boring Head + BST Shank



Refer to .E64
BST(60118)



Refer to .E65 (60120)

Unit:mm

Order No.	Model	Range ØD	BST	BHF	L	L1	N.W.
60061AL-01	BT50-BHF41-290	150~200	60118-08 BT50-BST150		290	150	13.0kg
60061AL-02	BHF41-290	200~270					14.0kg
60061AL-03	BHF41-290	270~340					15.4kg
60061AL-04	BHF41-290	340~410					16.8kg
60061AL-05	BHF41-290	410~480					18.2kg
60061AL-06	BHF41-290	480~550					19.6kg
60061AL-07	BHF41-290	550~620					22.4kg
60061AL-08	BHF41-290	620~690					23.8kg
60061AL-09	BHF41-290	690~760					25.3kg
60061AL-10	BHF41-290	760~830					26.7kg
60062AL-01	BT50-BHF41-340	150~200	60118-10 BT50-BST200		340	200	14.0kg
60062AL-02	BHF41-340	200~270					15.0kg
60062AL-03	BHF41-340	270~340					16.4kg
60062AL-04	BHF41-340	340~410					17.8kg
60062AL-05	BHF41-340	410~480					19.2kg
60062AL-06	BHF41-340	480~550					20.6kg
60062AL-07	BHF41-340	550~620					23.4kg
60062AL-08	BHF41-340	620~690					24.8kg
60062AL-09	BHF41-340	690~760					26.3kg
60062AL-10	BHF41-340	760~830					27.7kg
60063AL-01	BT50-BHF41-390	150~200	60118-12 BT50-BST250	60034 BHF41 (P.E49)	390	250	15.0kg
60063AL-02	BHF41-390	200~270					16.0kg
60063AL-03	BHF41-390	270~340					17.4kg
60063AL-04	BHF41-390	340~410					18.8kg
60063AL-05	BHF41-390	410~480					20.2kg
60063AL-06	BHF41-390	480~550					21.6kg
60063AL-07	BHF41-390	550~620					24.4kg
60063AL-08	BHF41-390	620~690					25.8kg
60063AL-09	BHF41-390	690~760					27.3kg
60063AL-10	BHF41-390	760~830					28.7kg
60064AL-01	BT50-BHF41-440	150~200	60118-14 BT50-BST300		440	300	16.0kg
60064AL-02	BHF41-440	200~270					17.0kg
60064AL-03	BHF41-440	270~340					18.4kg
60064AL-04	BHF41-440	340~410					19.8kg
60064AL-05	BHF41-440	410~480					21.2kg
60064AL-06	BHF41-440	480~550					22.6kg
60064AL-07	BHF41-440	550~620					25.4kg
60064AL-08	BHF41-440	620~690					26.8kg
60064AL-09	BHF41-440	690~760					28.3kg
60064AL-10	BHF41-440	760~830					29.7kg
60065AL-01	BT50-BHF41-490	150~200	60118-16 BT50-BST350		490	350	17.0kg
60065AL-02	BHF41-490	200~270					18.0kg
60065AL-03	BHF41-490	270~340					19.4kg
60065AL-04	BHF41-490	340~410					20.8kg
60065AL-05	BHF41-490	410~480					22.2kg
60065AL-06	BHF41-490	480~550					23.6kg
60065AL-07	BHF41-490	550~620					26.4kg
60065AL-08	BHF41-490	620~690					27.8kg
60065AL-09	BHF41-490	690~760					29.3kg
60065AL-10	BHF41-490	760~830					30.7kg

BORING HEAD

60066
BHF
Lightweight Large Diameter Fine Boring Head (Type L)


Order No.	Model	Range ∅d	Refer	Aluminum Slide		BHF	Balance Weight
				Model(N.W.)	L		
60066-01	BHF21-54CK4-L	150~200	FL135 (2.75kg)	SL150-200AL (0.85kg)	135	BHF41 (0.4kg)	BW-CK4-BHF (0.4kg)
60066-02	BHF21-102CK4-L	200~270		SL200-270AL (1.20kg)	183		
60066-03	BHF91-172CK4-L	270~340		SL270-340AL (1.70kg)	253		
60066-04	BHF161-242CK4-L	340~410		SL340-410AL (2.20kg)	323		
60066-05	BHF231-312CK4-L	410~480		SL410-480AL (2.70kg)	393		
60066-06	BHF301-382CK4-L	480~550	SL480-550AL (3.20kg)	463	F4-1		
60066-07	BHF371-452CK4-L	550~620	FL220 (4.0kg)	SL550-620AL (3.70kg)	533	刀片 TC11	
60066-08	BHF441-522CK4-L	620~690		SL620-690AL (4.20kg)	603		
60066-09	BHF511-592CK4-L	690~760		SL690-760AL (4.70kg)	673		
60066-10	BHF581-662CK4-L	760~830		SL760-830AL (5.20kg)	743		

1. Boring range is based on TC11 R0.4 insert applied.
2. BHF boring head come with F4-1 insert holder x 1pc
3. Insert is not included

Optional Insert P.E74~75
 Shanks & Adaptor P.E67~71



- Aluminum Slide
Optional aluminum slide can reduce almost 70% compared to steel made, and the rigidity is then reduce 30%

Order No.	Model	Range ∅D	L	N.W.
60121-11	SL150-200AL	150~200	135	0.85kg
60121-12	SL200-270AL	200~270	183	1.20kg
60121-13	SL270-340AL	270~340	253	1.70kg
60121-14	SL340-410AL	340~410	323	2.20kg
60121-15	SL410-480AL	410~480	393	2.70kg
60121-16	SL480-550AL	480~550	463	3.20kg
60121-17	SL550-620AL	550~620	533	3.70kg
60121-18	SL620-690AL	620~690	603	4.20kg
60121-19	SL690-760AL	690~760	673	4.70kg
60121-20	SL760-830AL	760~830	743	5.20kg


BORING HEAD

Fine Boring System

60070

BHF

Aluminum Fine Boring Head

Boring Range $\phi 100 \sim \phi 203$

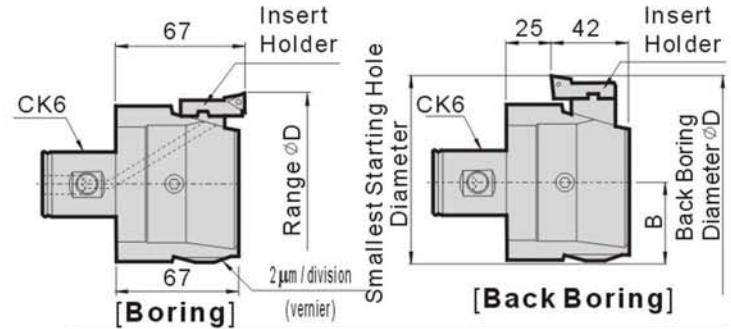
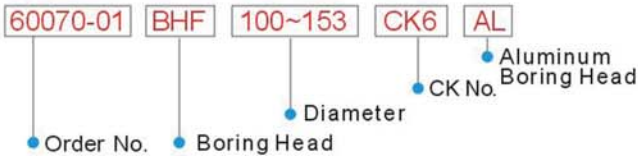


Coolant Through Hole
V Max. 2,000m/min.
2,000m/min

Note:

- ▶ Made of high tensile aluminum and hard coating.
- ▶ Capable of applying on small machines with weight limitation of auto tool change.

Model Instruction.



Smallest Starting Hole Diameter = B + (Back Boring Diameter / 2)

Order No.	Model	CK No.	Boring			N.W.	Insert Holder	Insert
			Diameter ϕD	Diameter ϕD	B			
60070-01	BHF100-153CK6AL	6	100~153	112~153	45.5	0.6kg	F6-1	TC11
60070-02	BHF150-203CK6AL		150~203	150~203	63.5	0.8kg		

1. Boring range is based on TC11 R0.4 insert applied.
2. BHF boring head come with F4-1 insert holder x 1pc
3. Insert is not included

Optional Insert P.E74~75
Shanks & Adaptor P.E67~71

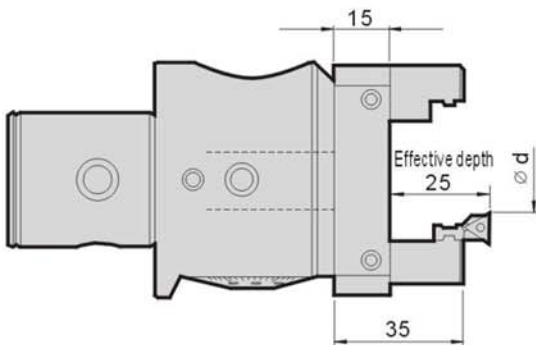
Caution The max. allowable cutting speed for BHF boring head is 2000m/min, condition of shank length, rigidity of machine and workpieces.

60072

BHW

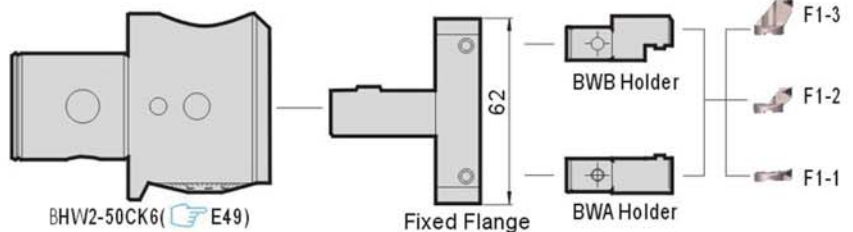
Fine Boring Head (Type S)

Types S Boring Range $\phi 2.5 \sim \phi 32$



Note:

- ▶ Min. O.D $\phi 2.5$ mm to Max. O.D $\phi 32$ mm
- ▶ Better roundness and precision compared to milling operations.
- ▶ BWB is Balance weight when apply BWA as Insert Holder and vice versa.



Order No.	Model	Diameter ϕd	BHW	Fixed Flange	Extension	Insert Holder	Insert
60072	BHW2-50CK6-S	2.5~12.5	BHW2-50CK6	BW	BWA	F1-3	TP08
		7.5~17.5				F1-2	
		12.5~22.5				F1-1	
		17.5~27.5				F1-3	
		22.5~32.5				F1-2	

1. Insert is optional
2. Standard Insert Holder F1-1, F1-2, F1-3 each in BWA & BWB

Optional Insert P.E74

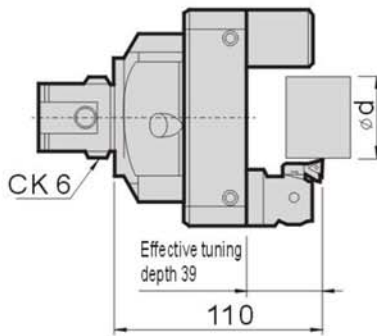
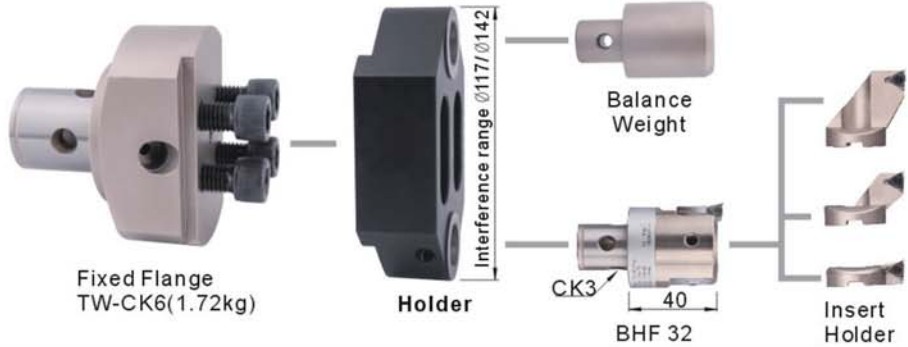
BORING HEAD

60074

BHF

Large Diameter Fine Boring Head (Type M)

Boring Range $\varnothing 25 \sim \varnothing 77$



Order No.	Model	Diameter $\varnothing d$	Holder	BHF	Balance Weight	Insert Holder	Insert
60074-01	BHF25-34CK6-M	25~34	SL25-52CK3 (0.98kg)	BHF32-60CK3 (0.21kg)	BW-CK3-BHF (0.21kg)	F3-3	TP08
60074-02	BHF34-43CK6-M	34~43	Min.Dia. $\varnothing 117$				
60074-03	BHF43-52CK6-M	43~52					
60074-04	BHF50-59CK6-M	50~59	SL50-77CK3 (1.22kg)				
60074-05	BHF59-68CK6-M	59~68	Min.Dia. $\varnothing 142$				
60074-06	BHF68-77CK6-M	68~77					

1. Boring range is based on TC08 R0.2 insert applied.
2. BHF boring head come with F3-1 insert holder x 1pc
3. Insert is not included
4. Machine spindle rotation must be reverse when processing.

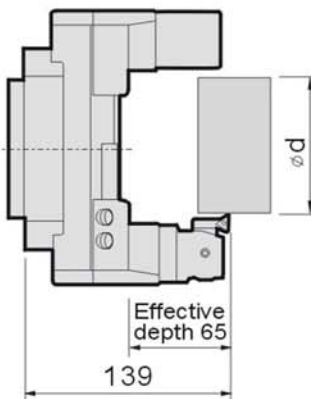
Optional Insert P.E74~75
Shanks & Adaptor P.E67~71

60075

BHF

Large Diameter Fine Boring Head (Type L)

Boring Range $\varnothing 21 \sim \varnothing 662$



Order No.	Model	Diameter $\varnothing d$	Fixed Flange	Slide		BHF Boring Head	Balance Weight
				Model(N.W.)	L		
60075-01	BHF21-54CK4-L	21~54	FL135 (2.75kg)	SL150-200 (2.5kg)	135	BHF41-74CK4 (0.4kg)	BW-CK4-BHF (0.4kg)
60075-02	BHF21-102CK4-L	21~102		SL200-270 (3.5kg)	183		
60075-03	BHF91-172CK4-L	91~172		SL270-340 (4.9kg)	253		
60075-04	BHF161-242CK4-L	161~242		SL340-410 (6.3kg)	323		
60075-05	BHF231-312CK4-L	231~312	FL220 (4.0kg)	SL410-480 (7.7kg)	393	Insert Holder F4-1	
60075-06	BHF301-382CK4-L	301~382		SL480-550 (9.1kg)	463		
60075-07	BHF371-452CK4-L	371~452	FL220 (4.0kg)	SL550-620 (10.6kg)	533	Insert TC11	
60075-08	BHF441-522CK4-L	441~522		SL620-690 (12.0kg)	603		
60075-09	BHF511-592CK4-L	511~592		SL690-760 (13.5kg)	673		
60075-10	BHF581-662CK4-L	581~662		SL760-830 (14.9kg)	743		

1. Boring range is based on TC11 R0.4 insert applied.
2. BHF boring head come with F4-1 insert holder x 1pc
3. Insert is not included

Optional Insert P.E74~75
Shanks & Adaptor P.E67~71

Rough Boring System

60082

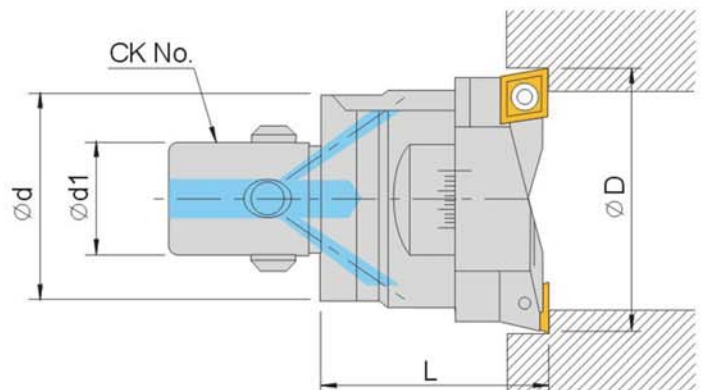
BHT

Twin-cutter Rough Boring Head



Note:

- ▶ BHT25~BHT125 has boring range $\varnothing 25 \sim \varnothing 125$
- ▶ Both insert holder and boring head have gullets and make stably tight combination

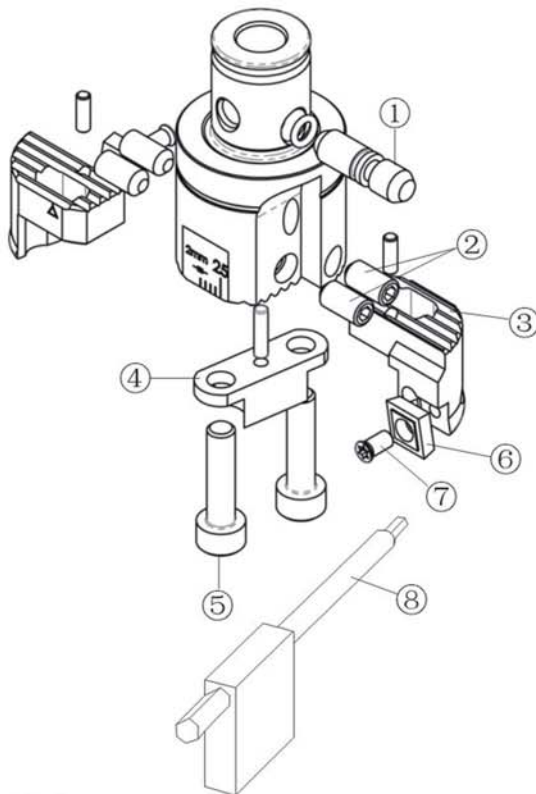


Unit:mm

Order No.	Model	CK No.	$\varnothing d1$	Boring Range $\varnothing D$	$\varnothing d$	L	Insert Spec.	N.W.
60082-01	BHT25	CK2	14	25-33	24	37	CCMT0602	0.11kg
60082-02	BHT32	CK3	18	32-45	31	37	CCMT09T3	0.19kg
60082-03	BHT44	CK4	22	44-63	42	46.5	CCMT09T3	0.43kg
60082-04	BHT62	CK5	28	62-89	55	59	CCMT1204	0.97kg
60082-05	BHT88	CK6	36	88-126	64	70	CCMT1204	2.16kg
60082-06	BHT125	CK6	36	125-175	64	76	CCMT1204	3.03kg






BORING HEAD








- ① Stop pin
- ② Socket set screw
- ③ Insert holder
- ④ Spacer
- ⑤ Socket head cap screw
- ⑥ Insert
- ⑦ Torx screw
- ⑧ Torx wrench

Spart part list:

Unit:mm

Order No.	Model	BHT Spec.	A  ①	B  ②	C  ③
60084-01	A B C	BHT25	Z-BHT15-24	X.0855-M040P070-0080	1310-BHT25
60084-02		BHT32	-31		-BHT32
60084-03		BHT44	-39		-BHT44
60084-04		BHT62	-50	-BHT62	
60084-05		BHT88	-64	X.0855-M060P100-0200	-BHT88
60084-06		BHT125	-64		-BHT125

Order No.	Model	BHT Spec.	A  ④	B  ⑤	C  ⑥	
60086-01	A B C	BHT25	Z-BHT25-03	X.0846-M040P070-0160	CCMT0602	
60086-02		BHT32	-BHT32-03		X.0846-M050P080-0180	CCMT09T3
60086-03		BHT44	-BHT44-03	X.0846-M060P100-0200		CCMT1204
60086-04		BHT62	-BHT62-03			
60086-05		BHT88	-BHT88-03	X.0846-M100P150-0250		
60086-06		BHT125	-BHT125-03			

Order No.	Model	BHT Spec.	A  ⑦	B  ⑧
60088-01	A B	BHT25	X.0837-M025P045-0050	X-3036-T08
60088-02		BHT32	X.0837-M040P070-0110	X-3036-T15
60088-03		BHT44		
60088-04		BHT62	X.0837-M050P080-0110	X-3036-T20
60088-05		BHT88		
60088-06		BHT125		

Order example: for BHT25 torx screw, apply order no.60088-01A.
for BHT88 insert, apply order no.60086-05C

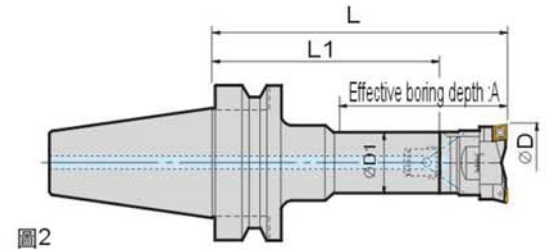
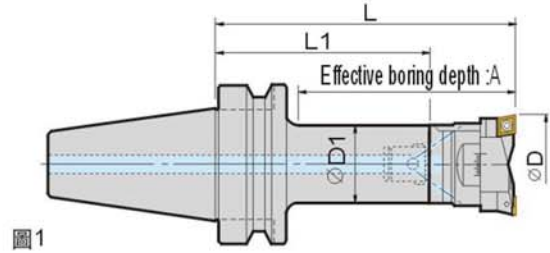
Rough Boring System

60092 BHT/BT Twin-cutter Rough Boring Head + Shank

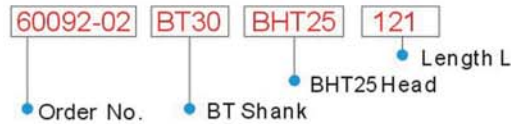


Note:

- ▶ BHT25~BHT125 has boring range $\varnothing 25 \sim \varnothing 125$
- ▶ The shank has coolant through and compatible with rough and fine boring system.
- ▶ Both insert holder and boring head have gullets and make stbly tight combination.



Model Instruction.



Unit:mm

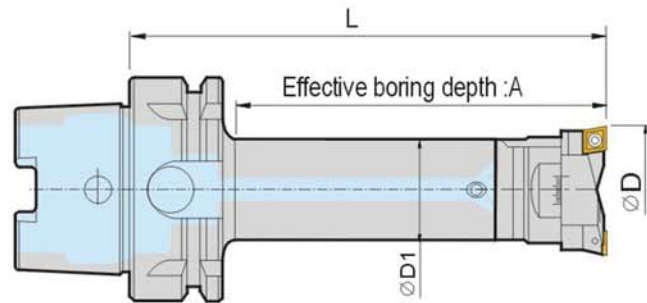
Order No.	Model	CK	BHT	Effective $\varnothing D$	A	$\varnothing D1$	L1	L	N.W.
60092-02	BT30-BHT25-121	BT30-CK2-84	BHT25	25-33	93	24	84	121	1.26kg
60092-04	BHT32-117	CK3-80	BHT32	32-45	89	31	80	117	1.34kg
60092-06	BHT44-120	CK4-73	BHT44	44-63	91	39	73	119.5	1.11kg
60092-08	BHT62-118	CK5-63	BHT62	62-89	93	50	63	118	1.74kg
60092-10	BT40-BHT25-121	BT40-CK2-84	BHT25	25-33	89	24	84	121	1.24kg
60092-12	BHT32-132	CK3-95	BHT32	32-45	100	31	95	132	1.50kg
60092-14	BHT44-135	CK4-88	BHT44	44-63	102	39	88	134.5	1.87kg
60092-16	BHT62-137	CK5-78	BHT62	62-89	105	50	78	137	2.53kg
60092-18	BHT88-134	CK6-64	BHT88	88-126	102	64	64	134	3.64kg
60092-20	BT50-BHT25-151	BT50-CK2-114	BHT25	25-33	108	24	114	151	4.10kg
60092-22	BHT32-162	CK3-125	BHT32	32-45	119	31	125	162	4.20kg
60092-24	BHT44-165	CK4-118	BHT44	44-63	121	39	118	164.5	4.66kg
60092-26	BHT44-225	-178			118		178	224.5	5.74kg
60092-28	BHT62-167	CK5-108	BHT62	62-89	124	50	108	167	5.45kg
60092-30	BHT62-242	-183			199		183	242	6.55kg
60092-32	BHT62-287	-228			244		228	287	7.13kg
60092-34	BHT88-164	CK6-94	BHT88	88-126	121	64	94	164	6.83kg
60092-36	BHT88-239	-169			196		169	239	8.61kg
60092-38	BHT88-299	-229			256		229	299	9.16kg
60092-40	BHT125-170	CK6-94	BHT125	125-175	127	64	94	170	7.70kg
60092-42	BHT125-245	-169			202		169	245	9.48kg
60092-44	BHT125-305	-229			262		229	305	10.03kg

*Optional longer shank is available on request and working condition shall be less performance.

60094
BHT/HSK
Twin-cutter Rough Boring Head + Shank

Note:

- ▶ BHT25~BHT125 has boring range $\varnothing 25 \sim \varnothing 125$
- ▶ The shank has coolant through and compatible with rough and fine boring system.
- ▶ Both insert holder and boring head have gullets and make stbly tight combination.

● 型號說明


Unit:mm

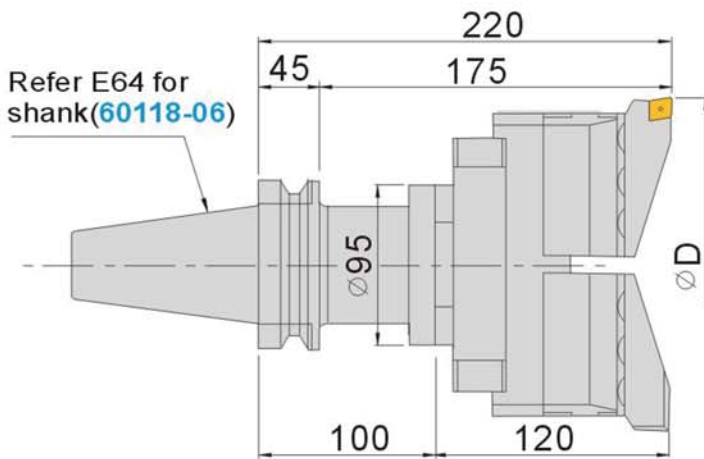
Order No.	Model	CK	BHT	Effective $\varnothing D$	A	$\varnothing D1$	L	N.W.
60094-01	HSK50A-BHT25-115	HSK50A-CK2-080	BHT25	25-33	85	24	115	0.70kg
60094-02	HSK50A-BHT32-130	-CK3-095	BHT32	32-45	100	31	130	0.89kg
60094-03	HSK50A-BHT44-135	-CK4-088	BHT44	44-63		39	135	1.23kg
60094-04	HSK50A-BHT62-135	-CK5-078	BHT62	62-89	105	50		1.97kg

Unit:mm

Order No.	Model	CK	BHT	Effective $\varnothing D$	A	$\varnothing D1$	L	N.W.
60094-05	HSK63A-BHT25-115	HSK63A-CK2-080	BHT25	25-33	85	24	115	1.10kg
60094-06	HSK63A-BHT32-130	-CK3-095	BHT32	32-45	100	31	130	1.29kg
60094-07	HSK63A-BHT44-135	-CK4-088	BHT44	44-63		39	135	1.63kg
60094-08	HSK63A-BHT62-135	-CK5-078	BHT62	62-89	105	50		2.17kg
60094-09	HSK63A-BHT88-140	-CK6-069	BHT88	88-126	110	64	140	3.66kg
60094-10	HSK63A-BHT125-145		BHT125	125-175	115		145	4.53kg

Rough Boring System

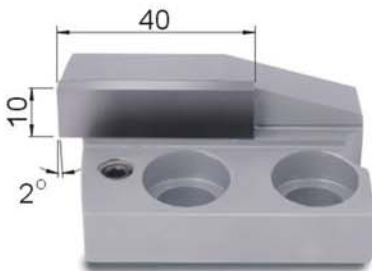
60100 BHT Boring Head (for large diameter)



Order No.	Diameter Ø	Model	N.W.
60100-01	150~200	BT50-BHT150A-220	12.6kg
60100-02	200~270	BHT200A-220	14.2kg
60100-03	270~340	BHT270A-220	15.6kg
60100-04	340~410	BHT340A-220	17.0kg
60100-05	410~480	BHT410A-220	18.4kg
60100-06	480~550	BHT480A-220	19.8kg
60100-07	550~620	BHT550A-220	22.6kg
60100-08	620~690	BHT620A-220	24.0kg
60100-09	690~760	BHT690A-220	25.5kg
60100-10	760~830	BHT760A-220	26.9kg
60101-01	150~200	BT50-BHT150E-220	12.6kg
60101-02	200~270	BHT200E-220	14.2kg
60101-03	270~340	BHT270E-220	15.6kg
60101-04	340~410	BHT340E-220	17.0kg
60101-05	410~480	BHT410E-220	18.4kg
60101-06	480~550	BHT480E-220	19.8kg
60101-07	550~620	BHT550E-220	22.6kg
60101-08	620~690	BHT620E-220	24.0kg
60101-09	690~760	BHT690E-220	25.5kg
60101-10	760~830	BHT760E-220	26.9kg

A、E stands for through hole or blind hole respectively, refer tp E65.

● BHT Brazed Blade Insert Holder



60127
Model: **BHT150B**

1. Ideal for wide spot facing operations.
 2. There are no chip breakers, grind and form if necessary.
 3. Please specify material, A30 or G10 when ordering.
- **A30 for steel or G10 for aluminum and cast iron.

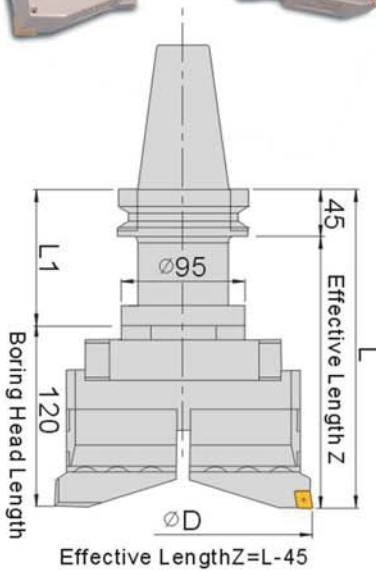
● Coolant Bolt



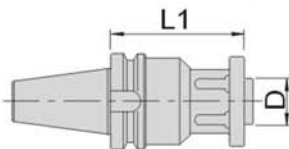
60128
Model: **BST-CNB1**

Coolant is fed to the cutting edges trough the hex head of the coolant bolt.

**Coolant Bolt cannot be used for boring with $\varnothing 185\text{mm}$ or less due to it interferes with the head.

60111-118
BHT
Components Collocation for Large Dia. Boring Head


BST Shank



Note: Shank BT50-BST

Unit:mm

Order No.	Model	effective dia ØD	BST	BHT	L	L1	N.W.
60111-01	BT50-BHT150-270	150~200	60118-08 BT50-BST 150	BHT150	270	150	13.6kg
60111-02	BHT200-270	200~270		BHT200			15.2kg
60111-03	BHT270-270	270~340		BHT270			16.6kg
60111-04	BHT340-270	340~410		BHT340			18.0kg
60111-05	BHT410-270	410~480		BHT410			19.4kg
60111-06	BHT480-270	480~550		BHT480			20.8kg
60111-07	BHT550-270	550~620		BHT550			23.6kg
60111-08	BHT620-270	620~690		BHT620			25.0kg
60111-09	BHT690-270	690~760		BHT690			26.5kg
60111-10	BHT760-270	760~830		BHT760			27.9kg
60112-01	BT50-BHT150-320	150~200	60118-10 BT50-BST 200	BHT150	320	200	14.6kg
60112-02	BHT200-320	200~270		BHT200			16.2kg
60112-03	BHT270-320	270~340		BHT270			17.6kg
60112-04	BHT340-320	340~410		BHT340			19.0kg
60112-05	BHT410-320	410~480		BHT410			20.4kg
60112-06	BHT480-320	480~550		BHT480			21.8kg
60112-07	BHT550-320	550~620		BHT550			24.6kg
60112-08	BHT620-320	620~690		BHT620			26.0kg
60112-09	BHT690-320	690~760		BHT690			27.5kg
60112-10	BHT760-320	760~830		BHT760			28.9kg
60113-01	BT50-BHT150-370	150~200	60118-12 BT50-BST 250	BHT150	370	250	15.6kg
60113-02	BHT200-370	200~270		BHT200			17.2kg
60113-03	BHT270-370	270~340		BHT270			18.6kg
60113-04	BHT340-370	340~410		BHT340			20.0kg
60113-05	BHT410-370	410~480		BHT410			21.4kg
60113-06	BHT480-370	480~550		BHT480			22.8kg
60113-07	BHT550-370	550~620		BHT550			25.6kg
60113-08	BHT620-370	620~690		BHT620			27.0kg
60113-09	BHT690-370	690~760		BHT690			28.5kg
60113-10	BHT760-370	760~830		BHT760			29.9kg
60114-01	BT50-BHT150-420	150~200	60118-14 BT50-BST 300	BHT150	420	300	16.6kg
60114-02	BHT200-420	200~270		BHT200			18.2kg
60114-03	BHT270-420	270~340		BHT270			19.6kg
60114-04	BHT340-420	340~410		BHT340			21.0kg
60114-05	BHT410-420	410~480		BHT410			22.4kg
60114-06	BHT480-420	480~550		BHT480			23.8kg
60114-07	BHT550-420	550~620		BHT550			26.6kg
60114-08	BHT620-420	620~690		BHT620			28.0kg
60114-09	BHT690-420	690~760		BHT690			29.5kg
60114-10	BHT760-420	760~830		BHT760			30.9kg
60115-01	BT50-BHT150-470	150~200	60118-16 BT50-BST 350	BHT150	470	350	17.6kg
60115-02	BHT200-470	200~270		BHT200			19.2kg
60115-03	BHT270-470	270~340		BHT270			20.6kg
60115-04	BHT340-470	340~410		BHT340			22.0kg
60115-05	BHT410-470	410~480		BHT410			23.4kg
60115-06	BHT480-470	480~550		BHT480			24.8kg
60115-07	BHT550-470	550~620		BHT550			27.6kg
60115-08	BHT620-470	620~690		BHT620			29.0kg
60115-09	BHT690-470	690~760		BHT690			30.5kg
60115-10	BHT760-470	760~830		BHT760			31.9kg

Order No.	Model	ØD	L1	N.W.
60118-02	BT40-BST100	50	100	2.6kg
60118-04	BST150	50	150	3.2kg
60118-06	BT50-BST100	50	100	5.7kg
60118-08	BST150	50	150	7.4kg
60118-10	BST200	50	200	8.8kg
60118-12	BST250	50	250	10.3kg
60118-14	BST300	50	300	11.3kg
60118-16	BST350	50	350	12.3kg



BORING HEAD

Rough Boring System

Collocation											Optional							
BST Shank		Flange (FL)		Slide (SL)			Order No.: P. E65		Insert Holder (2 purchase)		Insert Holder (2 purchase)		Insert					
Model	N.W.(kg)	Model	N.W.(kg)	Model	L	N.W.(kg)	Model	N.W.(kg)	Model	N.W.(kg)								
60118-06 BT50-BST100 (Details refer to page P.E64)	5.0	60120-01 FL135	2.75	SL150-200	135	2.5	CB150-200 60122-01	1.6	60123A BHT150A	0.75	SC12							
				SL200-270	183	3.5												
				SL270-340	253	4.9												
				SL340-410	323	6.8												
				SL410-480	393	7.7												
				SL480-550	463	9.1												
		60120-02 FL220	4.0	SL550-620	533	10.6	CB200-550 60122-02	2.2	60123E BHT150E	0.75	CC12							
				SL620-690	603	12.0												
				SL690-760	673	13.5												
				SL760-830	743	14.9												
				SL150-200	135	2.5							CB150-200 60122-01	1.6	60123A BHT150A	0.75	SC12	
				SL200-270	183	3.5												
		SL270-340	253	4.9														
		SL340-410	323	6.8														
		SL410-480	393	7.7														
		SL480-550	463	9.1														
		60120-02 FL220	4.0	SL550-620	533	10.6	CB200-550 60122-02	2.2	60123E BHT150E	0.75	CC12							
				SL620-690	603	12.0												
				SL690-760	673	13.5												
				SL760-830	743	14.9												

Refer to page E74~75 for Inserts

1. Insert and pull stub and coolant bolt are optional.
2. CK Shank with longer length is available for customize.
3. All parts are packed separately when shipped.

● Steel Slide



Order No.	Model	Diameter ∅	L	N.W.
60121-01	SL150-200	150~200	135	2.50kg
60121-02	SL200-270	200~270	183	3.50kg
60121-03	SL270-340	270~340	253	4.90kg
60121-04	SL340-410	340~410	323	6.80kg
60121-05	SL410-480	410~480	393	7.70kg
60121-06	SL480-550	480~550	463	9.10kg
60121-07	SL550-620	550~620	533	10.6kg
60121-08	SL620-690	620~690	603	12.0kg
60121-09	SL690-760	690~760	673	13.5kg
60121-10	SL760-830	760~830	743	14.9kg

- Square Tool Holder (optional)
Holds 25mm square turning tools.
Choose steel or aluminum Slide.



Order No.	Model	Diameter ∅	Slide	Sqaure Insert	N.W.
60124-01	BF65	150~200	SL150-200AL		1.9kg
60124-02	BF90	200~830	SL200-270AL or over	□25	2.7kg

Slide has steel made or aluminum made.

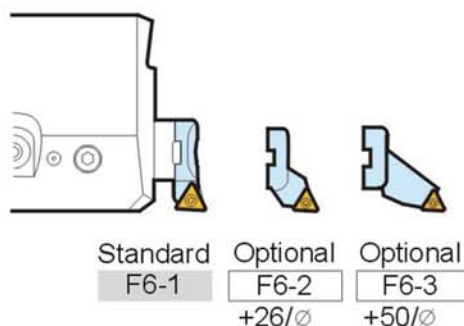
● Balance Weight:

Unbalance is eliminated by applying the Balance Weight. More accurate roundness assure better precision. Especially effective on horizontal machines.

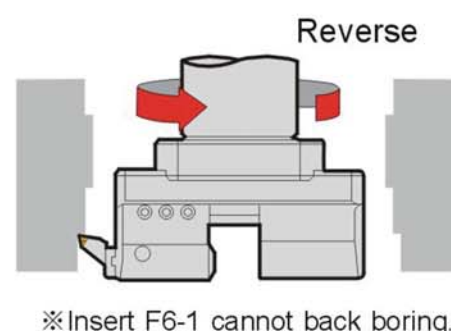


Order No.	Model	Dia. Applicable	Head	Slide
60068-01	BWN150-200	∅150~∅200	BHF150	SL150-200(AL)
60068-02	BWN200-550	∅200~∅830		SL200-270(AL)以上

Enlarge boring range.



Back boring capable.



● BHF150 new function:

By changing insert holder to enlarge boring range and back boring by install back bore insert, increase efficiency and accuracy.

● Effective range for each Slide and Insert Holder

Diameter ∅	Slide	Insert Holder	effective dia ∅ D	Slide	Insert Holder	effective dia ∅ D	Slide	Insert Holder
150~200	SL150-200	F6-1	410~480	SL410-480	F6-1	620~690	SL620-690	F6-1
176~226		F6-2	436~506		F6-2	646~716		F6-2
200~250		F6-3	460~530		F6-3	670~740		F6-3
200~270	SL200-270	F6-1	480~550	SL480-550	F6-1	690~760	SL690-760	F6-1
226~296		F6-2	506~576		F6-2	716~786		F6-2
250~320		F6-3	530~600		F6-3	740~810		F6-3
270~340	SL270-340	F6-1	550~620	SL550-620	F6-1	760~830	SL760-830	F6-1
296~366		F6-2	576~646		F6-2	786~856		F6-2
320~390		F6-3	600~670		F6-3	810~880		F6-3
340~410	SL340-410	F6-1						
366~436		F6-2						
390~460		F6-3						



● Aluminum Slide

Rigidity is 30% less and weight is 67% less than steel made Slide.

Order No.	Model	Diameter ∅	L	N.W.
60121-11	SL150-200AL	150~200	135	0.85kg
60121-12	SL200-270AL	200~270	183	1.20kg
60121-13	SL270-340AL	270~340	253	1.70kg
60121-14	SL340-410AL	340~410	323	2.20kg
60121-15	SL410-480AL	410~480	393	2.70kg
60121-16	SL480-550AL	480~550	463	3.20kg
60121-17	SL550-620AL	550~620	533	3.70kg
60121-18	SL620-690AL	620~690	603	4.20kg
60121-19	SL690-760AL	690~760	673	4.70kg
60121-20	SL760-830AL	760~830	743	5.20kg

Fine Boring System

60130

BT/CK

Shank for Rough & Fine Boring System

Unit:mm



Model Instruction.

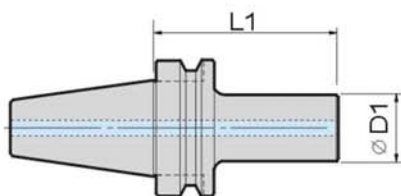
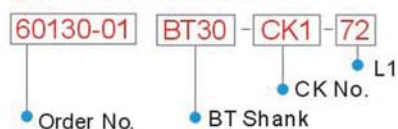


Fig.1

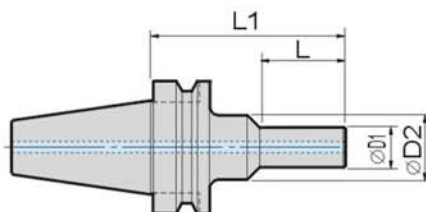


Fig.2

Order No.	Model	CK NO.	∅D1	∅D2	L1	L	N.W.
60130-01	BT30-CK1-72	1	19	31	72	35	0.44kg
60130-02	BT30-CK2-40	2	24	-	40	-	0.40kg
60130-03	BT30-CK2-84	2	24	-	84	-	1.15kg
60130-04	BT30-CK3-40	3	31	-	40	-	0.40kg
60130-05	BT30-CK3-80	3	31	-	80	-	1.15kg
60130-06	BT30-CK4-40	4	39	-	40	-	0.40kg
60130-07	BT30-CK4-73	4	39	-	73	-	0.68kg
60130-08	BT30-CK5-63	5	50	-	63	33	0.77kg
60130-09	BT40-CK1-72	1	19	-	72	-	1.07kg
60130-10	BT40-CK1-120	1	19	31	120	40	1.53kg
60130-11	BT40-CK1-165	1	19	31	165	40	2.01kg
60130-12	BT40-CK2-84	2	24	-	84	-	1.14kg
60130-13	BT40-CK2-125	2	24	45	125	53	1.66kg
60130-14	BT40-CK2-175	2	24	45	175	53	2.26kg
60130-15	BT40-CK3-95	3	31	-	95	-	1.31kg
60130-16	BT40-CK3-150	3	31	50	150	58	2.18kg
60130-17	BT40-CK3-200	3	31	50	200	58	2.92kg
60130-18	BT40-CK4-88	4	39	-	88	-	1.45kg
60130-19	BT40-CK4-150	4	39	50	150	56	2.27kg
60130-20	BT40-CK4-200	4	39	50	200	56	3kg
60130-21	BT40-CK5-78	5	50	-	78	-	1.56kg
60130-22	BT40-CK5-150	5	50	-	150	83	2.36kg
60130-23	BT40-CK5-200	5	50	-	200	93	4.37kg
60130-24	BT40-CK6-64	6	64	-	64	-	1.48kg
60130-25	BT40-CK6-120	6	64	-	120	-	2.78kg
60130-26	BT40-CK6-170	6	64	-	170	-	3.97kg
60130-27	BT50-CK1-102	1	19	40	102	35	3.97kg
60130-28	BT50-CK1-170	1	19	40	170	35	4.55kg
60130-29	BT50-CK1-220	1	19	-	220	35	5.07kg
60130-30	BT50-CK2-114	2	24	45	114	-	4.00kg
60130-31	BT50-CK2-175	2	24	45	175	65	4.69kg
60130-32	BT50-CK2-225	2	24	-	225	65	5.30kg
60130-33	BT50-CK3-125	3	31	50	125	-	4.02kg
60130-34	BT50-CK3-200	3	31	50	200	80	5.22kg
60130-35	BT50-CK3-240	3	31	-	240	80	5.82kg
60130-36	BT50-CK4-118	4	39	50	118	-	4.23kg
60130-37	BT50-CK4-178	4	39	50	178	80	5.32kg
60130-38	BT50-CK4-235	4	39	-	235	80	5.90kg
60130-39	BT50-CK5-108	5	50	-	108	-	4.48kg
60130-40	BT50-CK5-183	5	50	-	183	-	5.58kg
60130-41	BT50-CK5-228	5	50	-	228	-	6.16kg
60130-42	BT50-CK6-94	6	64	-	94	-	4.67kg
60130-43	BT50-CK6-169	6	64	-	169	-	6.45kg
60130-44	BT50-CK6-229	6	64	-	229	-	7.00kg
60130-45	BT50-CK7-93	7	90	-	93	-	4.85kg
60130-46	BT50-CK7-243	7	90	-	243	-	7.25kg

☞ Suitable for Boring Head at page. E49/51/59/60/70

60140

DAT/CK

Shank for Rough & Fine Boring System

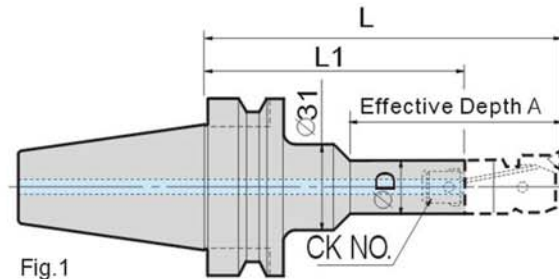


Fig.1

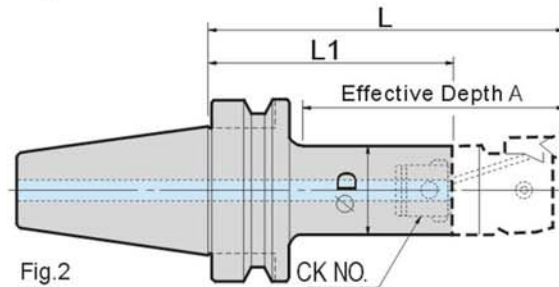
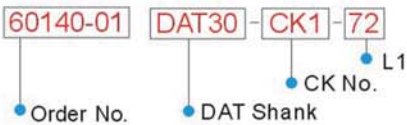


Fig.2

Model Instruction.



Unit:mm

Order No.	Model	CK No.	∅D	A	L	L1	Fig.	N.W.
60140-01	DAT30-CK1-72	1	19	73	104.5	72	1	0.48kg
60140-02	-CK2-84	2	24	93	120	84	2	1.19kg
60140-03	-CK3-80	3	31	93	120	80		1.12kg
60140-04	-CK4-73	4	39	93	120	73		0.73kg
60140-05	-CK5-63	5	50	93	120	63		0.81kg
60140-06	DAT40-CK1-72	1	19	73	104.5	72		1
60140-07	-CK2-84	2	24	88	119.5	84	2	1.19kg
60140-08	-CK3-95	3	31	103	135	95		1.36kg
60140-09	-CK4-88	4	39	103	135	88		1.49kg
60140-10	-CK5-78	5	50	103	135	78		1.60kg
60140-11	-CK6-64	6	64	103	135	64		1.52kg
60140-12	DAT50-CK1-102	1	19	73	134.5	102	1	4.02kg
60140-13	-CK2-114	2	24	107	149.5	114	2	4.05kg
60140-14	-CK3-125	3	31	122	165	125		4.06kg
60140-15	-CK4-118	4	39	122	165	118		4.28kg
60140-16	-CK4-178	4	39	182	225	178		5.36kg
60140-17	-CK5-108	5	50	122	165	108		4.53kg
60140-18	-CK5-183	5	50	197	240	183		5.62kg
60140-19	-CK5-228	5	50	242	285	228		6.21kg
60140-20	-CK6-94	6	64	122	165	94		4.72kg
60140-21	-CK6-169	6	64	197	240	169		6.50kg
60140-22	-CK6-229	6	64	257	300	229		7.00kg

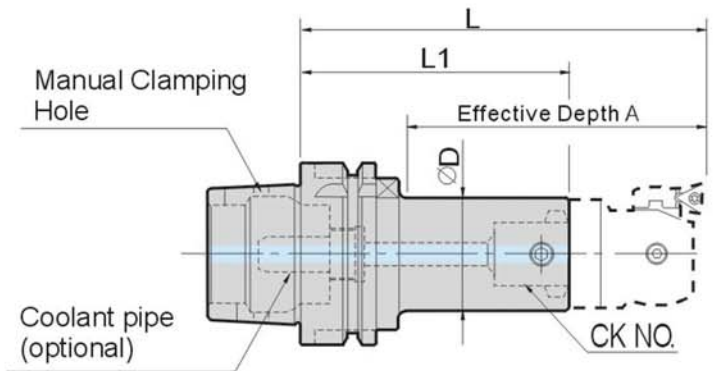
Suitable for Boring Head at page. E49/51/55/56/59/60

Fine Boring System

60150

HSK/CK

Fine Boring Shank



Model Instruction.



Unit:mm

Order No.	Model	CK No.	∅D	A	L	L1	Diameter ∅	N.W.
60150-08	HSK-A 50-CK1-73	1	19	65	105	72.5	20~36	0.5kg
60150-09	-CK2-85	2	24	80	117	84.5	25~47	0.6kg
60150-10	-CK3-80	3	31	82	120	80	32~60	0.7kg
60150-11	-CK4-73	4	39	76	120	72.5	41~74	0.8kg
60150-12	-CK5-85	5	50	-	140	85	53~95	1kg
60150-13	HSK-A 63-CK1-78	1	19	73	110	77.5	20~36	0.9kg
60150-14	-CK2-90	2	24	88	125	89.5	25~47	1kg
60150-15	-CK3-100	3	31	103	140	100	32~60	1.1kg
60150-16	-CK4-93	4	39	103	140	93	41~74	1.2kg
60150-17	-CK5-83	5	50	105	140	83	53~95	1.3kg
60150-18	-CK6-79	6	64	-	150	79	68~203	1.5kg

Suitable for Boring Head at page. E49/51/55/56/59/60



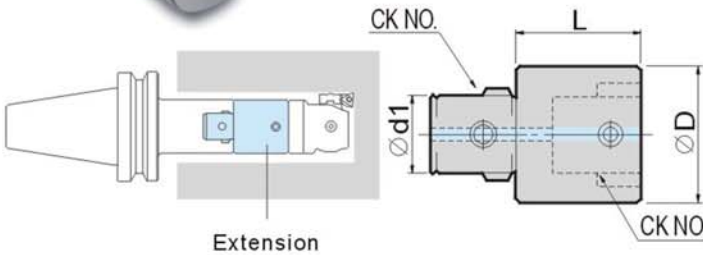
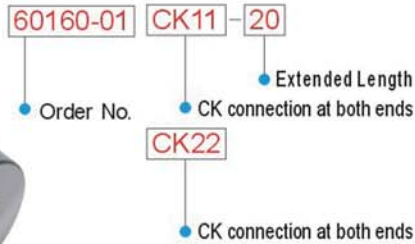
BORING HEAD

60160

CK

Equal Diameter Extension Adapter

Model Instruction.



Note:

- ▶ Mounted between Shank and Head, the capability is extended.
- ▶ Please be aware of possible vibration when L (Length)/D(Ø) ratio become large.

Unit:mm

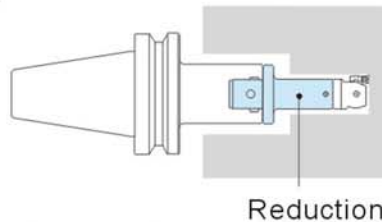
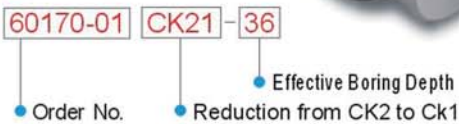
Order No.	Model	CK No.	CK No.		L	N.W.
			Ød1	ØD		
60160-01	CK11-20	CK1	11	19	20	0.05kg
60160-02	-30				30	0.07kg
60160-03	CK22-30	CK2	14	24	30	0.10kg
60160-04	-45				45	0.15kg
60160-05	CK33-30	CK3	18	31	30	0.17kg
60160-06	-45				45	0.25kg
60160-07	CK44-45	CK4	22	39	45	0.40kg
60160-08	-60				60	0.53kg
60160-09	CK55-60	CK5	28	50	60	0.87kg
60160-10	-90				90	1.29kg
60160-11	CK66-60	CK6	36	64	60	1.38kg
60160-12	-100				100	2.31kg

60170

CK

Reducing Change Adapter(Big to Small)

Model Instruction.



Note:

- ▶ L and A dimensions in the table are refer to figures when BHF Head is mounted.

Unit:mm

Order No.	Model	CK No. C1	CK No. C2	ØD1	ØD2	L	A	L1	L2	N.W.		
60170-01	CK21-36	2	1	24	19	68.5	55	36	13.5	0.10kg		
60170-02	CK31-40	3		31		73				0.14kg		
60170-03	CK32-35	4	2	39	24	70	60	35	13	0.16kg		
60170-04	CK41-58					19				90	58	0.25kg
60170-05	CK42-52	5	3	50	31	87	75	52	12	0.28kg		
60170-06	CK43-47					31				87	47	0.32kg
60170-07	CK51-58					19				90	58	0.38kg
60170-08	CK52-52	6	4	64	24	87	70	52	20	0.40kg		
60170-09	-82					117				100	82	0.51kg
60170-10	CK53-47	6	5	64	39	87	100	47	17	0.54kg		
60170-11	-77					117				100	77	0.64kg
60170-12	CK54-40					87				70	40	0.47kg
60170-13	-70					117				100	70	0.82kg
60170-14	CK61-66					19				99	65	66
60170-15	CK62-60	6	2	64	24	96	80	60	16	0.69kg		
60170-16	-95					131				115	95	0.98kg
60170-17	CK63-56					96				80	56	0.75kg
60170-18	-91	6	3	64	31	131	115	91	16	1.12kg		
60170-19	CK64-49					96				80	49	0.80kg
60170-20	-84					131				115	84	1.28kg
60170-21	CK65-39	6	4	64	50	96	80	39	16	0.92kg		
60170-22	-74					131				115	74	1.33kg

BORING HEAD

Fine Boring System

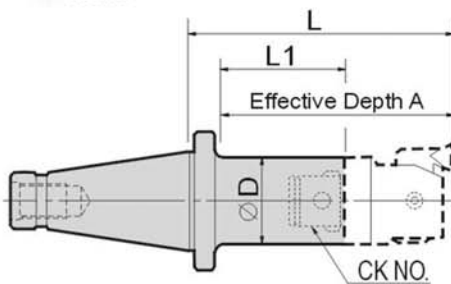
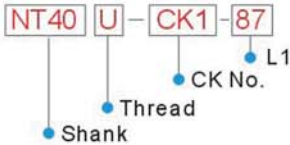
60180

NT

Fine Boring Shank



Model Instruction.



Note:

- ▶ If it is Metric thread, please specify from U to M. (Example NT40M-CK5-119).
- ▶ L and A dimensions in the table are refer to figures when BHF Head is mounted.

Unit:mm

Order No.	Model	CK No.	∅D	L	L1	A	N.W.
60180-01	NT40U-CK1-87	1	19	120	87	73	1.0kg
60180-02	CK2-81	2	24	119	81	100	1.2kg
60180-03	CK3-106	3	31	147	106	130	1.5kg
60180-04	CK4-129	4	39	176	129	160	2.0kg
60180-05	CK5-119	5	50		119		2.3kg
60180-06	CK6-45	6	64	116	45	100	1.4kg
60180-07	NT50U-CK1-90	1	19	123	90	73	3.0kg
60180-08	CK2-85	2	24	123	85	100	3.1kg
60180-09	CK3-110	3	31	151	110	130	3.5kg
60180-10	CK4-133	4	39	180	133	160	4.0kg
60180-11	CK5-123	5	50		123		4.4kg
60180-12	CK6-109	6	64	109	160	5.0kg	

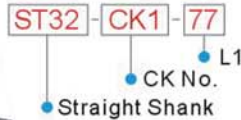
60190

ST

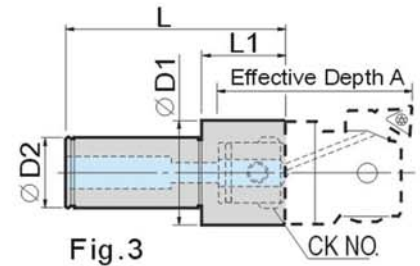
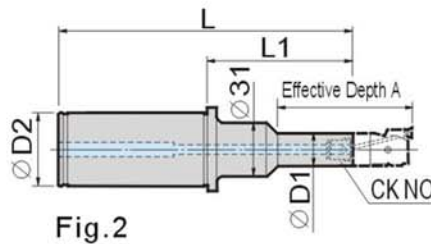
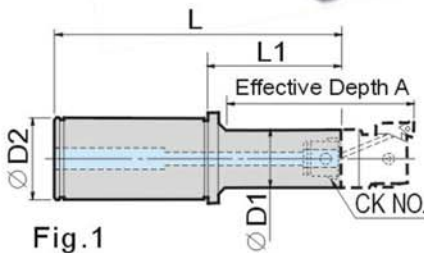
Straight Shank Tool Holder



Model Instruction. Note:



- ▶ A dimensions in the table are refer to figures when BHF Head is mounted.
- ▶ Intended to be clamped with Milling Chuck.
- ▶ Boring Head is not included.



Unit:mm

Order No.	Model	CK No.	Fig.	L	L1	∅D1	∅D2	A	N.W.	
60190-01	ST32-CK1-77	1	1	157	77	19	32	73	0.7kg	
60190-02	CK2-73	2	2	153	73	24		100	100	0.7kg
60190-03	CK3-69	3		149	69	31				0.8kg
60190-04	CK4-58	4	3	138	58	39			0.9kg	
60190-05	CK5-48	5		128	48	50			0.9kg	
60190-06	CK6-59	6		139	59	64			1.5kg	
60190-07	ST42-CK1-77	1	1	157	77	19	42		73	1.0kg
60190-08	CK2-73	2	2	153	73	24		100	100	1.0kg
60190-09	CK3-69	3		149	69	31				1.1kg
60190-10	CK4-63	4	3	143	63	39			1.2kg	
60190-11	CK5-48	5		128	48	50			1.3kg	
60190-12	CK6-59	6		139	59	64			1.8kg	

☞ Suitable for Boring Head at page. E49/51/55/56/59/60

60200 CKP150 Tool Presetter

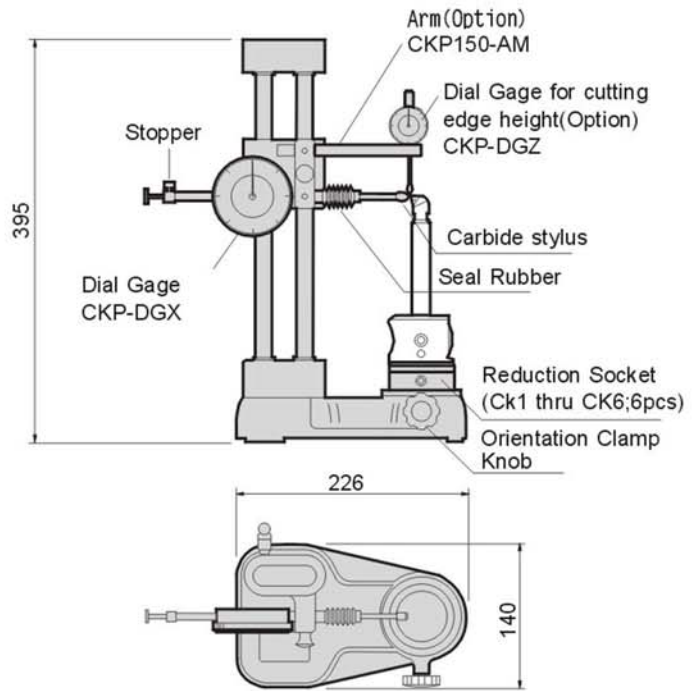


Free Height Adjustment

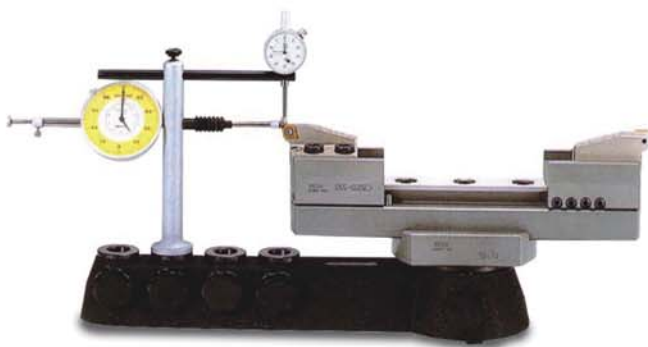
Order No.	60200
Model	CKP150
Measuring capacity	Radial: 0~ \varnothing 150mm(CK1~CK6)
CK No.	Radial: 0.02mm/ \varnothing
Min. scale	CK1~CK6
Max. tool height	227
Master gage	N50 \pm 0.005
Read method	Direct reading of diameter
Weight	6.5kg

Note:

- ▲ Accuracy within 0.02mm/ \varnothing .
- ▲ Max. measuring diameter is 150mm.
- ▲ Tool length is not measurable.



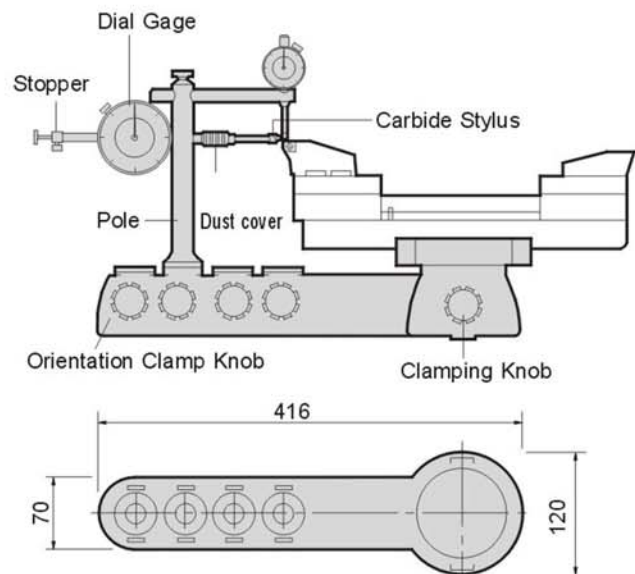
60210 CKP550 Tool Presetter



Order No.	60210
Model	CKP550
Measuring capacity	\varnothing 100~550mm(CK7)
CK No.	Ck7 only
Min. scale	Radial: 0.02mm/ \varnothing Axial: 0.01mm
Master gage	N120 \pm 0.005
Read method	Direct reading of diameter
Weight	9.5kg

Note:

- ▲ Accuracy within 0.02mm/ \varnothing .
- ▲ Max. measuring diameter is 550mm.
- ▲ Tool length is not measurable.



BORING HEAD

Fine Boring System

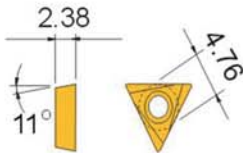
Features :

- ▶ Min. Order Q'ty of 1 box (10 pcs) except for PCD and CBN.
- ▶ Specify insert model and grade when ordering.
(Example: TPMT080202N-LU(T1500A)...10pcs)

60500

TP08

Indexable Insert

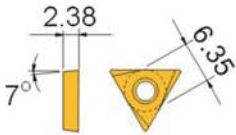


No.	Insert Model	Nose Radius	Workpiece Material	Grade	Material	
1	TPMT080202N-LU	0.2	Steel	T1500A	Cermet (class M)	
2	TPMT080204N-LU	0.4		T2000Z	Coated cermet	
3	TPMT080202N-LU	0.2		T1500A	Cermet (class G)	
4	TPMT080204N-LU	0.4		T1500Z	Coated cermet	
5	TPGT080202L-W	0.2	Steel	T1500A	Cermet (class G)	
6	TPGT080204L-W	0.4		T1500Z	Coated cermet	
7	TPGT080202L-W	0.2		T3000Z	Coated cermet	
8	TPGT080204L-W	0.4		T1000A	Cermet (class G)	
9	TPGT080202L-W	0.2	Steel (with breaker)	T3000Z	Coated cermet	
10	TPGT080204L-W	0.4		G10E	Carbide	
11	TPGT080202L-W	0.2	Cast Iron	T1000A	Cermet (class G)	
12	TPGT080204L-W	0.4		G10E	Carbide	
13	TPGT080202L-W	0.2		Aluminum	DA1000	Diamond
14	TPGT080204L-W	0.4		Inconel / Titanium	AC530U	Coated carbide
15	TPGT080202L-W	0.2	Aluminum	G10E	Carbide	
16	TPGT080204L-W	0.4		DA1000	Diamond	
17	TPGT080202L-W	0.2	Inconel / Titanium	AC530U	Coated carbide	
18	TPGT080204L-W	0.4		BN2000	CBN	
19	TPGT080202L-FX	0.2	Hardened steel	BN2000	CBN	
20	TPGT080204L-FX	0.4		BN7000	CBN	
21	NU-TPGW080202	0.2	Graphite cast iron	BN2000	CBN	
22	NU-TPGW080204	0.4		BN7000	CBN	
23	NU-TPGW080202	0.2		BN7000	CBN	
24	NU-TPGW080204	0.4	BN7000	CBN		

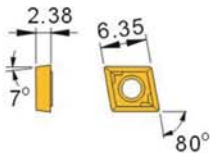
BORING HEAD

Features:

- ▶ Min. Order Q'ty of 1 box (10 pcs) except for PCD and CBN.
- ▶ Specify insert model and grade when ordering.
(Example: TCMT110204N-LU(T1500A)...10pcs)

60510
TC11
Indexable Insert


No.	Insert Model	Nose Radius	Workpiece Material	Grade	Material
1	TCMT110204N-LU	0.4	Steel	T1500A	Cermet (class M)
2	TCMT110208N-LU	0.8			
3	TCMT110204N-LU	0.4		T3000Z	Coated cermet
4	TCMT110208N-LU	0.8			
5	TCGT110201L-FX	0.1	Inconel / Titanium	AU530U	Coated carbide
6	TCGT110202L-FX	0.2			
7	TCMW110204	0.4	Cast Iron	AC4010K	Carbide
8	TCMW110208	0.8			
9	NF-TCMT110201	0.1	Aluminum	Da1000	Diamond
10	NF-TCMT110202	0.2			
11	NF-TCMT110204	0.4			

60520
CC06
Indexable Insert


No.	Insert Model	Nose Radius	Workpiece Material	Grade	Material
1	CCMT060202N-LU	0.2	General Steel.	T1500A	Cermet
2	CCMT060204N-LU	0.4			
3	CCMT060202N-LU	0.2		AC820P	Coated carbide
4	CCMT060204N-LU	0.4			
5	CCMM060204	0.4	Cast Iron	AC4010K	Coated Cast Iron
6	CCGT060202N-AG	0.2	Cast Iron	H1	Carbide (K10)
7	CCGT060204N-AG	0.4	Aluminum		Carbide(K10) with breaker


BORING HEAD

Fine Boring System

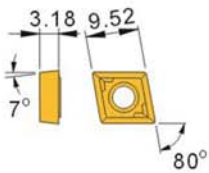
Features:

- ▶ Min. Order Q'ty of 1 box (10 pcs) except for PCD and CBN.
- ▶ Specify insert model and grade when ordering.
(Example: CCGT090301N-SC(T1500A)...10pcs)

60530

CC09

Indexable Insert

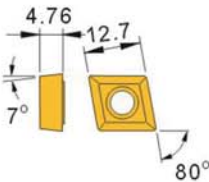


No.	Insert Model	Nose Radius	Workpiece Material	Grade	Material
1	CCGT090301N-SC	0.1	General Steel.	T1500A	Cermet
2	CCGT090302N-SC	0.2			
3	CCMT090308N-SC	0.8	Stainless steel	AC630M	Stainless steel with breaker

60540

CC12

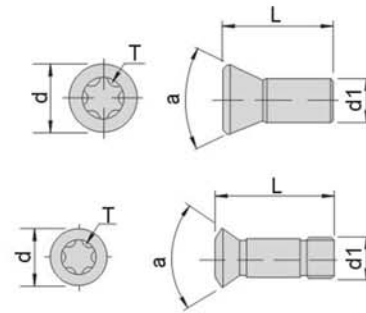
Indexable Insert



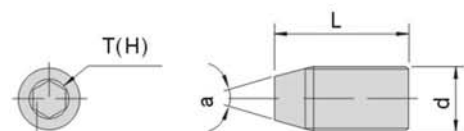
No.	Insert Model	Nose Radius	Workpiece Material	Grade	Material
1	CCMT120404N-FP	0.4	General Steel.	T1500A	Cermet
2	CCMT120408N-FP	0.8			
3	CCMT120404N-FP	0.4		AC820P	Coated carbide
4	CCMT120408N-FP	0.8		AC830P	Coated carbide
5	CCMT120408N-FP	0.8			
6	CCMT120408N-SU	0.8	Stainless steel	AC630M	Stainless steel with breaker
7	CCMT120408N-SU	0.8	Cast Iron	AC4015K	Coated Cast Iron
8	CCMT120408N-SU	0.8	Aluminum	H1	Carbide(K10) with breaker



BORING HEAD

60550
Torx Screw


No.	Spec.	Dimension(mm)				
		d	d1	L	a	T(H)
1	M2*4	2.7	2	3.7	55°	6
2	M2*5	2.7	2	5	55°	6
3	M2.2*5	3	2.2	4.8	55°	8
4	M2.5*5	3.5	2.5	5.5	55°	8
5	M2.5*6	3.5	2.5	6	55°	8
6	M3*6	4	3	6.5	55°	10
7	M3*7	4	3	7	55°	10
8	M3.5*8	5.2	3.5	8.5	55°	15
9	M4*8	5.5	4	8.5	55°	15
10	M4*9	5.5	4	9	55°	15
11	M4*10	6	4	10	55°	15
12	M4*11	5.5	4	11	55°	15
13	M5*11	7.2	5	11	55°	15
14	M5*12	7.2	5	12	55°	20
15	M3*7B	4.5	3	7	60°	8
16	M3*10B	4.5	3	10	60°	8
17	M3.5*8B	5.2	3.5	8	60°	15
18	M4*8B	5.7	4	8.2	60°	15
19	M4*10B	5.7	4	10	60°	15
20	M5*12B	7.2	5	12	60°	20

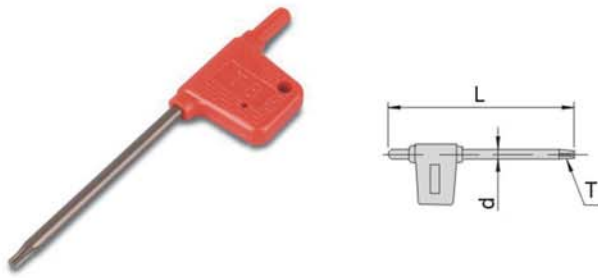
60560
Set Screw


No.	Spec.	Dimension(mm)			
		d1	L	a	T(H)
1	AHV0507-2.5	5	7	60°	2.5
2	AHV0608-3	6	8	60°	3
3	AHV0811-4	8	11	60°	4
4	AHV1014-5	10	14	60°	5
5	AHV1218-6	12	18	60°	6



Fine Boring System

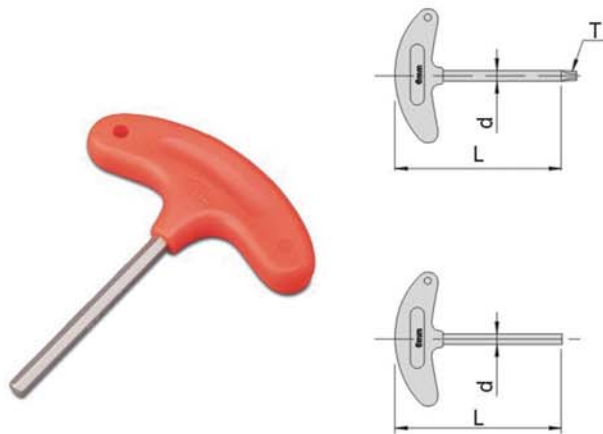
60570 Torx Wrench



Unit:mm

Order No.	Wrench Model	Dimension		
		d	L	T
60570-01	T6	2.5	84	6
60570-02	T8	3	86	8
60570-03	T10	3	90	10
60570-04	T15	5	94	15
60570-05	T20	5	94	20

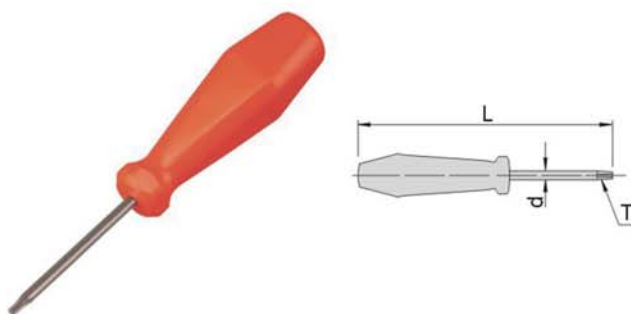
60580 T-Handle Allen Key



Unit:mm

Order No.	Wrench Model	Dimension		
		d	L	T
60580-00	T30T	6	120	30

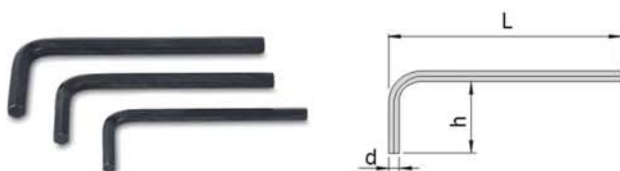
60590 Torx Screwdriver



Unit:mm

Order No.	Wrench Model	Dimension		
		d	L	T
60590-01	T6A	2.5	92	6
60590-02	T8A	3	94	8
60590-03	T10A	3	98	10
60590-04	T15A	5	102	15
60590-05	T20A	5	102	20

60600 Allen Key



Unit:mm

Order No.	Wrench Model	Dimension		
		d	L	T
60600-01	L2	2	52	12
60600-02	L2.5	2.5	60	15
60600-03	L3	3	65	20
60600-04	L4	4	70	25
60600-05	L5	5	78	28
60600-06	L6	6	85	32

BORING HEAD

■ INSERT GRADE

● T1200A

General purpose cermet grade suitable for both finish and tough boring. Excellent anti-wear and anti-cratering properties under either dry or wet condition.

Grade	Cermet P10 grade
TRS	2.1(GPa)
Hardness	92.0(HRA)

● T2000Z

Smooth and highly-adhesive PVD layer is coated on cermet. Doubles tool life of non-coated cermet and gives excellent surface finish.

Grade	Cermet P10-20 grade
Coating	TiN/Al ₂ O ₃
TRS	2.1(GPa)
Hardness	92.0(HRA)

● H1

The most popular carbide grade with higher wear resistance than conventional K10. Available for general purpose for both rough and finish boring applications.

Grade	Fine grain carbide K10 grade
TRS	2.1(GPa)
Hardness	92.9(HRA)

● AC2000

Newly developed zirconium enriched substrate combined with the latest CVD coating minimizes plastic deformation at high temperature and guarantees reliability.

Grade	Carbide P20 grade
Coating	TiN/Al ₂ O ₃ /TiCN
TRS	2.2(GPa)
Hardness	90.1(HRA)

● AC700G

Features wear-resistant zirconium enriched substrates with thick and tough alumina coating. Ideal for boring of cast iron.

Grade	Carbide P20 grade
Coating	TiN/Al ₂ O ₃ /TiCN
TRS	2.2(GPa)
Hardness	90.1(HRA)

● BN250

CBN grade with highly-balanced wear resistance and anti-chipping property. Suitable for a wide range of hardened steel boring from continuous to moderately interrupted cutting.

● BNC200

The new and strong CBN grade with TiAlN-base special coating of excellent wear resistance. Extended tool life in hardened steel applications, low to high speeds, interrupted or continuous cutting.

● T130A

Tough cermet with ultrafine and uniform texture for excellent anti-chipping property. Extended tool life is obtained at interrupted finish boring operations compared to T1200A

Grade	Cermet P10 grade
TRS	2.1(GPa)
Hardness	91.8(HRA)

● T130ZX

Ceramic is coated on cermet uniformly by the new PVD method. Tool life is doubled while maintaining the original toughness.

Grade	Cermet Tough grade
Coating	TiN/AlN
TRS	2.0(GPa)
Hardness	91.9(HRA)

● EH520Z

For exotic materials such as titanium and other heat-resistant alloy. High wear resistivity and notch wear resistance assure extended tool life.

Grade	Carbide P20 grade
Coating	TiN/AlN
TRS	2.5(GPa)
Hardness	91.4(HRA)

● H1ZX

Ultra multilayer TiN/AlN is coated on H1 substrate for enhanced wear-resistance and anti-adhesive property. Ideal for Graphite cast iron and high speed boring of cast iron.

Grade	Fine grain carbide K10 grade
Coating	TiN/AlN
TRS	2.1(GPa)
Hardness	92.9(HRA)

● A1

Toughness-oriented fine grain alloy material with excellent anti-adhesive property at low speed. Sharp cutting edge is suitable for small diameter boring eliminating chatter.

Grade	Fine grain Z20 grade
TRS	2.2(GPa)
Hardness	90.1(HRA)

● AC3000

High chipping resistance of AC2000 is further enhanced. Suitable for heavy roughing and interrupted cuts with highly-adhesive coating layer.

Grade	Carbide P30 grade
Coating	TiN/Al ₂ O ₃ /TiCN
TRS	2.7(GPa)
Hardness	89.2(HRA)

● BN700

CBN grade suitable for high speed boring of cast iron and extended tool life in applications of nodular cast iron. Achieves also improved surface finish and close tolerance accuracy.

● DA2200

High density sintered material made of ultra-micro diamond particles. Superior hardness comparable to K10 carbide and wear resistance with sharp edge improve both tool life and surface finish, even in interrupted cutting of aluminum alloy.

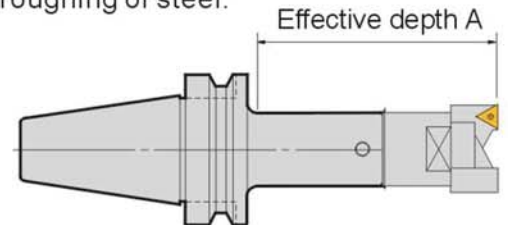


Fine Boring System

Data (Cutting Condition Chart)

BHT / BHC Boring Head

1. This table is a general guideline for cutting data. Adjust them properly according to machine and workpiece conditions.
2. For blind holes, adjust the conditions by observing the chip evacuation.
3. Cermet T1200A is recommended for good surface finish for light roughing of steel.
4. AC3000 is recommended for interrupted cutting of steel.
5. For step cutting, it is recommended to increase depth of cut by 1.6 times and reduce feed rate by 60%.



(BT40)

Boring Head model	Workpiece Material	A	Insert		Cutting Speed (m/min)	Depth of Cut(mm/φ)		Feed Rate(mm/rev.)	
			Nose Radius R	Material		Recommended	MAX	Recommended	MAX
BHT 20-31CK1	Carbon steel	73	0.4	AC2000	130	1.8	2.0	0.20	0.25
	Alloy steel			AC2000	110	1.4	2.0	0.16	0.25
	Stainless steel			AC2000	60	1.5	2.0	0.18	0.25
	Cast iron			AC700G	100	2.0	2.5	0.20	0.25
	Graphite cast iron(FCD)			AC700G	80	1.8	2.0	0.16	0.25
	Aluminum			H1	150	2.0	2.5	0.25	0.30
BHT 25-33CK2	Carbon steel	88	0.4	AC2000	130	2.5	3.0	0.25	0.30
	Alloy steel			AC2000	110	2.0	3.0	0.20	0.30
	Stainless steel			AC2000	60	2.2	3.0	0.22	0.30
	Cast iron			AC700G	100	3.0	4.0	0.25	0.30
	Graphite cast iron(FCD)			AC700G	80	2.5	3.0	0.20	0.30
	Aluminum			H1	150	3.0	4.0	0.30	0.35
BHT 32-42CK3 BHC 32-42CK3	Carbon steel	103	0.8	AC2000	180	3.5	4.0	0.30	0.40
	Alloy steel			AC2000	160	3.0	4.0	0.25	0.35
	Stainless steel			AC2000	80	3.2	4.0	0.30	0.35
	Cast iron			AC700G	100	4.0	5.0	0.30	0.40
	Graphite cast iron(FCD)			AC700G	80	3.5	4.0	0.25	0.30
	Aluminum			H1	150	4.0	5.0	0.30	0.40
BHT 40-55CK4 BHC 40-55CK4	Carbon steel	103	0.8	AC2000	180	4.0	5.0	0.35	0.45
	Alloy steel			AC2000	160	4.0	5.0	0.30	0.40
	Stainless steel			AC2000	80	3.5	5.0	0.30	0.40
	Cast iron			AC700G	100	5.5	8.0	0.30	0.40
	Graphite cast iron(FCD)			AC700G	80	5.0	6.0	0.30	0.40
	Aluminum			H1	150	6.0	8.0	0.40	0.45
BHT 52-70CK5 BHC 52-70CK5	Carbon steel	103	0.8	AC2000	180	6.0	7.0	0.40	0.50
	Alloy steel			AC2000	160	6.0	7.0	0.35	0.45
	Stainless steel			AC2000	80	5.0	7.0	0.35	0.45
	Cast iron			AC700G	100	8.0	10.0	0.40	0.50
	Graphite cast iron(FCD)			AC700G	80	7.0	8.0	0.35	0.45
	Aluminum			H1	150	8.0	10.0	0.45	0.55
BHT 68-92CK6 BHT 90-122CK6 BHT 120-150CK6	Carbon steel	103	0.8	AC2000	180	8.0	10.0	0.40	0.50
	Alloy steel			AC2000	160	7.0	10.0	0.35	0.45
	Stainless steel			AC2000	80	7.0	9.0	0.35	0.45
	Cast iron			AC700G	100	9.0	12.0	0.40	0.50
	Graphite cast iron(FCD)			AC700G	80	8.0	10.0	0.35	0.45
	Aluminum			H1	150	9.0	12.0	0.45	0.55

Spindle speed calculation formula

$$N = \frac{V}{\pi D} \times 1000 [\text{min}^{-1}]$$

N: Spindle speed [min⁻¹]
V: Cutting speed [m/min]
D: Diameter [mm]

Data (Cutting Condition Chart)

BHT / BHC Boring Head

(BT50)

Boring Head model	Workpiece Material	A	Insert		Cutting Speed (m/min)	Depth of Cut(mm/φ)		Feed Rate(mm/rev.)		
			Nose Radius R	Material		Recommended	MAX	Recommended	MAX	
BHT 20-31CK1	Carbon steel	73	0.4	AC2000	130	1.8	2.0	0.20	0.25	
	Alloy steel			AC2000	110	1.4	2.0	0.16	0.25	
	Stainless steel			AC2000	60	1.5	2.0	0.18	0.25	
	Cast iron			AC700G	100	2.0	2.5	0.20	0.25	
	Graphite cast iron			AC700G	80	1.8	2.0	0.16	0.25	
	Aluminum			H1	150	2.0	2.5	0.25	0.30	
BHT 25-33CK2	Carbon steel	107	0.4	AC2000	150	2.5	3.5	0.25	0.30	
	Alloy steel			AC2000	130	2.0	3.5	0.20	0.30	
	Stainless steel			AC2000	80	2.2	3.0	0.22	0.30	
	Cast iron			AC700G	120	3.5	5.0	0.25	0.30	
	Graphite cast iron			AC700G	100	2.5	4.0	0.20	0.30	
	Aluminum			H1	150	3.0	5.0	0.30	0.35	
BHT 32-42CK3 BHC 32-42CK3	Carbon steel	122	0.8	AC2000	200	3.5	4.5	0.30	0.40	
	Alloy steel			AC2000	180	3.0	4.5	0.25	0.35	
	Stainless steel			AC2000	100	3.0	4.0	0.30	0.35	
	Cast iron			AC700G	120	4.0	6.0	0.30	0.40	
	Graphite cast iron			AC700G	100	3.5	5.0	0.25	0.30	
	Aluminum			H1	150	4.0	5.0	0.30	0.40	
BHT 40-55CK4 BHC 40-55CK4	Carbon steel	122	0.8	AC2000	200	4.5	5.0	0.35	0.45	
	Alloy steel			AC2000	180	4.0	5.0	0.30	0.45	
	Stainless steel			AC2000	100	4.0	5.0	0.35	0.45	
	Cast iron			AC700G	130	5.0	7.0	0.40	0.50	
	Graphite cast iron			AC700G	100	4.0	6.0	0.35	0.45	
	Aluminum			H1	180	5.0	7.0	0.40	0.50	
BHT 52-70CK5 BHC 52-70CK5	Carbon steel	122	0.8	AC2000	220	7.0	8.0	0.40	0.60	
	Alloy steel			AC2000	180	7.0	8.0	0.40	0.55	
	Stainless steel			AC2000	120	6.0	7.0	0.40	0.60	
	Cast iron			AC700G	130	9.0	12.0	0.45	0.50	
	Graphite cast iron			AC700G	100	8.0	10.0	0.40	0.50	
	Aluminum			H1	200	9.0	12.0	0.45	0.60	
BHT 68-92CK6 BHC 68-92CK6	Carbon steel	122	0.8	AC2000	220	9.0	12.0	0.40	0.60	
	Alloy steel			AC2000	180	8.0	12.0	0.40	0.55	
	Stainless steel			AC2000	120	6.0	9.0	0.40	0.60	
	Cast iron			AC700G	130	10.0	14.0	0.45	0.50	
	Graphite cast iron			AC700G	100	9.0	12.0	0.40	0.50	
	Aluminum			H1	200	10.0	12.0	0.45	0.60	
BHT 90-122CK6 BHT 120-150CK6	Carbon steel	122	0.8	AC2000	220	10.0	12.0	0.40	0.60	
	Alloy steel			AC2000	180	9.0	12.0	0.40	0.55	
	Stainless steel			AC2000	120	7.0	9.0	0.40	0.60	
	Cast iron			AC700G	130	10.0	14.0	0.45	0.50	
	Graphite cast iron			AC700G	100	10.0	12.0	0.40	0.50	
	Aluminum			H1	200	10.0	12.0	0.45	0.60	
BHT 150 (CK7)	≤φ340	172	0.8	AC2000	220	10.0	12.0	0.40	0.60	
				Alloy steel	AC2000	180	9.0	12.0	0.40	0.55
				Stainless steel	AC2000	120	7.0	9.0	0.40	0.60
				Cast iron	AC700G	130	10.0	14.0	0.40	0.45
				Graphite cast iron	AC700G	100	10.0	12.0	0.40	0.50
				Aluminum	H1	200	10.0	12.0	0.45	0.60
	>φ340			AC2000	220	7.0	8.0	0.40	0.60	
				Alloy steel	AC2000	180	6.0	8.0	0.40	0.55
				Stainless steel	AC2000	120	5.0	6.0	0.40	0.60
				Cast iron	AC700G	130	7.0	10.0	0.40	0.45
				Graphite cast iron	AC700G	100	7.0	8.0	0.40	0.50
				Aluminum	H1	200	7.0	8.0	0.45	0.60



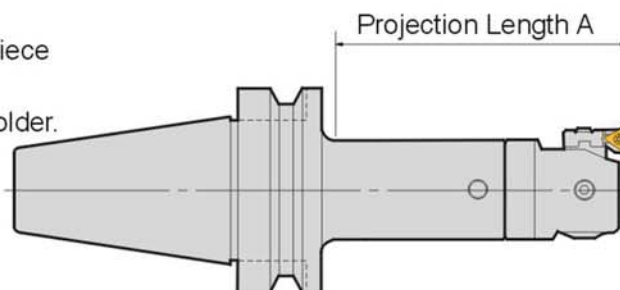
BORING HEAD

Fine Boring System

Data (Cutting Condition Chart)

BHW/BHF Boring Head

- This table is a general guideline for cutting data.
Adjust them properly according to machine and workpiece conditions.
- High pressure coolant might cause deflection of the holder.
Lower the pressure when close tolerance is required.
- Coated cermet T2000Z is recommended for steel to reduce wear.
- Dry cutting is recommended when using BN2000, BNC2020 and BN7000.



(BT40)

Boring Head model	Workpiece Material	A	Insert		Cutting Speed (m/min)	Depth of Cut (mm/φ)	Feed Rate(mm/rev.)	
			Nose Radius R	Material			Recommended	MAX
BHW 20-36CK1	Carbon steel/Alloy steel	73	0.2	T1200A	160	0.15	0.06	0.15
	Stainless steel		0.2	AC520U	100	0.15	0.06	0.15
	Hardened steel		0.2	BN250	70	0.10	0.06	0.10
	Cast iron		0.2	H1	100	0.20	0.06	0.15
	Graphite cast iron		0.2	H1ZX	80	0.15	0.06	0.12
	Graphite cast iron		0.2	BN700	120	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.15
	Aluminum		0.2	DA2200	300	0.20	0.06	0.15
	BHW 25-47CK2		Carbon steel/Alloy steel	88	0.2	T1200A	180	0.15
Stainless steel		0.2	AC520U		120	0.15	0.06	0.15
Hardened steel		0.2	BN250		80	0.10	0.06	0.10
Cast iron		0.2	H1		120	0.20	0.06	0.15
Graphite cast iron		0.2	H1ZX		100	0.15	0.06	0.12
Graphite cast iron		0.2	BN700		180	0.15	0.06	0.10
Aluminum		0.2	H1		200	0.20	0.10	0.15
Aluminum		0.2	DA2200		400	0.20	0.06	0.15
BHW 32-60CK3 BHF 32-42CK3		Carbon steel/Alloy steel	103		0.2	T1200A	180	0.20
	Stainless steel	0.2		AC520U	150	0.20	0.06	0.15
	Hardened steel	0.2		BN250	100	0.10	0.06	0.10
	Cast iron	0.2		H1	150	0.20	0.06	0.15
	Graphite cast iron	0.2		H1ZX	100	0.15	0.06	0.12
	Graphite cast iron	0.2		BN700	200	0.15	0.06	0.10
	Aluminum	0.4		H1	300	0.25	0.10	0.15
	Aluminum	0.4		DA2200	800	0.25	0.10	0.15
	BHW 41-74CK4 BHF 41-54CK4	Carbon steel/Alloy steel		103	0.2	T1200A	180	0.25
Stainless steel		0.2	AC520U		150	0.25	0.06	0.15
Hardened steel		0.4	BN250		100	0.10	0.08	0.10
Cast iron		0.4	H1		150	0.30	0.10	0.15
Graphite cast iron		0.4	H1ZX		100	0.20	0.10	0.12
Graphite cast iron		0.4	BN700		200	0.20	0.10	0.10
Aluminum		0.4	H1		300	0.30	0.12	0.15
Aluminum		0.4	DA2200		800	0.30	0.12	0.15
BHW 53-95CK5 BHW 68-150CK6 BHW 100-203CK6 BHF 53-70CK5 BHF 68-88CK6 BHF 85-105CK6		Carbon steel/Alloy steel	103		0.4	T1200A	180	0.25
	Stainless steel	0.4		AC520U	150	0.25	0.10	0.15
	Hardened steel	0.4		BN250	100	0.10	0.10	0.10
	Cast iron	0.4		H1	150	0.30	0.10	0.15
	Graphite cast iron	0.4		H1ZX	100	0.20	0.10	0.12
	Graphite cast iron	0.4		BN700	200	0.20	0.10	0.10
	Aluminum	0.8		H1	300	0.30	0.16	0.28
	Aluminum	0.4		DA2200	800	0.30	0.12	0.15

Data (Cutting Condition Chart)

BHW/BHF Boring Head

(BT50)

Boring Head model	Workpiece Material	A	Insert		Cutting Speed (m/min)	Depth of Cut(mm/φ)		Feed Rate(mm/rev.)		
			Nose Radius R	Material		Recommended	MAX	Recommended	MAX	
BHW 20-31CK1	Carbon steel	73	0.4	AC820P	130	1.8	2.0	0.20	0.25	
	Alloy steel			AC820P	110	1.4	2.0	0.16	0.25	
	Stainless steel			AC630M	60	1.5	2.0	0.18	0.25	
	Cast iron			AC700G	100	2.0	2.5	0.20	0.25	
	Graphite cast iron			AC410K	80	1.8	2.0	0.16	0.25	
	Aluminum			H1	150	2.0	2.5	0.25	0.30	
BHW 25-33CK2 BHF 25-40CK2	Carbon steel	107	0.4	AC820P	150	2.5	3.5	0.25	0.30	
	Alloy steel			AC820P	130	2.0	3.5	0.20	0.30	
	Stainless steel			AC630M	80	2.2	3.0	0.22	0.30	
	Cast iron			AC700G	120	3.5	5.0	0.25	0.30	
	Graphite cast iron			AC410K	100	2.5	4.0	0.20	0.30	
	Aluminum			H1	150	3.0	5.0	0.30	0.35	
BHW 32-42CK3 BHF 32-51CK3	Carbon steel	122	0.8	AC820P	200	3.5	4.5	0.30	0.40	
	Alloy steel			AC820P	180	3.0	4.5	0.25	0.35	
	Stainless steel			AC630M	100	3.0	4.0	0.30	0.35	
	Cast iron			AC700G	120	4.0	6.0	0.30	0.40	
	Graphite cast iron			AC410K	100	3.5	5.0	0.25	0.30	
	Aluminum			H1	150	4.0	5.0	0.30	0.40	
BHW 41-54CK4 BHF 41-66CK4	Carbon steel	122	0.8	AC820P	200	4.5	5.0	0.35	0.45	
	Alloy steel			AC820P	180	4.0	5.0	0.30	0.45	
	Stainless steel			AC630M	100	4.0	5.0	0.35	0.45	
	Cast iron			AC700G	130	5.0	7.0	0.40	0.50	
	Graphite cast iron			AC410K	100	4.0	6.0	0.35	0.45	
	Aluminum			H1	180	5.0	7.0	0.40	0.50	
BHW 53-70CK5 BHF 53-86CK5	Carbon steel	122	0.8	AC820P	220	7.0	8.0	0.40	0.60	
	Alloy steel			AC820P	180	7.0	8.0	0.40	0.55	
	Stainless steel			AC630M	120	6.0	7.0	0.40	0.60	
	Cast iron			AC700G	130	9.0	12.0	0.45	0.50	
	Graphite cast iron			AC410K	100	8.0	10.0	0.40	0.50	
	Aluminum			H1	200	9.0	12.0	0.45	0.60	
BHW 68-100CK6 BHF 68-110CK6	Carbon steel	122	0.8	AC820P	220	9.0	12.0	0.40	0.60	
	Alloy steel			AC820P	180	8.0	12.0	0.40	0.55	
	Stainless steel			AC630M	120	6.0	9.0	0.40	0.60	
	Cast iron			AC700G	130	10.0	14.0	0.45	0.50	
	Graphite cast iron			AC410K	100	9.0	12.0	0.40	0.50	
	Aluminum			H1	200	10.0	12.0	0.45	0.60	
BHW 100-150CK6 BHF 98-153CK6	Carbon steel	122	0.8	AC820P	220	10.0	12.0	0.40	0.60	
	Alloy steel			AC820P	180	9.0	12.0	0.40	0.55	
	Stainless steel			AC630M	120	7.0	9.0	0.40	0.60	
	Cast iron			AC700G	130	10.0	14.0	0.45	0.50	
	Graphite cast iron			AC410K	100	10.0	12.0	0.40	0.50	
	Aluminum			H1	200	10.0	12.0	0.45	0.60	
BHW 150 (CK7)	≤φ340	172	0.8	AC820P	220	10.0	12.0	0.40	0.60	
				Alloy steel	AC820P	180	9.0	12.0	0.40	0.55
				Stainless steel	AC630M	120	7.0	9.0	0.40	0.60
				Cast iron	AC700G	130	10.0	14.0	0.40	0.45
				Graphite cast iron	AC410K	100	10.0	12.0	0.40	0.50
				Aluminum	H1	200	10.0	12.0	0.45	0.60
	>φ340	172	0.8	AC820P	220	7.0	8.0	0.40	0.60	
				Alloy steel	AC820P	180	6.0	8.0	0.40	0.55
				Stainless steel	AC630M	120	5.0	6.0	0.40	0.60
				Cast iron	AC700G	130	7.0	10.0	0.40	0.45
				Graphite cast iron	AC410K	100	7.0	8.0	0.40	0.50
				Aluminum	H1	200	7.0	8.0	0.45	0.60



BORING HEAD

Fine Boring System

Data (Cutting Condition Chart)

Cylindrical Toolholder Type

Max. spindle speed for BHW Boring Heads

Boring Head model	Max. spindle speed
BHW2-22CK4	18,000
BHW2-32CK5	14,000
BHW2-50CK6	10,000
BHW2-50CK6	12,000

Above table indicates max. safe spindle speed for the boring head only.
Note that the speed is influenced by the type of inserts, machine rigidity, etc.

How to determine feed rate

Suitable feed rate varies depending on the precision required. Refer to the following formula to determine the best parameters.

$$\text{Theoretical surface roughness } R_y = \frac{(\text{Feed per rev. } F)^2}{8 \times \text{Nose radius } R} \times 1000$$

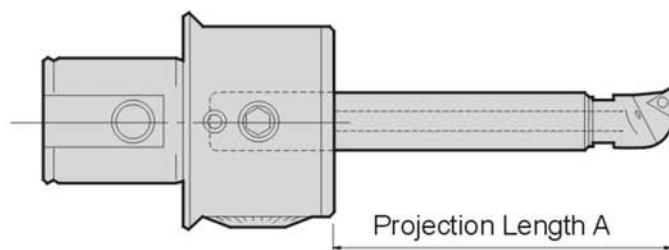
General guideline $R=0.2$ $f=0.06$
 $R=0.4$ $f=0.10$

Recommended cutting conditions

- This table is a general guideline for cutting data. Adjust them properly according to machine and workpiece conditions.
- In case of chatter, lower cutting speed and /or use inserts with smaller nose radius.
- High pressure coolant might cause deflection of the Cylindrical Toolholder.
Lower the pressure when close tolerance is required.
- Coated cermet T2000Z is recommended for steel to reduce wear.
- Dry cutting is recommended when using BN2000, BNC2020 and BN7000.

Cylindrical Tool holder Type / ST05, ST06 (Diameter $\varnothing 6 \sim \varnothing 9$)

Workpiece Material	Projection Length	Insert		Cutting Speed (m/min)	Depth of Cut (mm/ \varnothing)
		Nose Radius R	Material		
Carbon steel Alloy steel	20	0.2	T1200A	130	0.2
	40			100	0.2
	50			85	0.2
	60			40	0.1
Stainless steel	20	0.2	T1200A	120	0.2
	40			90	0.2
	50			80	0.2
	60			35	0.1
Cast iron	20	0.2	H1	100	0.2
	40			100	0.2
	50			80	0.2
	60			40	0.2
Aluminum	20	0.2	H1	150	0.2
	40			125	0.2
	50			100	0.2
	60			60	0.2



Cylindrical Tool holder Type / ST08 (Diameter $\varnothing 9 \sim \varnothing 12$)

Workpiece Material	Projection Length	Insert		Cutting Speed (m/min)	Depth of Cut (mm/ \varnothing)
		Nose Radius R	Material		
Carbon steel Alloy steel	20	0.2	T1200A	100	0.20
	30			120	0.20
	40			90	0.20
	50			75	0.15
	60			50	0.10
Stainless steel	20	0.2	T130A	100	0.20
	30			120	0.20
	40			90	0.20
	50			75	0.15
Hardened steel	20	0.2	BN250	70	0.10
	30			50	0.10
	40			20	0.10
Cast iron	20	0.2	H1	100	0.20
	30			100	0.20
	40			80	0.15
	50			65	0.15
Aluminum	20	0.2	H1	150	0.20
	30			165	0.25
	40			150	0.20
	50			125	0.20
Aluminum	60	0.1	A1	60	0.15

Data (Cutting Condition Chart)

Cylindrical Toolholder Type

Cylindrical Tool holder Type / ST10(Diameter $\phi 12 \sim \phi 14$)

Workpiece Material	Projection Length	Insert		Cutting Speed (m/min)	Depth of Cut (mm/ ϕ)
		Nose Radius R	Material		
Carbon steel Alloy steel	30	0.2	T1200A	120	0.20
	45			150	0.20
	60			120	0.20
	70			75	0.15
	80	0.1	A1	50	0.10
Stainless steel	30	0.2	T130A	120	0.20
	45			130	0.20
	60			100	0.20
	70			55	0.15
	80	0.1	A1	40	0.10
Hardened steel	30	0.2	BN250	80	0.10
	45			60	0.10
	60			30	0.10
Cast iron	30	0.2	H1	100	0.20
	45			100	0.20
	60			100	0.15
	75			60	0.15
	90	0.1	A1	30	0.10
Aluminum	30	0.2	H1	150	0.25
	45			180	0.25
	60			160	0.20
	75			100	0.20
	90	0.1	A1	60	0.15

Cylindrical Tool holder Type / ST12(Diameter $\phi 14 \sim \phi 16$)

Workpiece Material	Projection Length	Insert		Cutting Speed (m/min)	Depth of Cut (mm/ ϕ)
		Nose Radius R	Material		
Carbon steel Alloy steel	40	0.2	T1200A	120	0.20
	60			180	0.20
	80			150	0.20
	95			90	0.15
	110	0.1	A1	50	0.10
	Stainless steel	40	0.2	T130A	120
60		130			0.20
80		120			0.20
95		80			0.15
110		0.1	A1	40	0.10
Hardened steel		40	0.2	BN250	80
	50	60			0.10
	65	30			0.10
Cast iron	40	0.2	H1	100	0.20
	60			100	0.20
	80			100	0.15
	95			80	0.15
	110	0.1	A1	40	0.10
	Aluminum	40	0.2	H1	150
60		200			0.25
80		200			0.20
100		150			0.20
120		0.1	A1	60	0.15

Cylindrical Tool holder Type / ST14(Diameter $\phi 16 \sim \phi 18$)

Workpiece Material	Projection Length	Insert		Cutting Speed (m/min)	Depth of Cut (mm/ ϕ)
		Nose Radius R	Material		
Carbon steel Alloy steel	45	0.2	T1200A	120	0.20
	65			180	0.20
	80			150	0.20
	100			90	0.15
	120	0.1	A1	50	0.10
Stainless steel	45	0.2	AC520U	120	0.20
	65			130	0.20
	80			120	0.20
	100			80	0.15
	120	0.1	A1	40	0.10
Hardened steel	45	0.2	BN250	80	0.10
	60			60	0.10
	75			30	0.10
Cast iron	45	0.2	H1	100	0.20
	65			100	0.20
	80			100	0.15
	100			80	0.15
	120	0.1	A1	40	0.10
Aluminum	45	0.2	H1	150	0.25
	65			200	0.25
	80			200	0.20
	100			150	0.20
	120	0.1	A1	60	0.15

Cylindrical Tool holder Type / ST16(Diameter $\phi 18 \sim \phi 50$)

Workpiece Material	Projection Length	Insert		Cutting Speed (m/min)	Depth of Cut (mm/ ϕ)
		Nose Radius R	Material		
Carbon steel Alloy steel	45	0.4	T1200A	120	0.20
	60			180	0.20
	80	0.2	T1200A	150	0.20
	110			90	0.15
	140	0.1	A1	50	0.10
	Stainless steel	45	0.4	AC520U	120
60		130			0.20
80		0.2	AC520U	120	0.20
110				80	0.15
140		0.1	A1	40	0.10
Hardened steel		45	0.2	BN250	80
	60	60			0.10
	80	30			0.10
Cast iron	45	0.4	H1	100	0.20
	60			100	0.20
	80	0.2	H1	100	0.15
	110			80	0.15
	140	0.1	A1	40	0.10
	Aluminum	45	0.4	H1	150
60		200			0.25
80		0.2	H1	200	0.20
110				150	0.20
140		0.1	A1	60	0.15



Fine Boring System

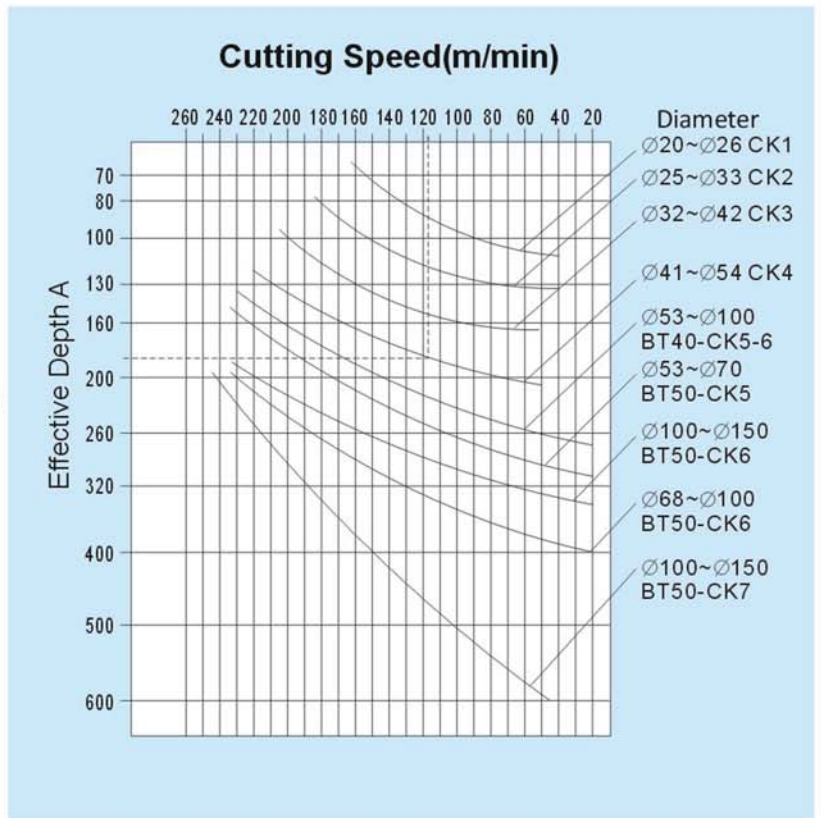
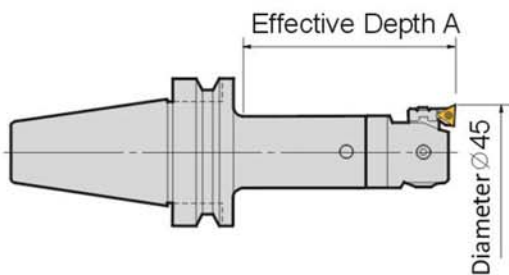
Data (Cutting Condition Chart)

Diagram to determine cutting data for steel

With increased projection length, the cutting speed should be lowered due to possible chatter, as shown on the diagram right. Refer this diagram and tables on the previous pages to determine the best cutting parameters.

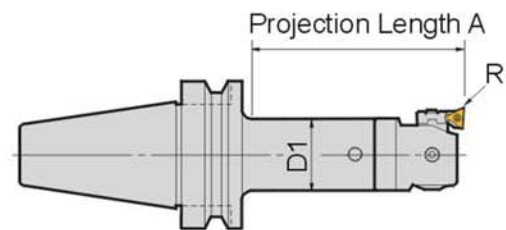
(Example) Shown with———on the diagram right

With 182mm of Effective Depth A and 45mm of diameter as shown below, the recommended cutting speed is 118m/min.

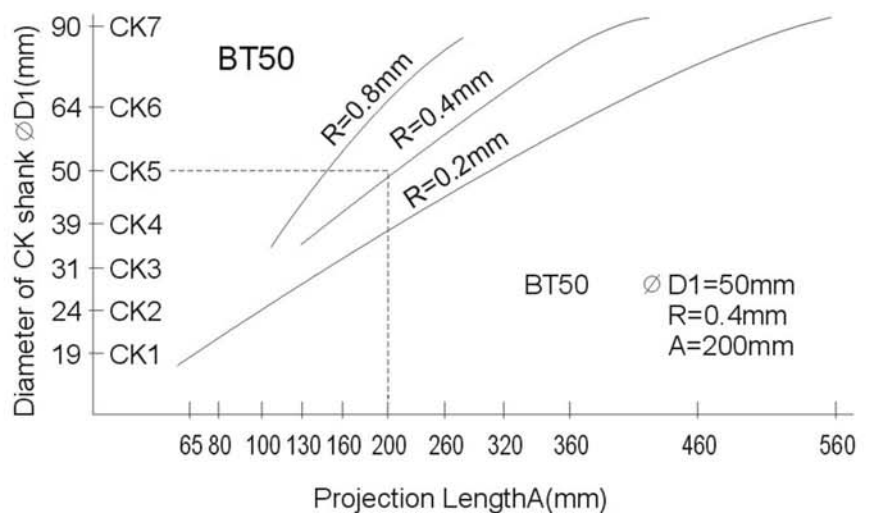
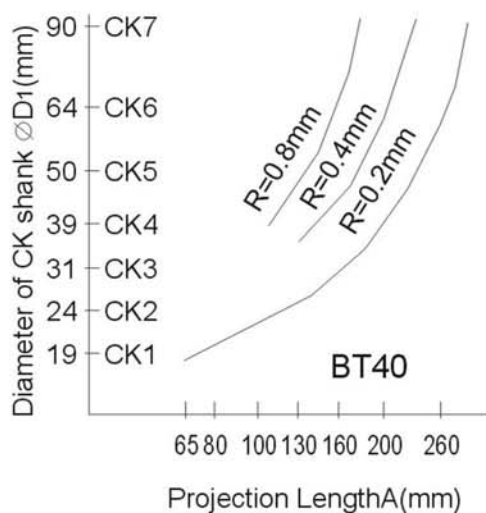


Relationship between nose radius and effective boring depth

The relationship between nose radius of insert and max. Bore depth are strongly effected to each other. Refer to the graphs shown below for proper selection of insert radius based on the CK shank size and bore depth. For cast iron, bore depth can be increased by approx. 1.1 to 1.3 times.

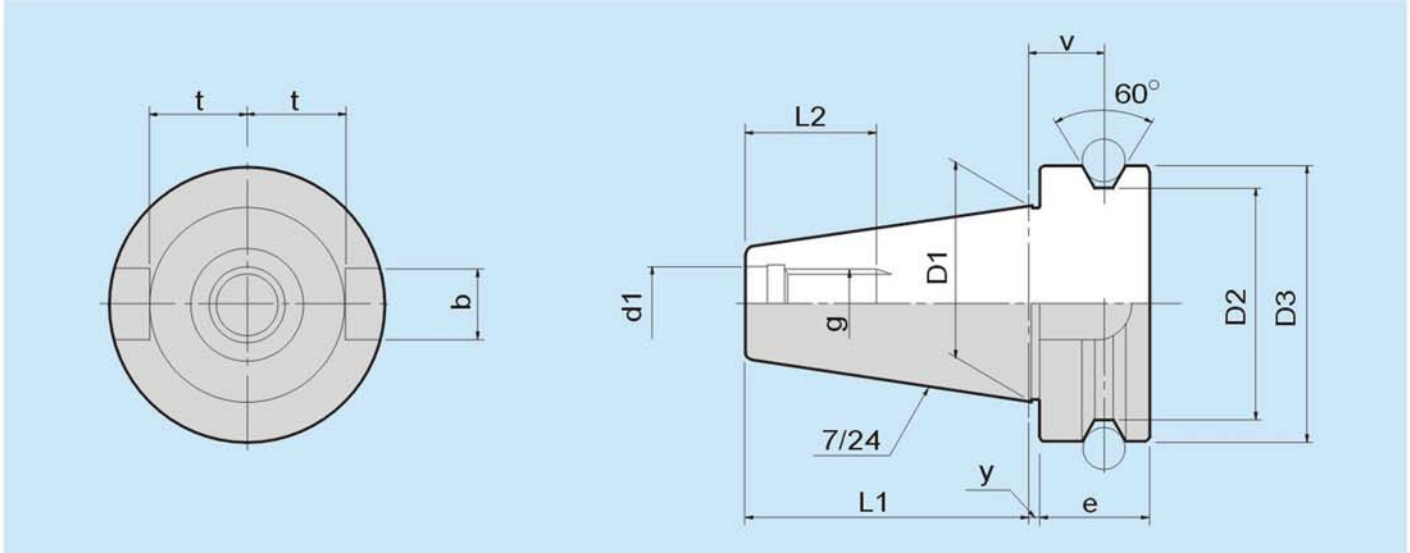


Refer to the tables on the previous pages for cutting data. In the case of long reach applications, cutting speed should be lowered. Refer to the diagram shown above.



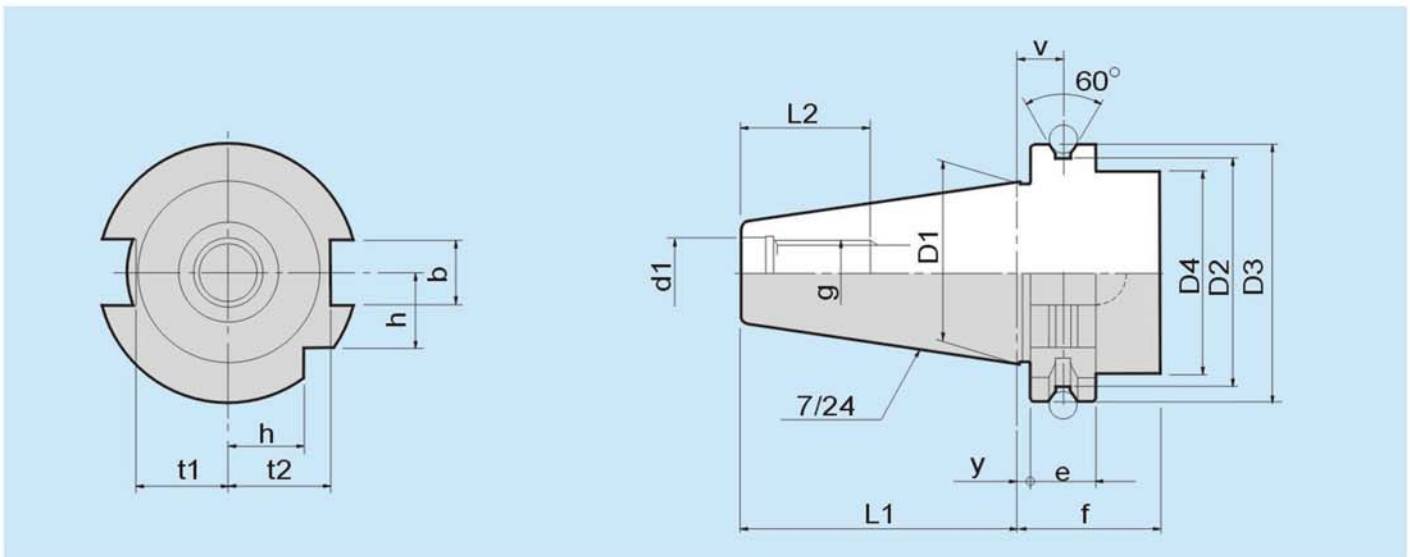
TAPER SHANK SPECIFICATION

BT(MAS-403)



Spindle	Spec.	b	D1	D2	D3	D4	d1	e	f	g	h	L1	L2	t	t1	t2	v	y
BT MAS-403	30	16.1	31.75	38	46	-	12.5	20	-	M12	-	48.4	24	16.3	-	-	13.6	2
	40	16.1	44.45	53	63	-	17	25	-	M16	-	65.4	30	22.6	-	-	16.6	2
	50	25.7	69.85	85	100	-	25	35	-	M24	-	101.8	45	35.4	-	-	23.2	3

DV(DIN-69871A)



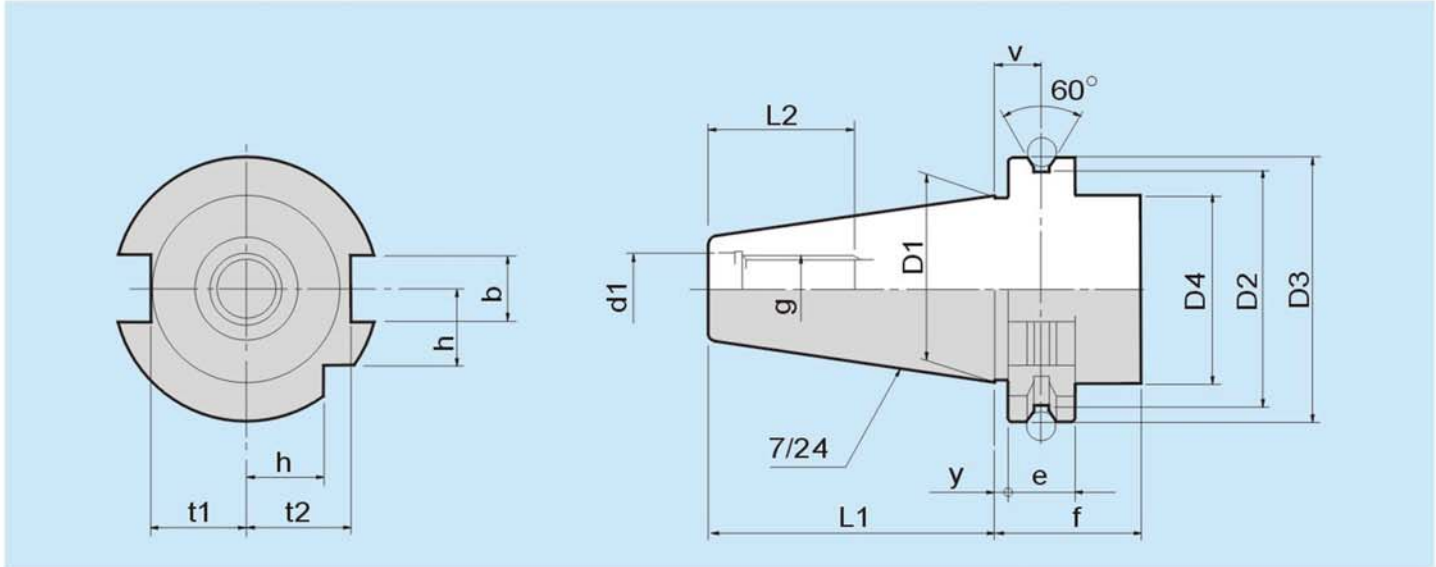
Spindle	Spec.	b	D1	D2	D3	D4	d1	e	f	g	h	L1	L2	t	t1	t2	v	y
DV DIN-69871A	30	16.1	31.75	44.3	50	45	13	15.9	35	M12	15	47.8	24	-	16.4	19	11.1	3.2
	40	16.1	44.45	56.25	63.55	50	17	15.9	35	M16	18.5	68.4	32	-	22.8	25	11.1	3.2
	50	25.7	69.85	91.25	97.5	80	25	15.9	35	M24	30	101.75	47	-	35.5	37.7	11.1	3.2



Fine Boring System

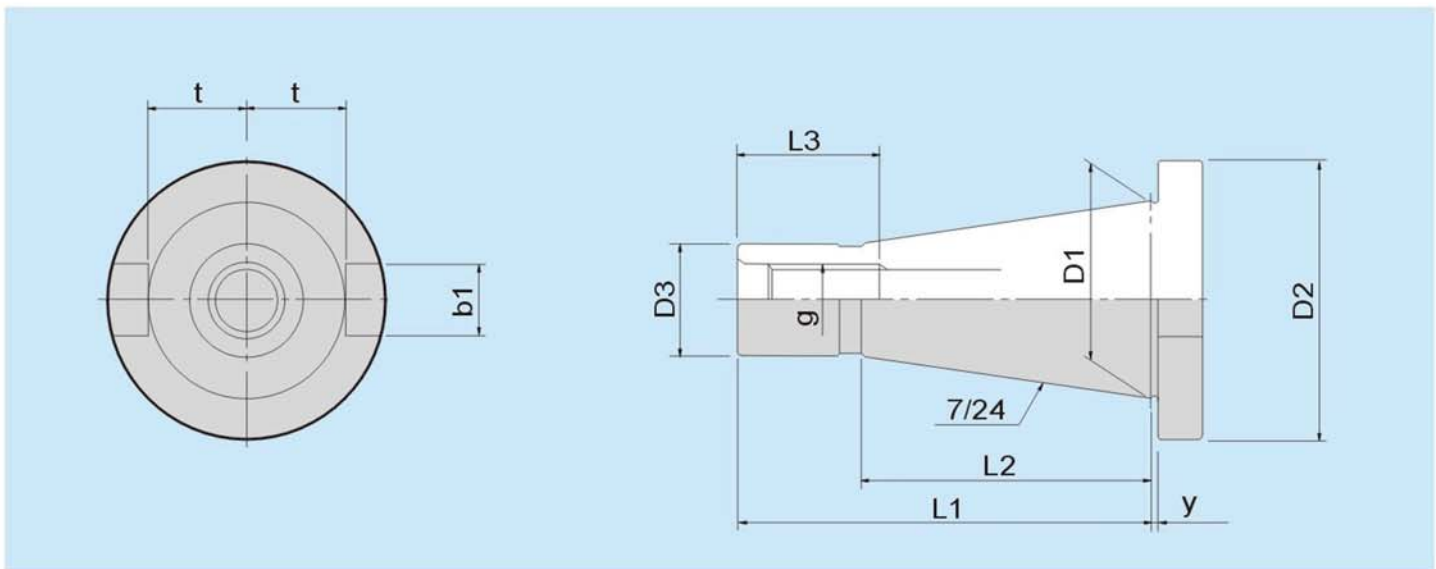
TAPER SHANK SPECIFICATION

IV(ISO 7388-1)



Spindle	Spec.	b	D1	D2	D3	D4	d1	e	f	g	h	L1	L2	t	t1	t2	v	y
IV ISO 7388-1	40	16.1	44.45	56.25	63.55	44.7	17	15.9	35	M16	18.5	65.4	32	-	22.8	25	11.1	3.2
	50	25.7	69.85	91.25	97.5	70.1	25	15.9	35	M24	30	101.75	47	-	35.5	37.7	11.1	3.2

NT(DIN 2080)

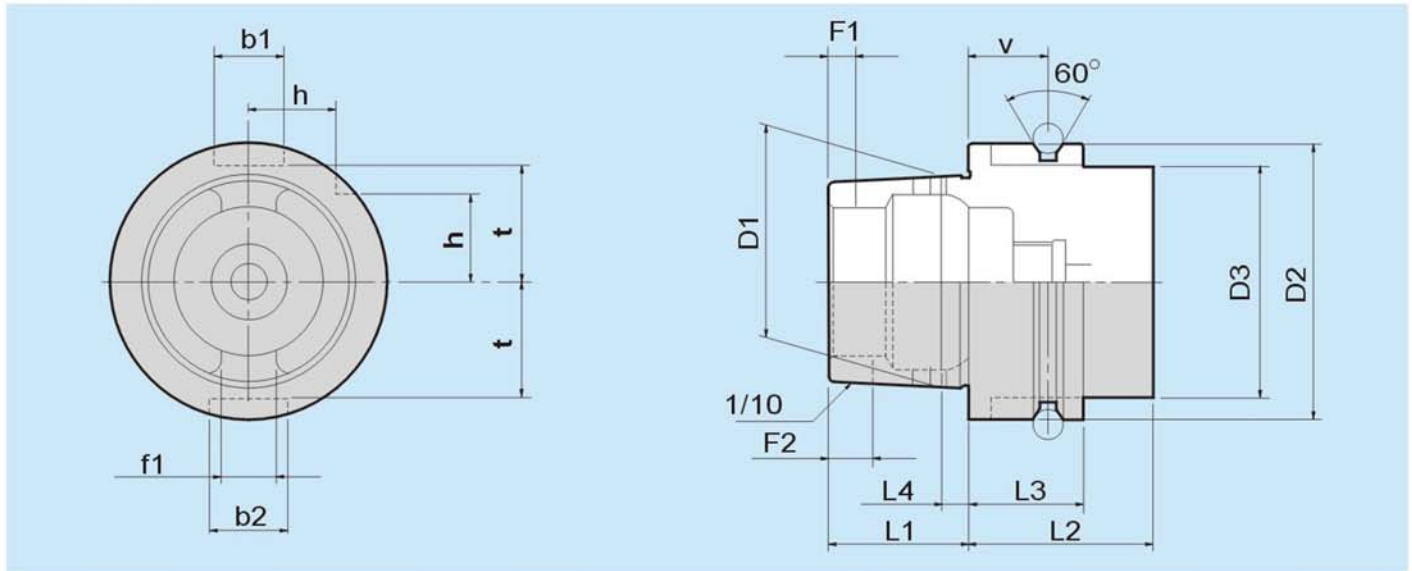


Spindle	Spec.	b1	b2	D1	D2	D3	f1	F1	F2	g	h	L1	L2	L3	L4	t	v	y
NT DIN2080	40	16.1	-	44.45	63	25	-	-	-	M16	-	93.4	65.4	32	-	22.5	-	1.6
	50	25.7	-	69.85	97.5	39.29	-	-	-	M24	-	126.8	101.8	57	-	35.3	-	3.2

BORING HEAD

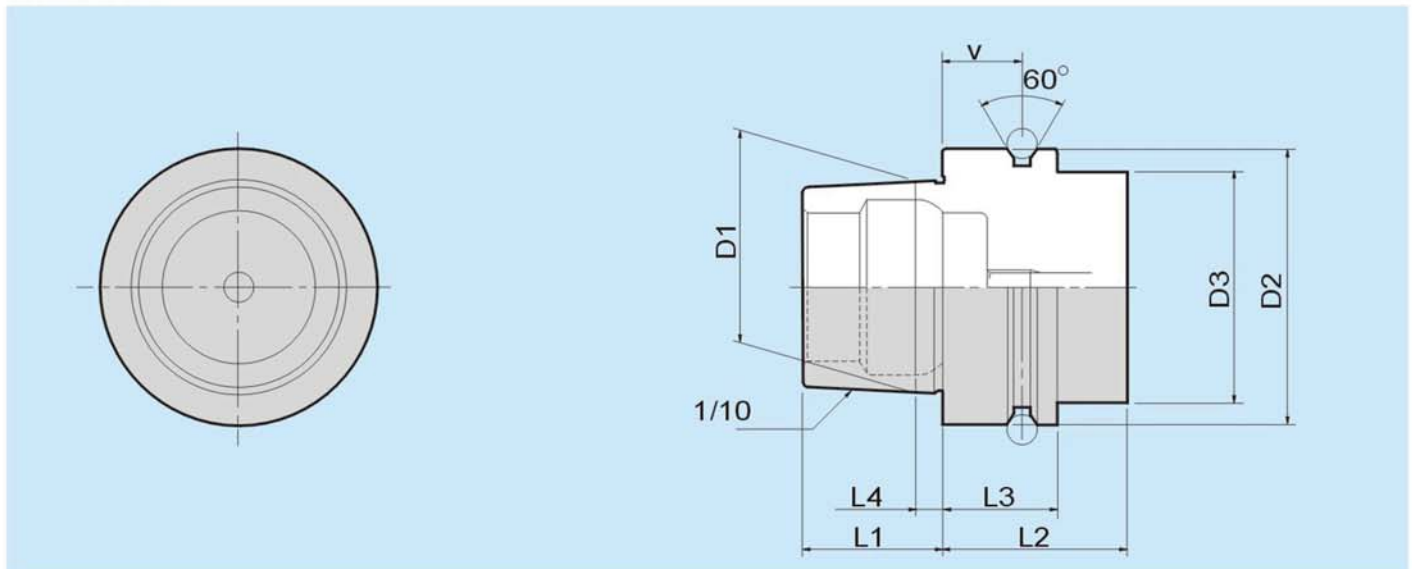
TAPER SHANK SPECIFICATION

HSK-A



Spindle	Spec.	b1	b2	D1	D2	D3	f1	F1	F2	g	h	L1	L2	L3	L4	t	v	y
HSK-A	40	9	11	30	40	32	8.05	3.5	6	-	12	16	35	20	4	17	16	-
	50	12	14	38	50	42	10.54	4.5	7.5	-	15.5	20	42	26	5	21	18	-
	63	16	18	48	63	53	12.54	6	10	-	20	25.7	42	26	6.3	26.5	18	-
	80	18	20	60	80	67	16.04	8	12	-	25	32	42	26	8	34	18	-
	100	20	22	75	100	85	20.02	10	15	-	31.5	40	45	29	10	44	20	-

HSK-E



Spindle	Spec.	b	b2	D1	D2	D3	f1	F1	F2	g	h	L1	L2	L3	L4	t	v	y
HSK-E	32	-	-	24	32	26	-	-	-	-	-	16	35	20	3.2	-	16	-
	40	-	-	30	40	34	-	-	-	-	-	20	35	20	4	-	16	-
	50	-	-	38	50	42	-	-	-	-	-	25	42	26	5	-	18	-
	63	-	-	48	63	53	-	-	-	-	-	32	42	26	6.3	-	18	-



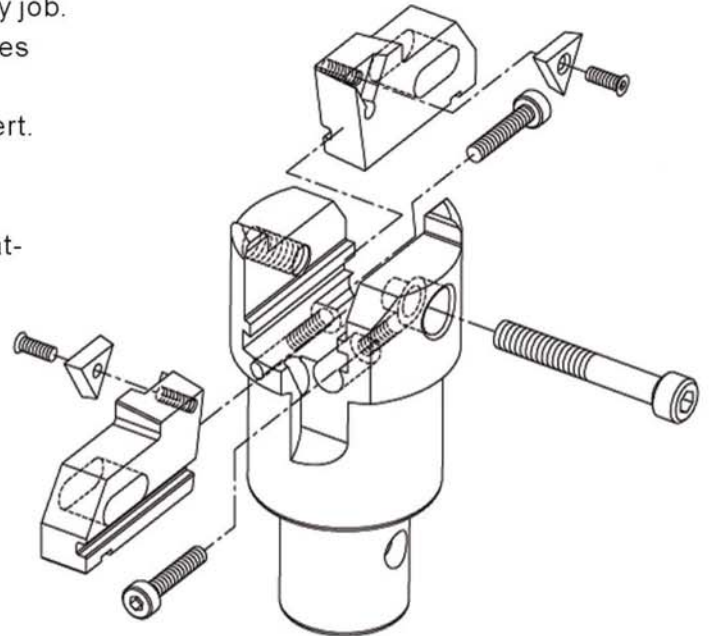
Rough Boring System

BHT

Micro-adjusted Twin-bit Rough Boring Head

Features :

- ▶ Applying interior rail in its structure to assure stable process running even under heavy duty job.
- ▶ Special chuck method in middle location makes stable operation running, reduce the insert vibration and maintain lasting lifecycle of insert.
- ▶ Fine-tuning function to offer more precision dimension, efficient operation.
- ▶ High quality alloy steel body with vacuum heat-treatment to have consistent rigidity.
- ▶ Cost effective and increase efficiency.



BHT90-122CK6

BHT68-92CK6


Insert Holder Model

61008-01	BMT2533
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• Order No.

• BMT Insert Holder

Note:

- ▲ Made of high rigidity mold steel, stable cutting performance.

Type C Insert Holder for boring.

Order No.	Model	Figure	BMT Head	Insert	Screw
61008-01	BMT2533		BMT25	CCMT060204	M2.5
61008-02	BMT3242		BMT32	CCMT060204	M2.5
61008-03	BMT4055		BMT40	CCMT060204	M2.5
61008-04	BMT5270		BMT52	CCMT09T304	M4
61008-05	BMT6892		BMT68	CCMT09T304	M4
61008-06	BMT90122		BMT90	CCMT120408	M5
61008-07	BMT120150		BMT120	CCMT120408	M5

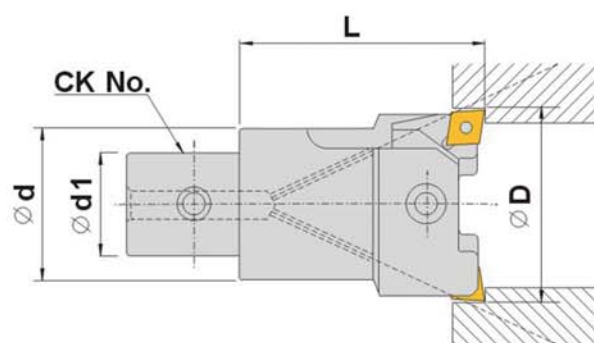


Rough Boring System

60012

BMT

Micro-adjusted Twin-bit Rough Boring Head



P.E76

P.E77

Unit:mm

Order No.	Model	CK No.	Boring Range	$\varnothing d$	L	Insert spec.	N.W.
		$\varnothing d1$	$\varnothing D$	$\varnothing d$			
61012-01	BMT25	CK2 14	25-33	20	45	CCMT060204	0.12kg
61012-02	BMT32	CK3 18	32-42	24	55		0.22kg
61012-03	BMT40	CK4 22	40-55	33	65		0.48kg
61012-04	BMT52	CK5 28	52-70	45	75	CCMT09T304	0.77kg
61012-05	BMT68	CK6 36	68-92	54	85	CCMT120408	1.67kg
61012-06	BMT90	CK6 36	90-122	70	100		3.00kg
61012-07	BMT120	CK6 36	120-150	75	116		5.00kg

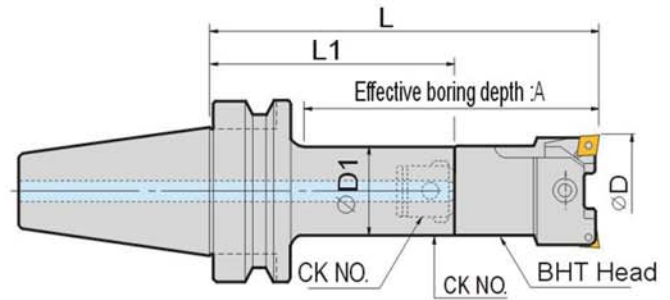
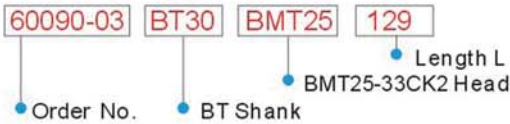


BORING HEAD

60090
BMT
Micro-adjusted Twin-bit Rough Boring Head+Shank

Note:

▲ CK Shank and BMT Boring Head are packed separately.


Model Instruction.


Unit:mm

Order No.	Model	CK	BMT	CK NO.	L	L1	∅D1	Effective ∅D	A	N.W.
60090-03	BT30-BMT25-129	BT30-CK2-84	BMT25-33CK2	CK2	129	84	24	25-33	103	1.265kg
60090-05	BMT32-135	CK3-80	BMT32-42CK3	CK3	135	80	31	32-42	109	1.000kg
60090-07	BMT40-138	CK4-73	BMT40-55CK4	CK4	138	73	39	40-55	112	1.160kg
60090-08	BMT52-138	CK5-63	BMT52-70CK5	CK5	138	63	50	52-70	112	1.535kg
60090-12	BT40-BMT25-129	BT40-CK2-84	BMT25-33CK2	CK2	129	84	24	25-33	97	1.260kg
60090-15	BMT32-150	CK3-95	BMT32-42CK3	CK3	150	95	31	32-42	118	1.530kg
60090-18	BMT40-153	CK4-88	BMT40-55CK4	CK4	153	88	39	40-55	122	1.925kg
60090-21	BMT52-153	CK5-78	BMT52-70CK5	CK5	153	78	50	50-70	122	2.325kg
60090-24	BMT68-149	CK6-64	BMT68-92CK6	CK6	149	64	64	68-92	117	3.145kg
60090-30	BT50-BMT25-159	BT50-CK2-114	BMT25-33CK2	CK2	159	114	24	25-33	116	4.120kg
60090-33	BMT32-180	CK3-125	BMT32-42CK3	CK3	180	125	31	32-42	137	4.235kg
60090-36	BMT40-183	CK4-118	BMT40-55CK4	CK4	183	118	39	40-55	140	4.710kg
60090-37	BMT40-243	CK4-178	BMT40-55CK4	CK4	243	178	39	40-55	200	5.795kg
60090-39	BMT52-183	CK5-108	BMT52-70CK5	CK5	183	108	50	52-70	140	5.250kg
60090-40	BMT52-258	CK5-183	BMT52-70CK5	CK5	258	183	50	52-70	215	6.345kg
60090-42	BMT90-194	CK6-94	BMT90-122CK6	CK6	194	94	64	90-122	152	7.670kg
60090-43	BMT90-269	CK6-169	BMT90-122CK6	CK6	269	169	64	90-122	226	9.450kg
60090-44	BMT90-329	CK6-229	BMT90-122CK6	CK6	329	229	64	90-122	286	

BORING HEAD

Fine Boring System

Fine-tuning $\pm 0.001\text{mm}(\text{Ø}0.002\text{mm})$

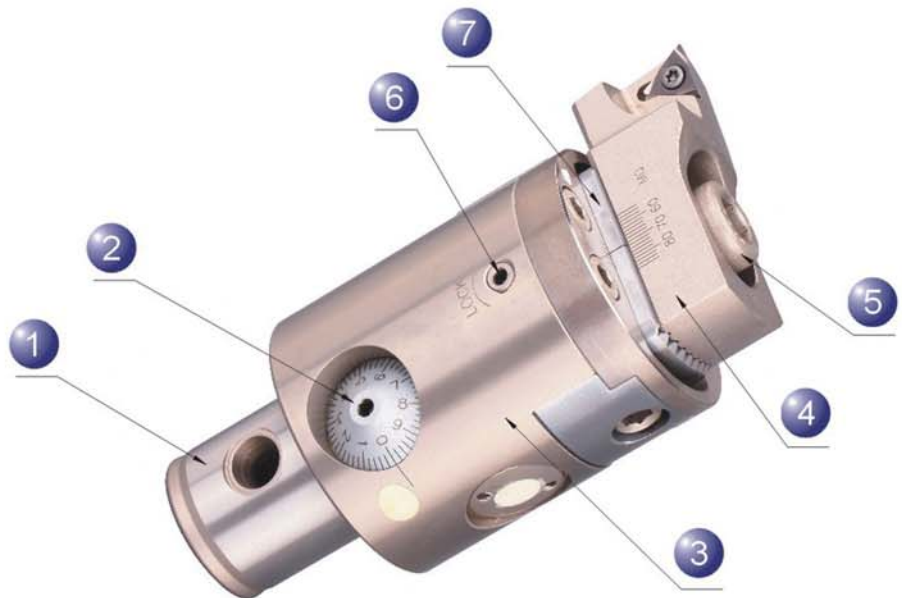




Fine Boring System

Instruction Manual

- 1 BDF Shank
- 2 Fine-tuning knob
- 3 BDF Boring Head
- 4 Insert Holder
- 5 Clamp Screw
- 6 Lock Screw
- 7 Slide
- 8 Oil Injection (Back)



Sequence of use

Step 1: Release the Clamp Screw

Step 2: Move the Insert Holder to the spec. needed which means align the graduation on insert holder with slide's graduation.

Step 3: Tighten the Clamp Screw

Step 4: Release the Lock Screw

Step 5: Counterclockwise turn the knob (2) enlarge the processing dia., each graduation is ($\varnothing 0.002\text{mm}$).

Step 6: Clockwise turn the knob decrease the processing dia.

Step 7: Adjust processing spec. fine-tuning in the same direction to ensure the accuracy.

Step 8: Once the fine-tuning is done, apply moderately force to lock the screw (7)

Step 9: Lubrication is constantly needed during the application.

Cautions

1. Only apply the product in its capability.

2. Never turn the knob (2) after the lock screw (6) is already locked avoiding any damage on fine-tuning structure.

3. Apply special wrench to lock slide (7) with moderately force, over-tighten will cause faulty.

4. This product is consist of precision screws, insert holder, screw knob, when facing large force or unable to turn, please stop adjusting and check list as below:

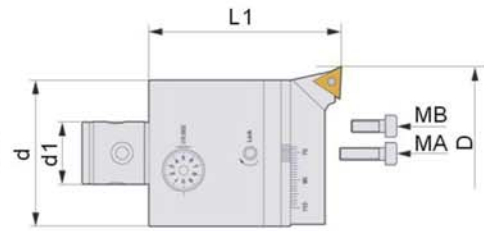
A: The screw (6) is lock or loosen.

B: Over the capable range.

C: Over turning the knob (2) will cause serious damage to chuck and boring head.

5. Lubricate at all time and maintain immersing into oil to prevent rusty.

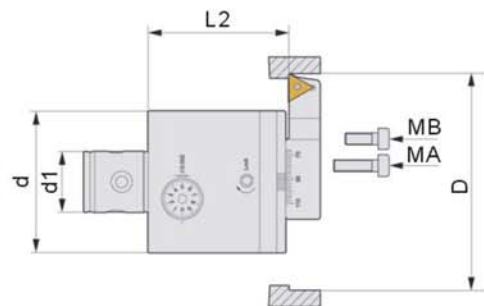
61100 BDF Micro Boring Head



Unit:mm

Order No.	Model	d	L1	Boring Range	d1	Insert Holder	N.W.
61100-01	BDF29-38CK2	25	50	29-38	CK2	MLTP2938	0.16kg
61100-02	BDF36-52CK3	32	63	36-52	CK3	MLTP3652	0.37kg
61100-03	BDF48-68CK4	40	63	48-68	CK4	MLTP4868	0.53kg
61100-04	BDF57-80CK5	50	80	57-80	CK5	MLTP5780	1.05kg
61100-05	BDF70-110CK6	63	80	70-110	CK6	MLTP70110	1.65kg
61100-06	BDF110-150CK6	63	80	110-150	Ck6	MLTP110150	1.76kg

61110 BDFS Micro Back-boring Head



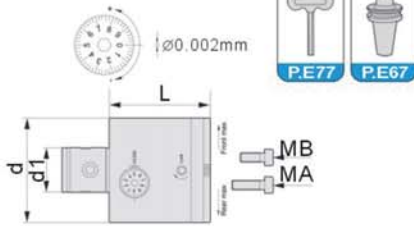
Unit:mm

Order No.	Model	d	L2	Boring Range	d1	Insert Holder	N.W.
61110-01	BDFS29-38CK2	25	43	29-38	CK2	MRTP2938	0.16kg
61110-02	BDFS36-52CK3	32	53	36-52	CK3	MRTP3652	0.37kg
61110-03	BDFS48-68CK4	40	53	48-68	CK4	MRTP4868	0.53kg
61110-04	BDFS57-80CK5	50	65	57-80	CK5	MRTP5780	1.05kg
61110-05	BDFS70-110CK6	63	65	70-110	CK6	MRTP70110	1.65kg
61110-06	BDFS110-150CK6	80	65	110-150	Ck6	MRTP110150	1.76kg

BORING HEAD

Fine Boring System

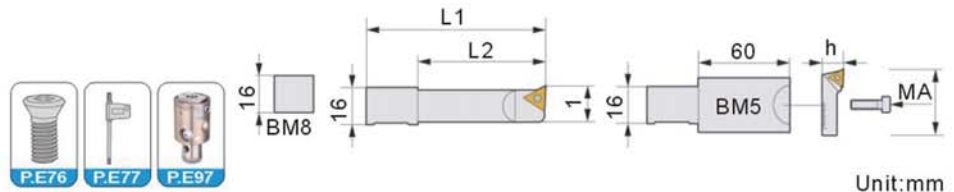
61120 BDF Micro -Boring Head-Body only



Order No.	Model	d1	d	L	Front	Rear	MA Bolt	MB Bolt	N.W.
61120-01	BDF25-CK2	14	25	43	1	1	ATH0412	-	0.15kg
61120-02	BDF32-CK3	18	32	53	1	1	ATH0516	-	0.35kg
61120-03	BDF40-CK4	22	40	53	2	2	ATH0516	-	0.50kg
61120-04	BDF50-CK5	28	50	63	2	2	BM10	-	0.92kg
61120-05	BDF63-CK6	36	63	63	2	2	BM10	M1025	1.52kg
61120-06	BDF80-CK6	36	63	80.5	4	4	BM10	M1025	

Unit:mm

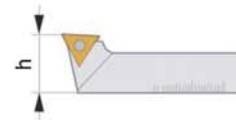
61125 BM Micro-boring Bar



Unit:mm

Order No.	Model	L1	L2	Boring Range	Boring Head	Insert	Screw	Wrench	N.W.
61125-01	BM5	60+MLTP2938 or MLTP4868 or MLTP5780					AHL0512	L4	0.25kg
61125-02	BM8	+MLTP70110 or MLTP110150					AHL0820	L6	0.03kg

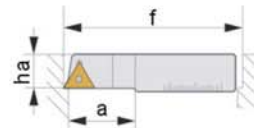
61130 MLTP Insert Holder For BDF Boring Head



Unit:mm

Order No.	Model	H	f	Boring Range	Boring Head	Insert	Screw	Wrench	N.W.
61130-01	MLTP2938	11	27	29-38	BDF25-CK2	TPGH0902.L	M2.5	T8	0.01kg
61130-02	MLTP3652	13	35	36-52	BDF32-CK3				0.02kg
61130-03	MLTP4868	13	43	48-68	BDF40-CK4				0.03kg
61130-04	MLTP5780	20	54	57-80	BDF50-CK5	TPGH1103.L	M3	T10	0.10kg
61130-05	MLTP70110	20	66	70-110	BDF63-CK6				0.10kg
61130-06	MLTP110150	20	106	110-150	BDF80-CK6				0.21kg

61135 MRTP Back-boring Inserts Holder for BDF Boring Head



Unit:mm

Order No.	Model	a	ha	f	Boring Range	Boring Head	Insert	Screw	Wrench	N.W.
61135-01	MRTP2938	6	11	21	29-38	BDF25-CK2	TPGH0902.L	M2.5	T8	0.01kg
61135-02	MRTP3652	10	11	35	36-52	BDF32-CK3				0.02kg
61135-03	MRTP4868	12	11	43	48-68	BDF40-CK4				0.03kg
61135-04	MRTP5780	14	15	54	57-80	BDF50-CK5	TPGH1103.L	M3	T10	0.10kg
61135-05	MRTP70110	16	15	66	70-110	BDF63-CK6				0.10kg
61135-06	MRTP110150	25	15	106	110-150	BDF80-CK6				0.21kg

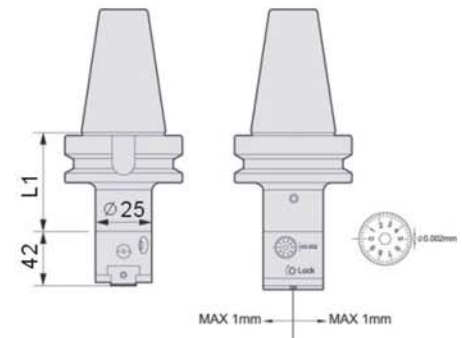
BORING HEAD

61140 BDF25-CK2 Micro-finishing Boring Tools



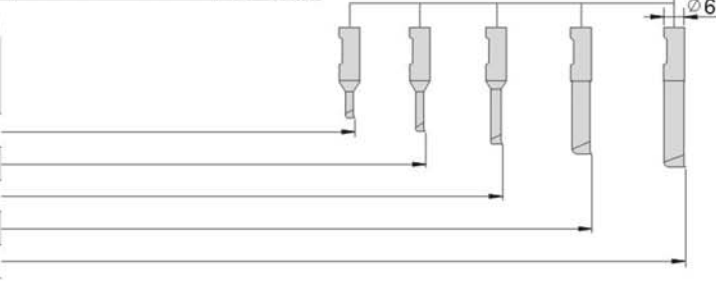
Unit:mm

Order No.	Model	L1	Boring Range	Modular Holder	N.W.
61140-01	BT30-CK2-BDF25	80	2-7	BT30-CK2-80	0.71kg
61140-02	BT40-CK2-BDF25	75	2-7	BT40-CK2-75	1.30kg
61140-03	SK30-CK2-BDF25	80	2-7	SK30-CK2-80	0.71kg
61140-04	SK40-CK2-BDF25	75	2-7	SK40-CK2-75	1.30kg
61140-05	HSK63A-CK2-BDF25	75	2-7	HSK63A-CK2-75	1.05kg



Unit:mm

Order No.	Model	Boring Range	Depth DM	N.W.
61145-01	BH0602-9	2-3.2	9	0.01kg
61145-02	BH0603-16	3-4.2	16	0.01kg
61145-03	BH0604-22	4-5.2	22	0.02kg
61145-04	BH0605-28	5-6.2	28	0.02kg
61145-05	BH0606-32	6-7.2	32	0.02kg

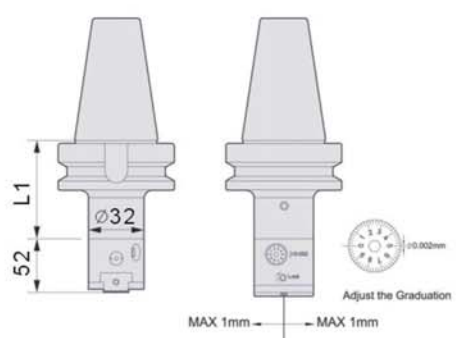


61150 BDF32-CK3 Micro-Boring Head set



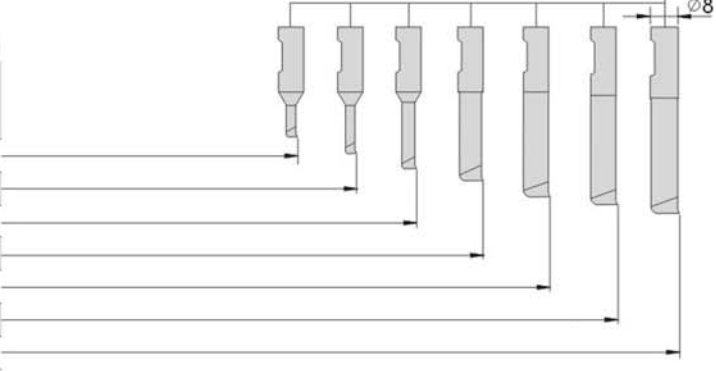
Unit:mm

Order No.	Model	L1	Boring Range	Modular Holder	N.W.
61150-01	BT30-CK3-BDF32	80	2-9	BT30-CK3-80	1.02kg
61150-02	BT40-CK3-BDF32	80	2-9	BT40-CK3-80	1.61kg
61150-03	SK30-CK3-BDF32	80	2-9	SK30-CK3-80	1.02kg
61150-04	SK40-CK3-BDF32	80	2-9	SK40-CK3-80	1.61kg
61150-05	HSK63A-CK3-BDF32	80	2-9	HSK63A-CK3-80	1.35kg



Unit:mm

Order No.	Model	Boring Range	Depth DM	N.W.
61155-01	BH0802-9	2-3.2	9	0.03kg
61155-02	BH0803-16	3-4.2	16	0.03kg
61155-03	BH0804-22	4-5.2	22	0.03kg
61155-04	BH0805-28	5-6.2	28	0.04kg
61155-05	BH0806-32	6-7.2	32	0.04kg
61155-06	BH0807-36	7-8.2	36	0.04kg
61155-07	BH0808-42	8-9.2	42	0.05kg



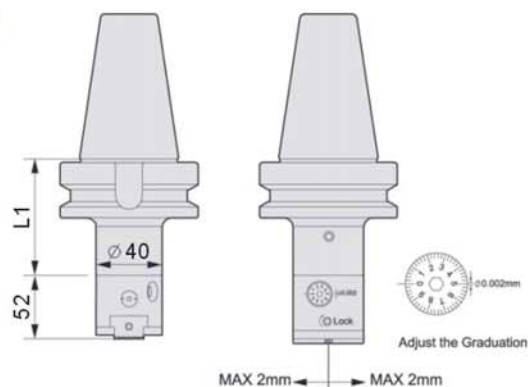
BORING HEAD

Fine Boring System

61160 BDF40-CK4 Micro-Boring Head set



Boring Range $\phi 2 \sim \phi 9$

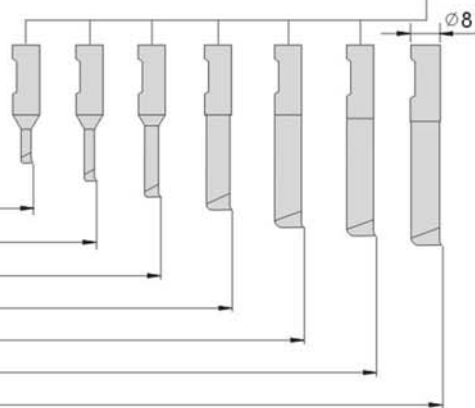


Unit:mm

Order No.	Model	L1	Boring Range	Modular Holder	N.W.
61160-01	BT30-CK4-BDF40	70	2-9	BT30-CK4-70	1.21kg
61160-02	BT40-CK4-BDF40	70	2-9	BT40-CK4-70	1.61kg
61160-03	SK30-CK4-BDF32	70	2-9	SK30-CK4-80	1.21kg
61160-04	SK40-CK4-BDF32	70	2-9	SK40-CK4-80	1.61kg
61160-05	HSK63A-CK4-BDF32	70	2-9	HSK63A-CK4-80	1.60kg

Unit:mm

Order No.	Model	Boring Range	Depth DM	N.W.
Refer to P.E98	BH0802-9	2-3.2	9	0.03kg
	BH0803-16	3-4.2	16	0.03kg
	BH0804-22	4-5.2	22	0.03kg
	BH0805-28	5-6.2	28	0.04kg
	BH0806-32	6-7.2	32	0.04kg
	BH0807-36	7-8.2	36	0.04kg
	BH0808-42	8-9.2	42	0.05kg



BORING HEAD

61170

BDF50-CK5

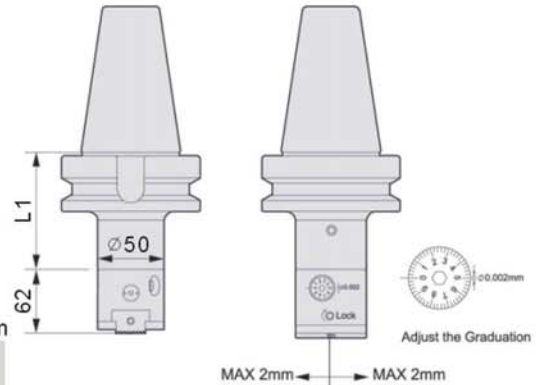
Micro-Boring Head set



Boring Range $\phi 6 \sim \phi 80$

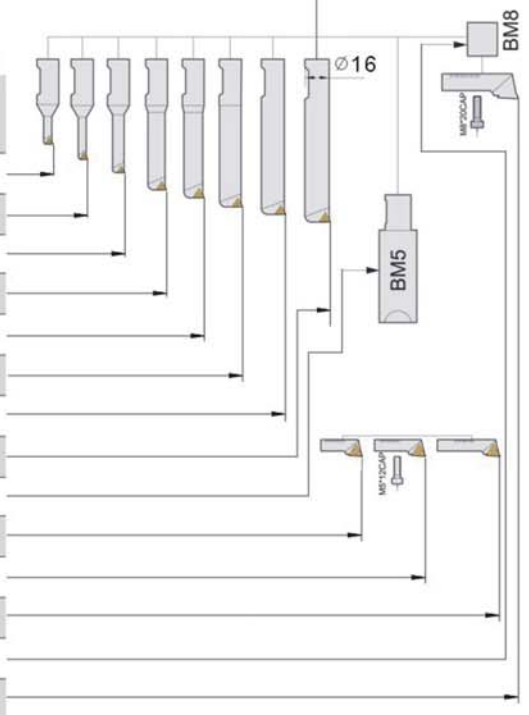


Unit:mm



Order No.	Model	L1	Boring Range	Modular Holder	N.W.
61170-01	BT30-CK5-BDF50	70	6-80	BT30-CK5-70	8.20kg
61170-02	BT40-CK5-BDF50	80	6-80	BT40-CK5-80	10.8kg
61170-03	BT50-CK5-BDF50	90	6-80	BT50-CK5-90	11.3kg
61170-04	SK30-CK5-BDF50	70	6-80	SK30-CK5-70	8.20kg
61170-05	SK40-CK5-BDF50	80	6-80	SK40-CK5-80	10.8kg
61170-06	SK50-CK5-BDF50	90	6-80	SK50-CK5-90	11.3kg
61170-07	HSK63A-CK5-BDF50	80	6-80	HSK63A-CK5-80	10.1kg

Order No.	Model	Boring Range	Depth L	Insert	Screw	Wrench	N.W.
Refer to P.E47	BH1606-24	6-8	24	TBGT0601..L	M2	T6	0.04kg
	BH1608-32	8-10	32				0.04kg
	BH1610-40	10-12	40				0.05kg
	BH1612-53	12-16	53	TPGH0902..L	M2.5	T8	0.06kg
	BH1616-68	16-20	68				0.07kg
	BH1620-83	20-25	83				0.09kg
	BH1625-90	25-30	90	TPGH1103..L	M3		0.11kg
	BH1630-90	30-40	90				0.12kg
Refer to P.E97	BM5	60-MLTP2938 or MLTP3652 or MLTP4868		AHL0512	L4		0.25kg
	MLTP2938	29-38	+10	TPGH0902..L	M2.5	T8	0.01kg
	MLTP3652	36-52	+12				0.02kg
	MLTP4868	48-68	+12				0.03kg
	BM8	+MLTP5780		AHL0820	L6		0.03kg
	MLTP5780	57-80	+20	TPGH1103..L	M3	T10	0.10kg



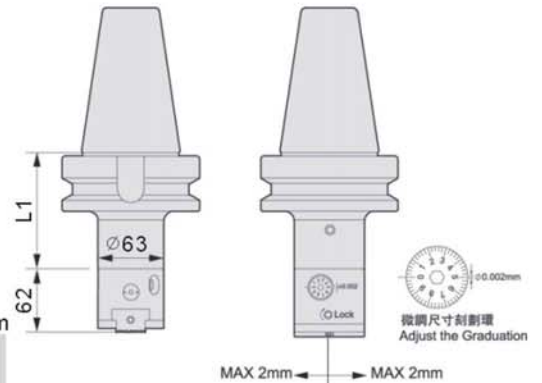
BORING HEAD

Fine Boring System

61190 BDF63-CK6 Micro-Boring Head set



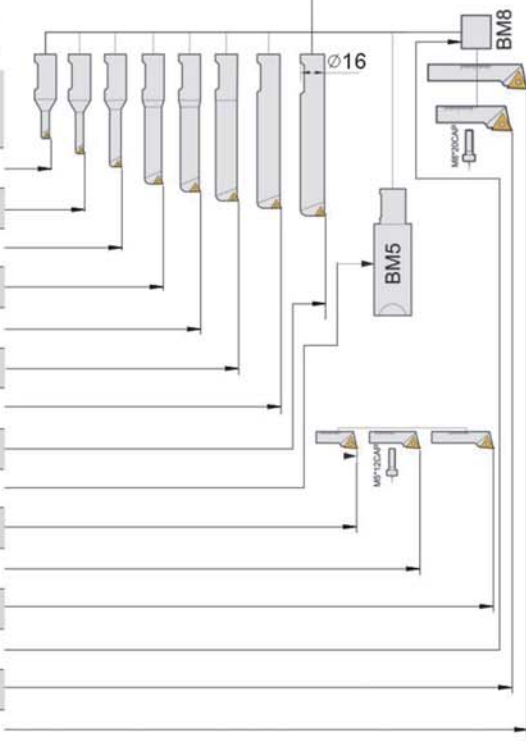
Boring Range $\phi 6 \sim \phi 150$



Unit:mm

Order No.	Model	L1	Boring Range	Modular Holder	N.W.
61190-01	BT30-CK6-BDF63	55	6-150	BT30-CK6-60	8.20kg
61190-02	BT40-CK6-BDF63	85		BT40-CK6-55	10.8kg
61190-03	BT50-CK6-BDF63	155		BT50-CK6-155	11.3kg
61190-04	SK30-CK6-BDF63	60		SK30-CK6-60	8.20kg
61190-05	SK40-CK6-BDF63	55		SK40-CK6-55	10.8kg
61190-06	SK50-CK6-BDF63	155		SK50-CK6-155	11.3kg
61190-07	HSK63A-CK6-BDF63	55		HSK63A-CK6-55	10.1kg

Order No.	Model	Boring Range	Depth L	Insert	Screw	Wrench	N.W.
Refer to P.E47	BH1606-24	6-8	24	TBGT0601..L	M2	T6	0.04kg
	BH1608-32	8-10	32				0.04kg
	BH1610-40	10-12	40				0.05kg
	BH1612-53	12-16	53	TPGH0902..L	M2.5	T8	0.06kg
	BH1616-68	16-20	68				0.07kg
	BH1620-83	20-25	83				0.09kg
	BH1625-90	25-30	90	TPGH1103..L	M3	T8	0.11kg
	BH1630-90	30-40	90				0.12kg
Refer to P.E97	BM5	60-MLTP2938 or MLTP3652 or MLTP4868		AHL0512	L4		0.25kg
	MLTP2938	29-38	+10	TPGH0902..L	M2.5	T8	0.01kg
	MLTP3652	36-52	+12				0.02kg
	MLTP4868	48-68	+12				0.03kg
	BM8	+MLTP5780		AHL0820	L6		0.03kg
	MLTP70110	70-110	+20	TPGH1103..L	M3	T10	0.10kg
MLTP110150	110-150	+20	0.21kg				



BORING HEAD

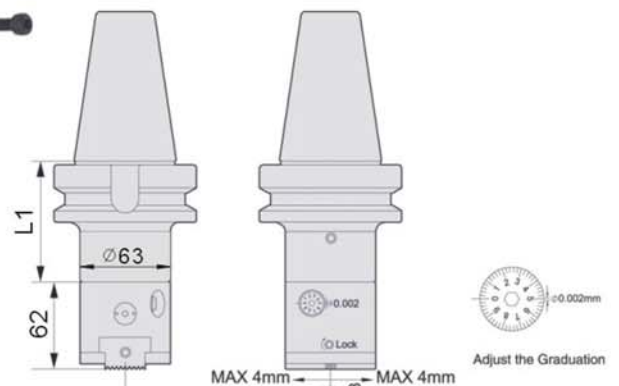
61200

BDF80-CK6

Micro-Boring Head set



Boring Range $\phi 110 \sim \phi 150$

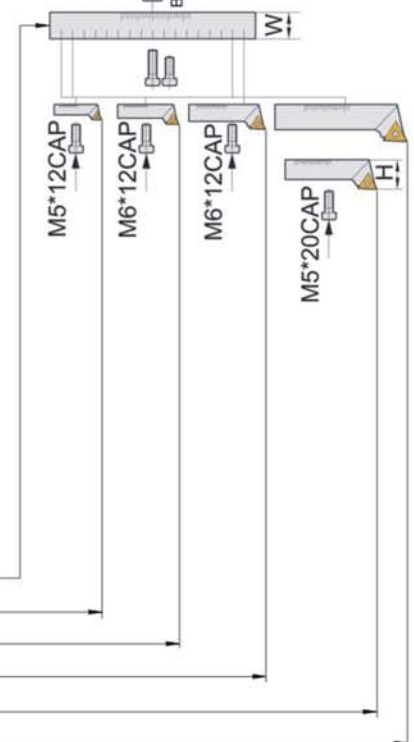


Unit:mm

Order No.	Model	L1	Boring Range	Modular Holder	N.W.
61200-01	BT30-CK6-BDF80	55	110-150	BT30-CK6-60	8.20kg
61200-02	BT40-CK6-BDF80	85		BT40-CK6-55	10.8kg
61200-03	BT50-CK6-BDF80	155		BT50-CK6-155	11.3kg
61200-04	SK30-CK6-BDF80	60		SK30-CK6-60	8.20kg
61200-05	SK40-CK6-BDF80	55		SK40-CK6-55	10.8kg
61200-06	SK50-CK6-BDF80	155		SK50-CK6-155	11.3kg
61200-07	HSK63A-CK6-BDF80	55		HSK63A-CK6-55	10.1kg

Unit:mm

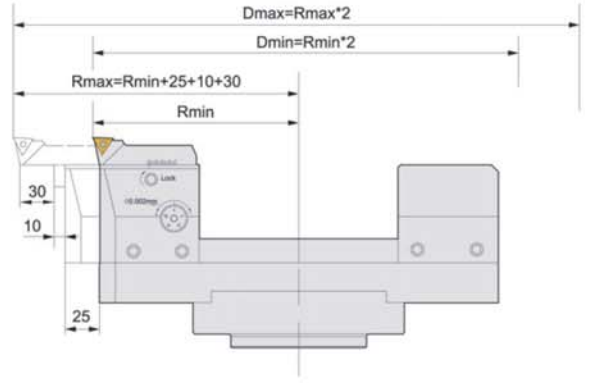
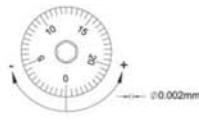
Order No.	Model	Boring Range	Size H	N.W.
Refer to P.E97	61205-01 PS140-20	+BM8	20	0.43kg
	MLTP2938	150-200	10	0.01kg
	MLTP3652	160-210	12	0.02kg
	MLTP4868	170-220	12	0.03kg
	MLTP70110	140-240	19	0.10kg
	MLTP110150	180-280	19	0.21kg



BORING HEAD

Fine Boring System

61210 BDF Large Diameter Boring Head For Finishing



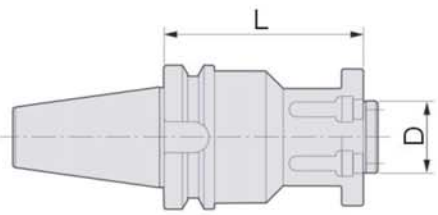
Unit:mm

Order No.	Model	Boring Range	Large Diameter Boring Modular System					N.W.						
			Slide	Boring Bar	Modular Holder	Balance Weight	Insert Holder							
61210-01	BDF200-310BST	200-260	ST200	BST	SJ200	SP200	MLTP70110	9.90kg						
		250-310					MLTP110150							
61210-02	BDF300-410BST	300-360	ST300				MLTP70110		11.9kg					
		350-410					MLTP110150							
61210-03	BDF400-510BST	400-460	ST400				MLTP70110			13.9kg				
		450-510					MLTP110150							
61210-04	BDF500-610BST	500-560	ST500				MLTP70110				15.9kg			
		550-610					MLTP110150							
61210-05	BDF600-710BST	600-660	ST600				MLTP70110					17.9kg		
		650-710					MLTP110150							
61210-06	BDF700-810BST	700-760	ST700				MLTP70110						19.9kg	
		750-810					MLTP110150							
61210-07	BDF800-910BST	800-860	ST800				MLTP70110							21.9kg
		850-910					MLTP110150							

BST Boring Shank for BHF, BHT & BDF (Large diameter)



BST basic holder for roughness and precision boring bar (Boring range >200)

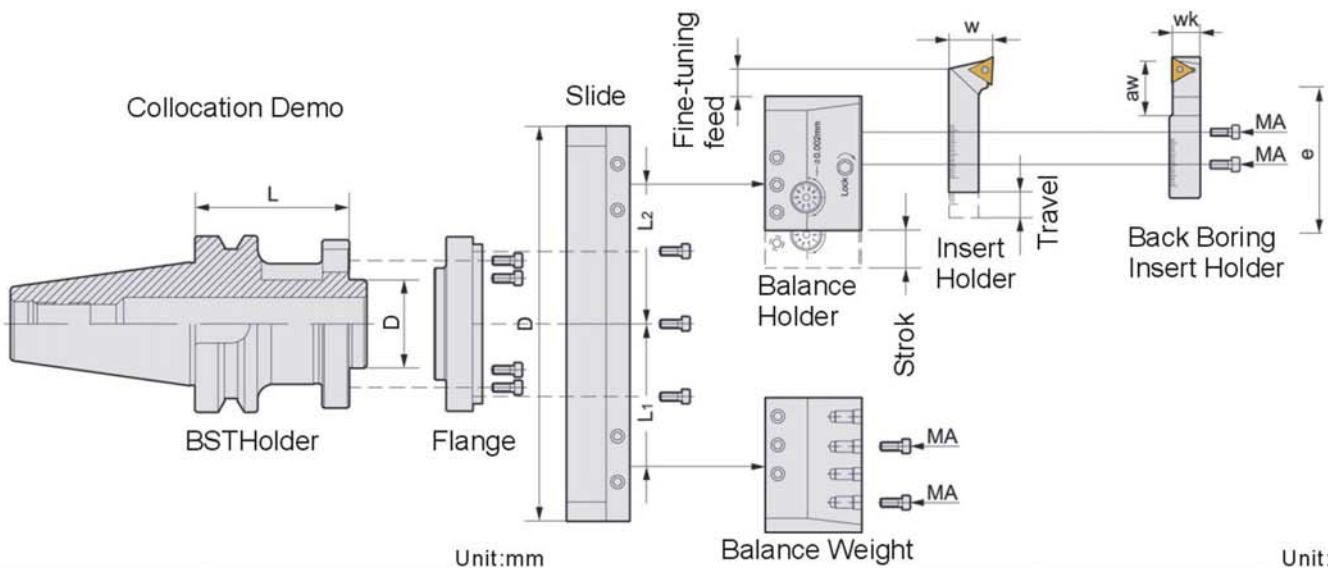


Unit:mm

Order No.	Model	Size		N.W.
		D	L	
Refer to P.E64	BT50-BST100	50	100	5.70kg
	BST150	50	150	7.40kg
	BST200	50	200	8.80kg
	BST250	50	250	10.3kg
	BST300	50	300	11.3kg
	BST350	50	350	12.3kg

BORING HEAD

ST Extension Slide



Unit:mm

Order No.	Model	Size			N.W.
		D	L1	L2	
Refer to P.E94	ST200	180	61	66	3.00kg
	ST300	280	111	116	4.60kg
	ST400	380	161	166	6.20kg
	ST500	480	211	216	7.80kg

Unit:mm

Order No.	Model	Size			N.W.
		D	L1	L2	
Refer to P.E94	ST600	580	261	266	9.400kg
	ST700	680	311	316	11.00kg
	ST800	780	361	366	12.60kg

61230 SJ/SP Boring Body+Balance Weight



Unit:mm

Order No.	Model	Travel	Fine-tuning feed	Screw	Wrench	N.W.
61230-01	SJ200	25	10	ATH0816	L5,L6	3.0kg
61230-02	SP200	-	-	ATH0816	L6	3.0kg

MLTP Insert Holder For CK2 Boring Head



Unit:mm

Order No.	Model	Size		Travel	Insert	Screw	Wrench	N.W.
		w	e					
Refer to P.E97	MLTP70110	20	66	15	TPGH1103L	ATH0816	L6	0.10kg
	MLTP110150	20	106	30	TPGH1103L	ATH0816	L6	0.21kg

MRTP Back-Boring Insert Holder for BDF Boring Head



Unit:mm

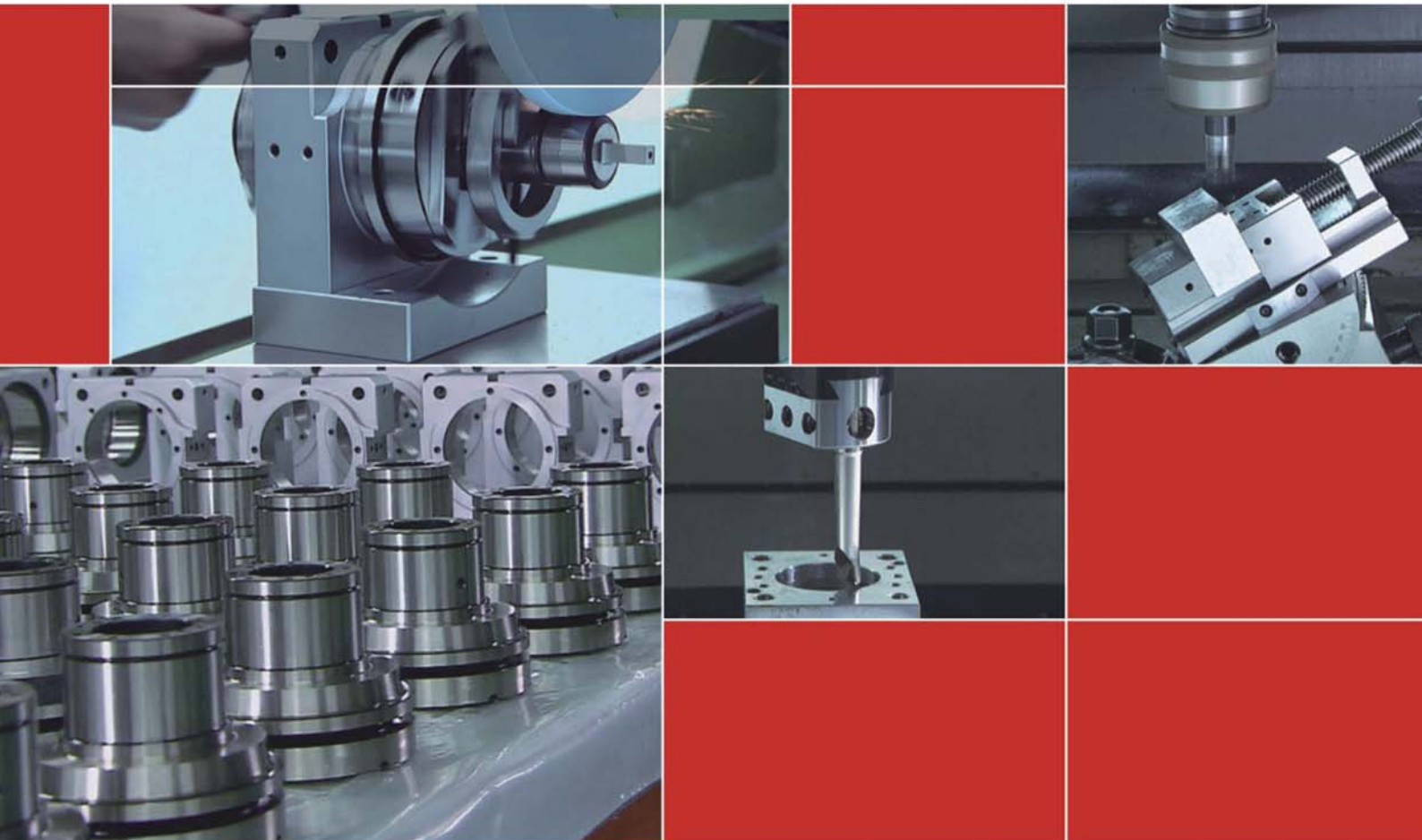
Order No.	Model	Size			Travel	Insert	Screw	Wrench	N.W.
		aw	wk	e					
Refer to P.E97	MRTP70110	16	15	66	15	TPGH1103.R	ATH0816	L6	0.10kg
	MRTP110150	25	15	106	30	TPGH1103.R	ATH0816	L6	0.21kg



BORING HEAD



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