

Boring Heads

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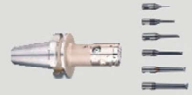
61135 E97



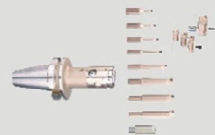
61140 E98



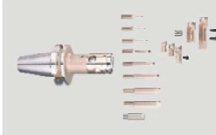
61150 E98



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C type Boring Head series

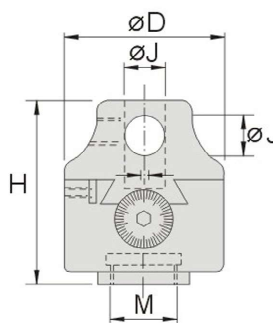
59200 BHC2 Boring Head



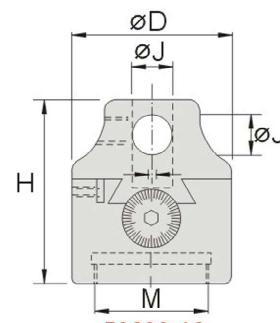
Graduation reading

Features:

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



59200-11

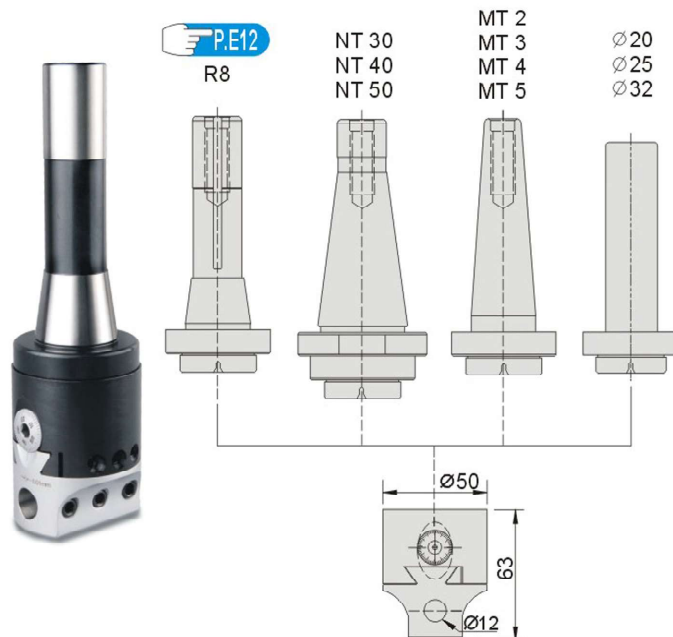


59200-12
59200-13

Order No.	Model	D	H	Boring Bar Hole Dia.($\varnothing J$)	Center Dist. Btw holes(K)	Adjustable Feed	M	N.W.
59200-11	BHC2 inch	$\varnothing 2"$	2-7/16"	1/2"	5/8"	5/8"	7/8"-20	0.7kg
59200-12	BHC2 m/m	$\varnothing 50$	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+ $\varnothing 20$	$\varnothing 20 \times 60L$	1.1kg
59200A-50	BHC2+ $\varnothing 25$	$\varnothing 25 \times 60L$	1.2kg
59200A-52	BHC2+ $\varnothing 32$	$\varnothing 32 \times 60L$	1.4kg

BORING HEAD

59200B BHC2 Boring Head+Shank+Bar



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.

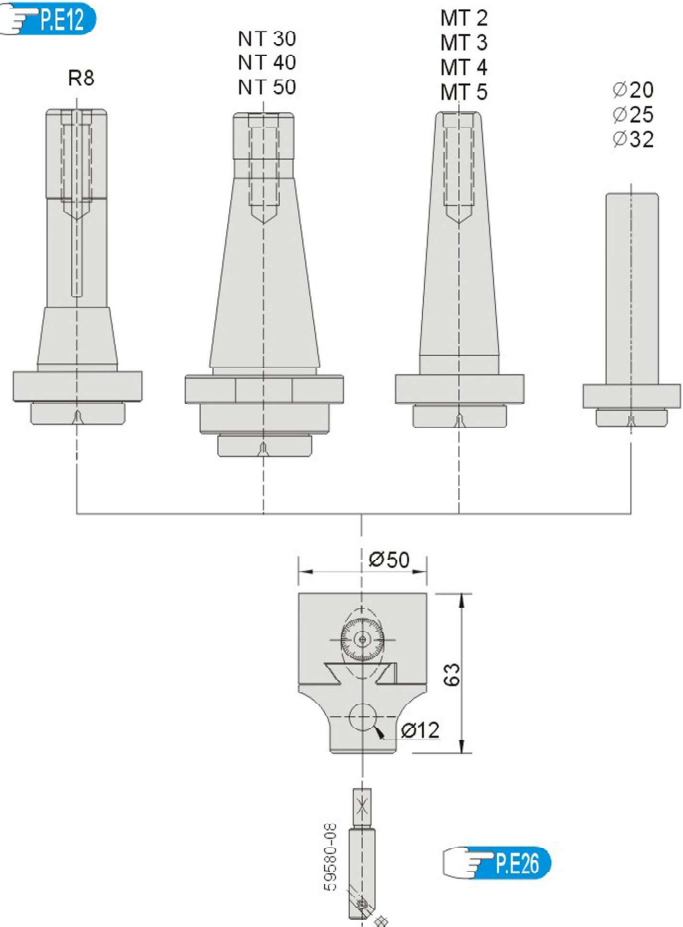
Standard Accessories:

- 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

P.E12



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

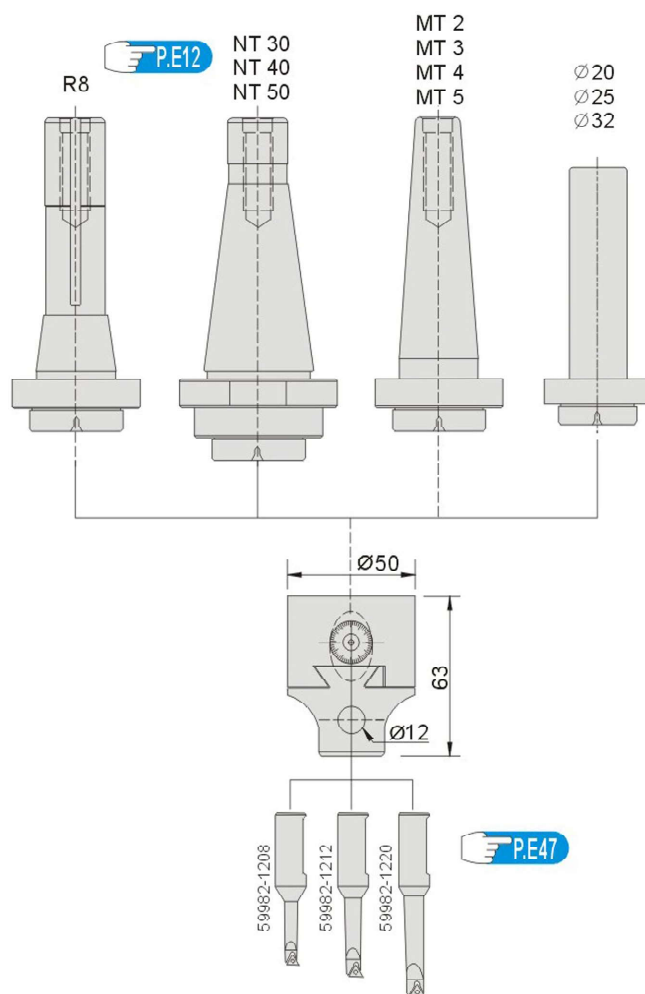
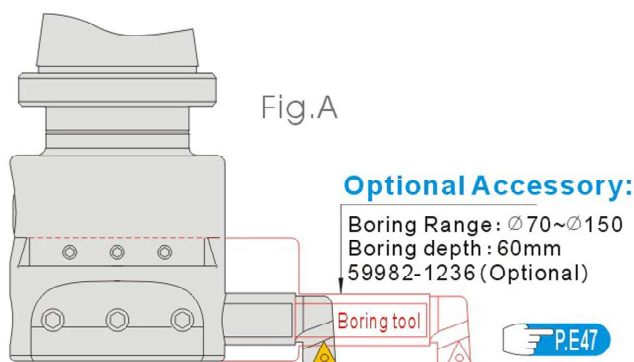


Features :

- ▶ 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

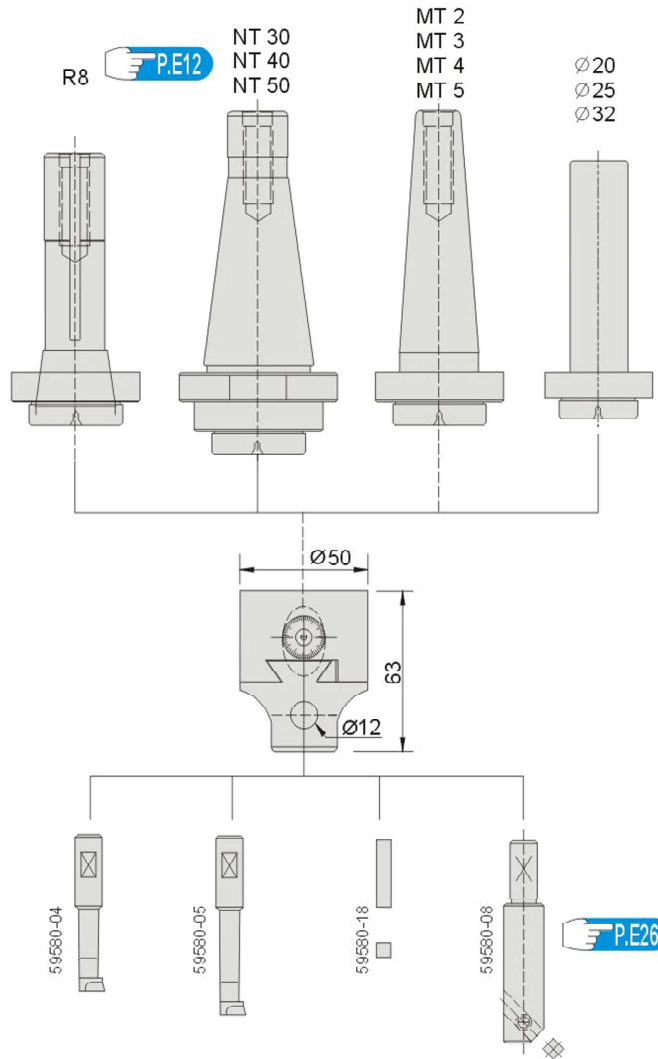
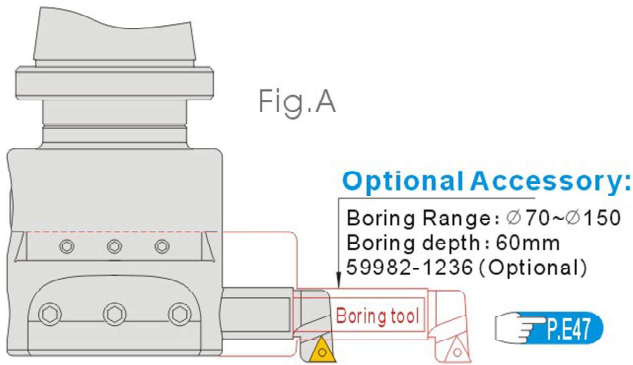


Features:

- ▶ 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

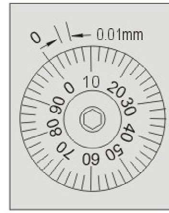
Order No.	Model	Spec.	N.W.
59200D-48	BHC2- $\varnothing 20$	$\varnothing 20 \times 60\text{L}$	1.3kg
59200D-50	BHC2- $\varnothing 25$	$\varnothing 25 \times 60\text{L}$	1.4kg
59200D-52	BHC2- $\varnothing 32$	$\varnothing 32 \times 60\text{L}$	1.6kg

C type Boring Head series

59250

BHC3

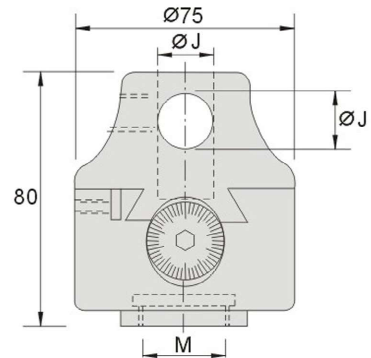
Boring Head



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

BORING HEAD

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.

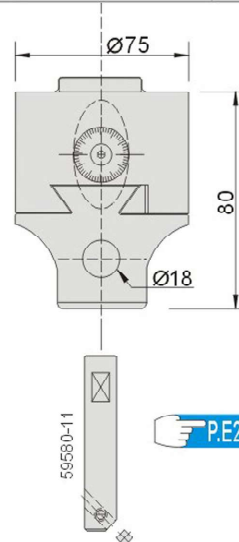
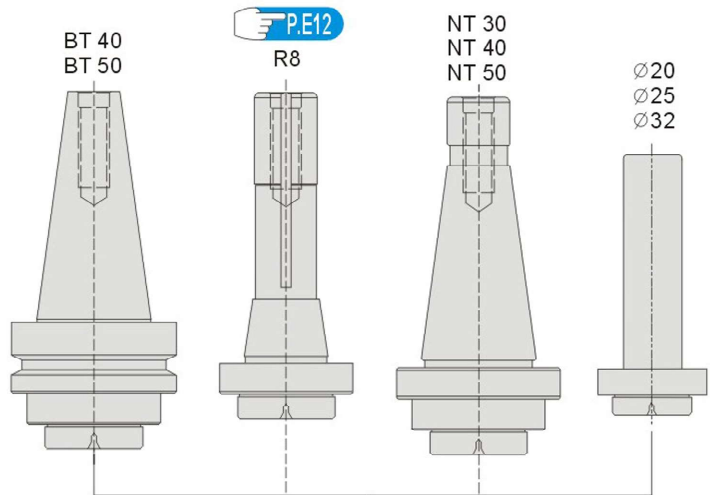
Standard Accessories:

- 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

Straight Shank

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

C type Boring Head series

59250C BHC3 Boring Head+Shank+Tool

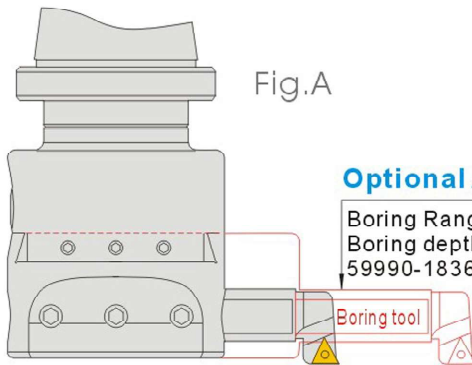


Fig.A

Optional Accessory:

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

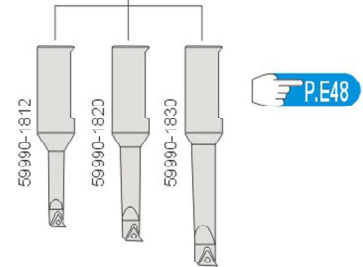
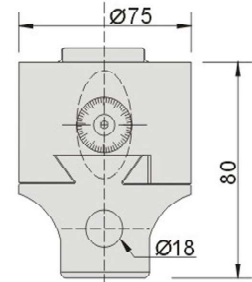
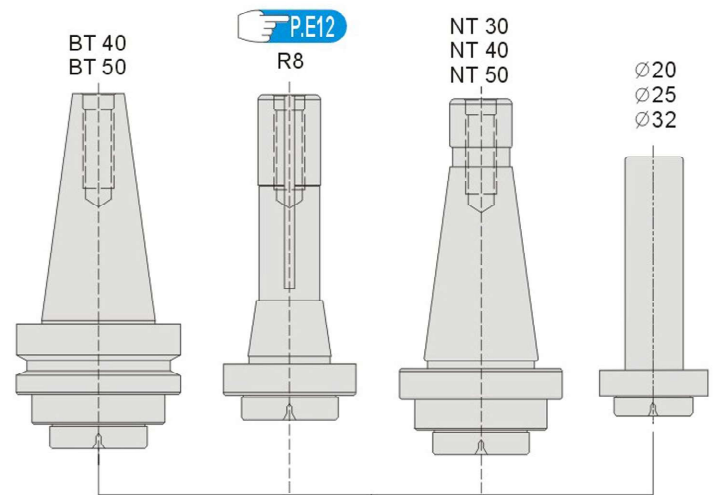


Features:

- ▶ 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+ $\varnothing 20$	$\varnothing 20 \times 60$ L	+BH18-12/20/30	3.0kg
59250C-50	BHC3+ $\varnothing 25$	$\varnothing 25 \times 60$ L	+BH18-12/20/30	3.1kg
59250C-52	BHC3+ $\varnothing 32$	$\varnothing 32 \times 60$ L	+BH18-12/20/30	3.3kg

BORING HEAD

59250D BHC3 Boring Head Sets

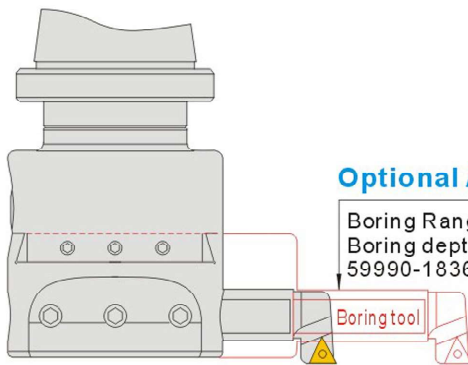


Features:

- ▶ 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:

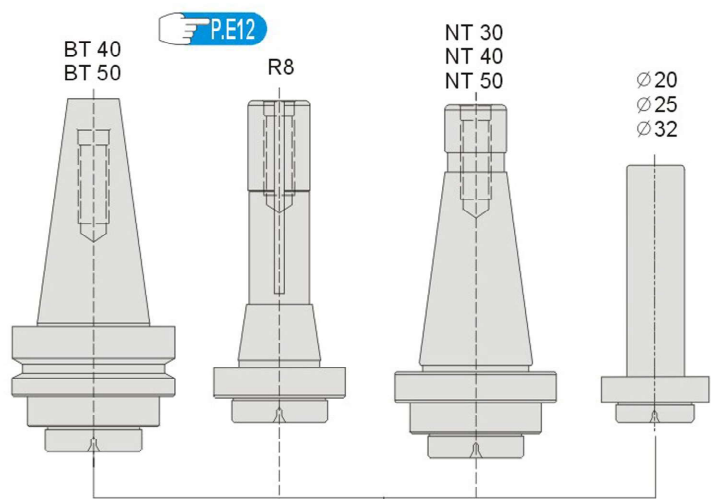
- Shank x 1pc
- Boring tool x 7pcs
- Boring sleeve x 1pc
- Lathe cutter x 1pc



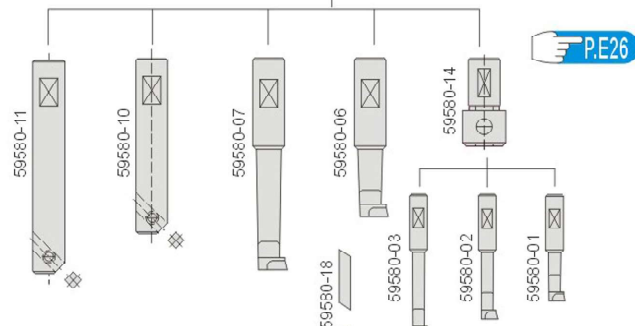
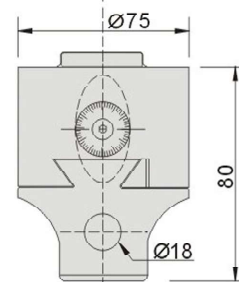
Optional Accessory:

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

Fig.A



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



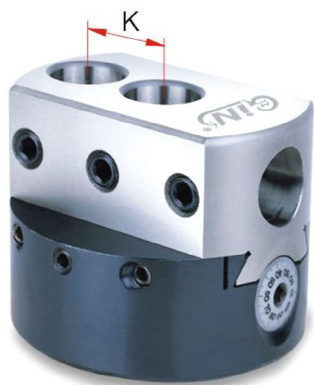
Straight Shank

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

BORING HEAD

C type Boring Head series

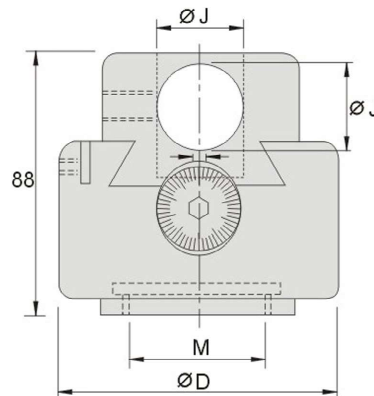
59300 BHC4 Boring Head



Graduation reading

Features:

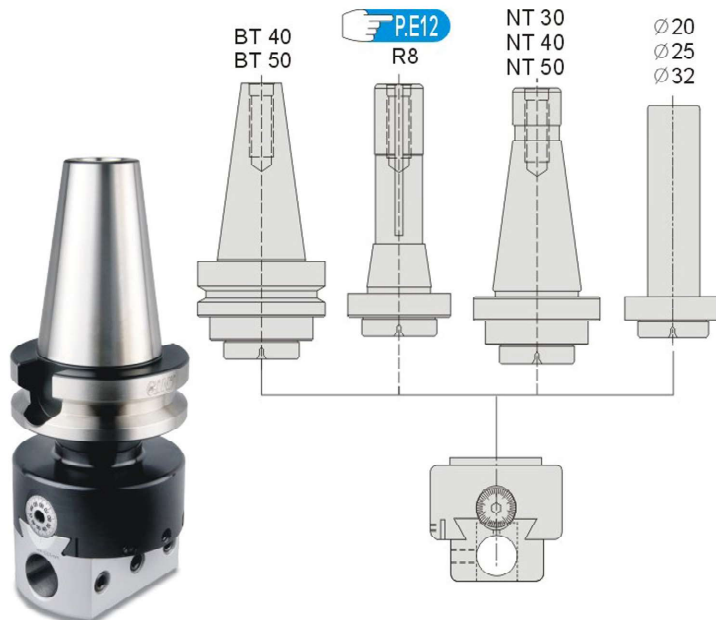
- ▶ Inch/Metric graduation, min. 0.0005" / 0.01mm.
- ▶ Inch/Metric standard is available.



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

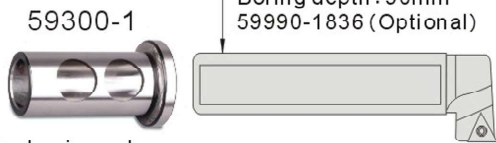
BHC4

Boring Head+Shank+Tool



Optional Accessory:

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



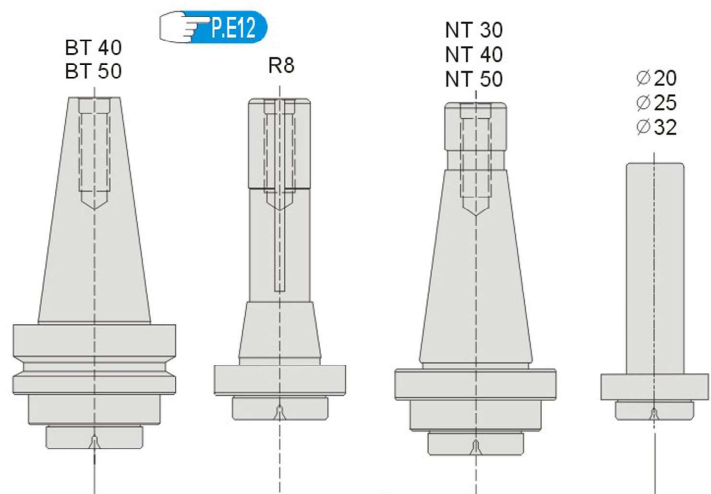
Reducing sleeve
 $\varnothing 25$ to $\varnothing 18$ (BH1836) See Page E48.

Features :

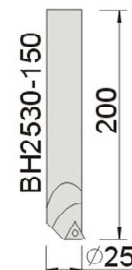
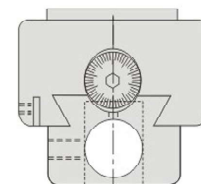
- ▶ Min. boring range $\varnothing 30$ mm.
- ▶ Max. boring range $\varnothing 135$ mm.
- ▶ Max. boring depth 150mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

Shank x 1pc
 Boring tool x 3pc



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



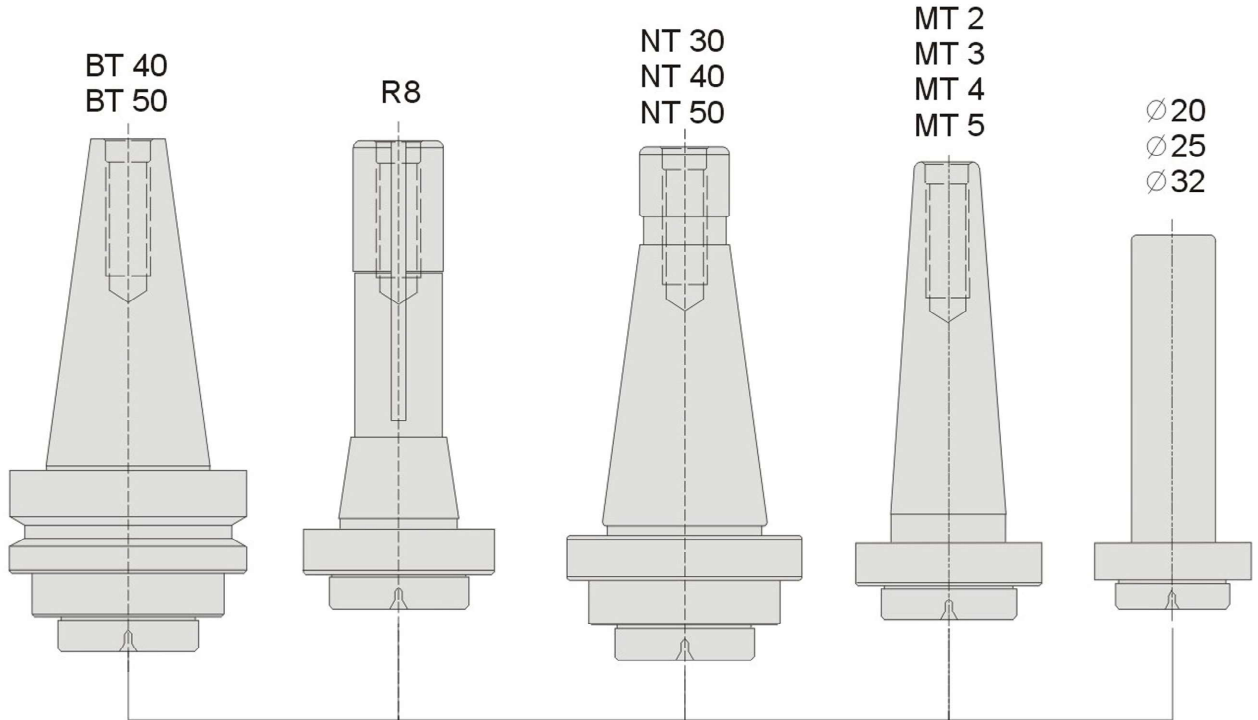
Straight Shank

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

BORING HEAD

C type Boring Head series

Boring Head+Shank assembly illustration



See Page E12 for more information.



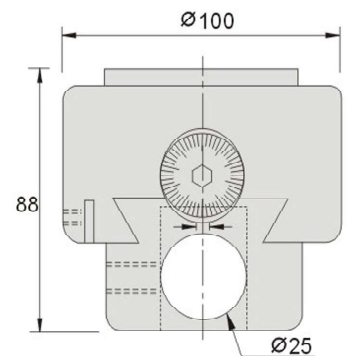
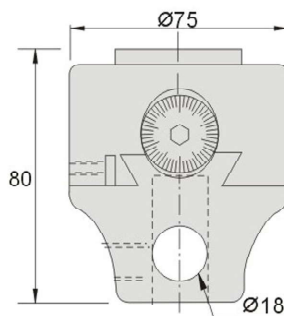
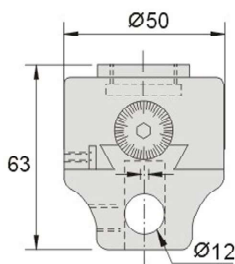
BHC2



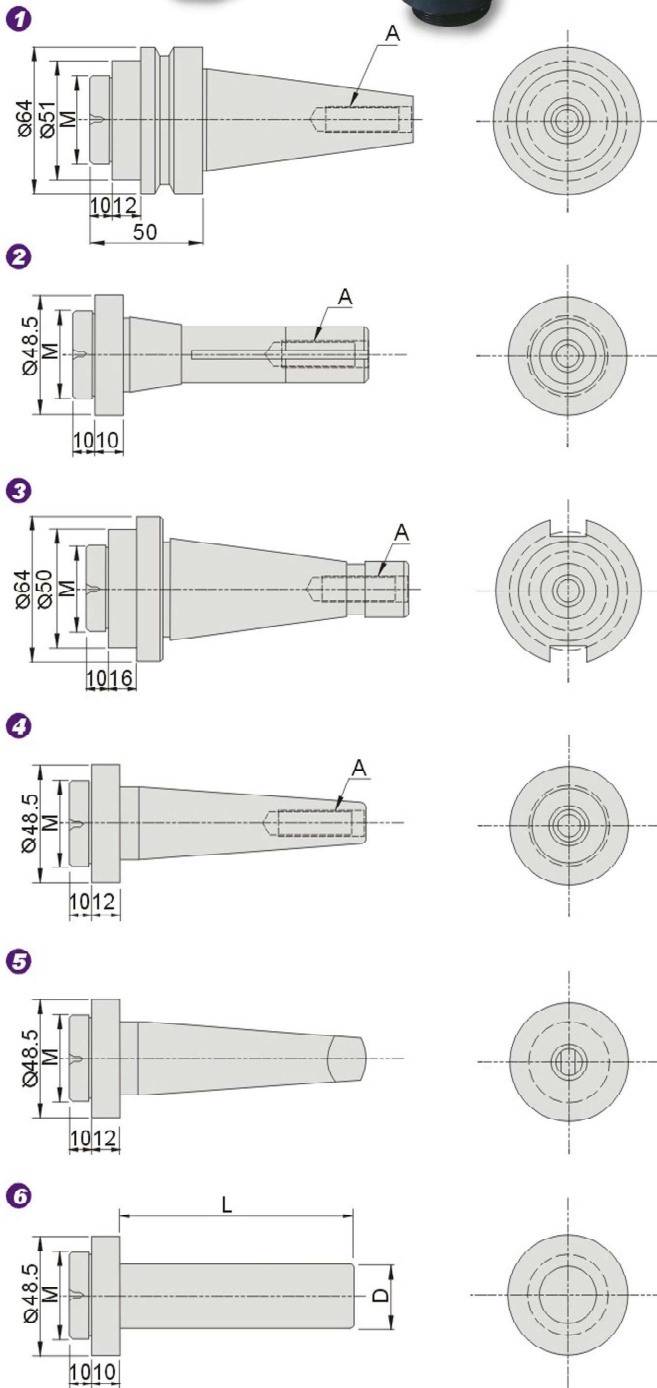
BHC3



BHC4



BORING HEAD

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	$\varnothing 20$	20	60	0.4kg
59320-50	$\varnothing 25$	25	60	0.5kg
59320-52	$\varnothing 32$	32	60	0.7kg

B type Boring Head series

59450A

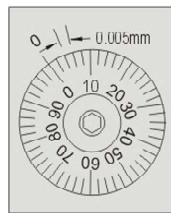
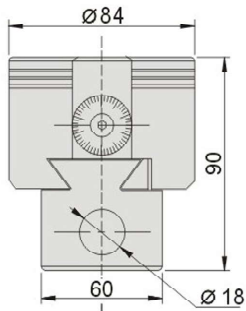
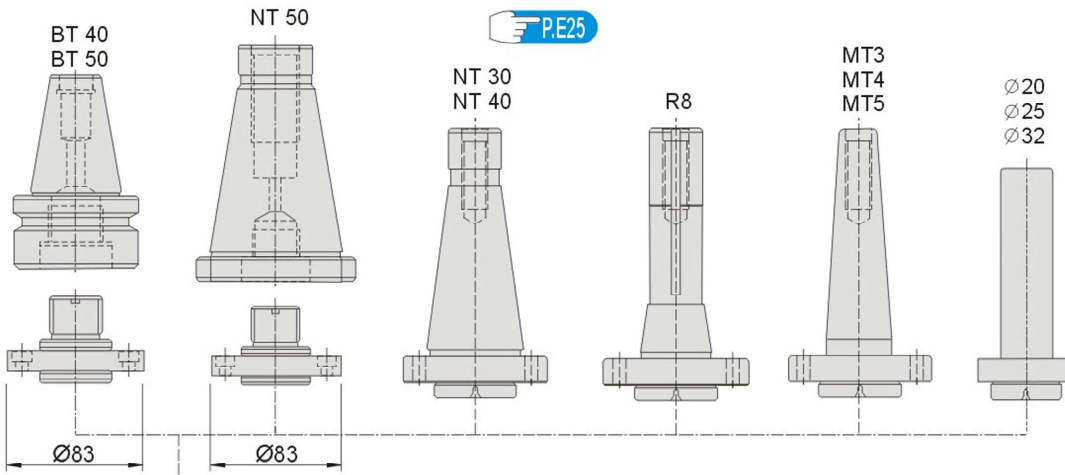
BHB

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+ Ø20	Ø20x60L	3.4kg
59450A-40	BHB+ Ø25	Ø25x60L	3.5kg
59450A-42	BHB+ Ø32	Ø32x60L	3.7kg

BORING HEAD

59450B

BHB

Boring Head+Shank+Bar

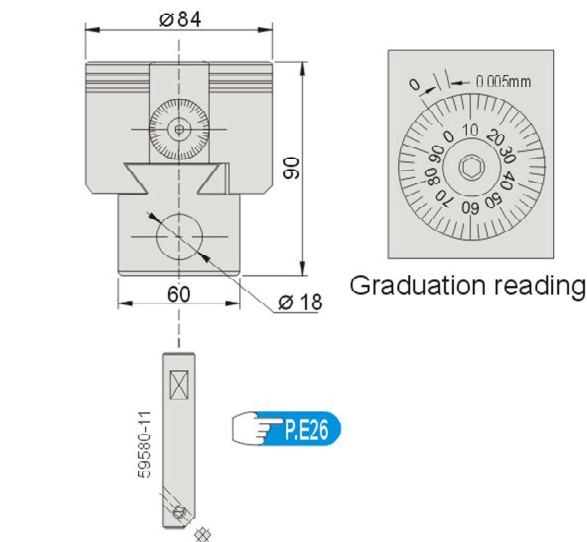
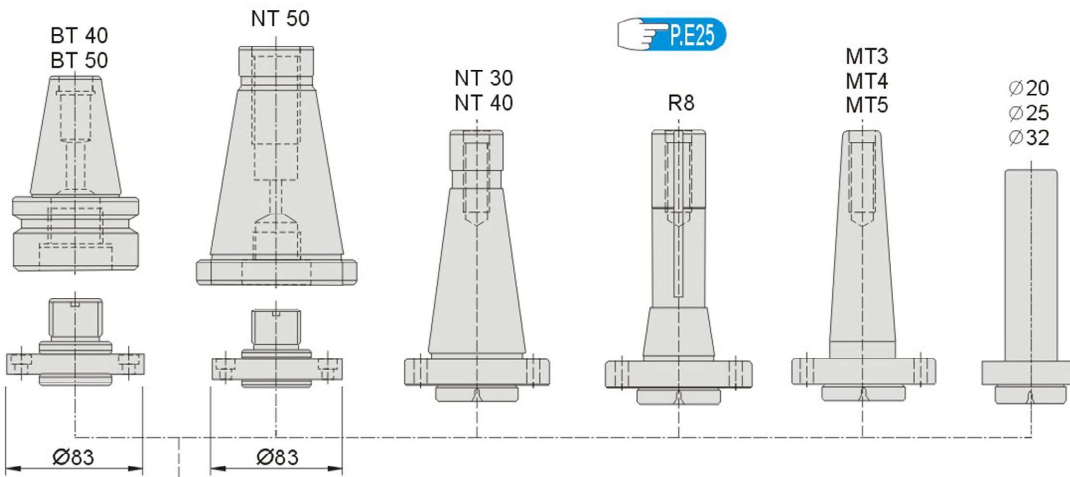


Features :

- ▶ 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

B type Boring Head series

59450C BHB Boring Head+Shank+Tool

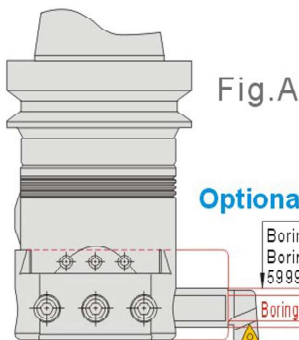
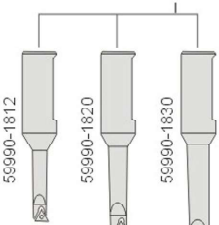
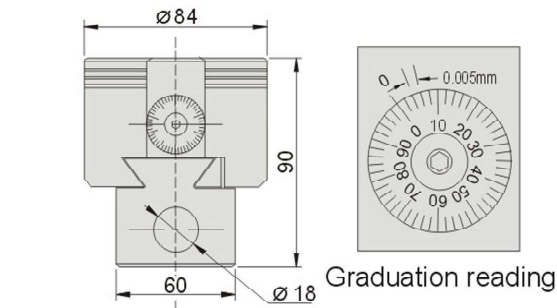
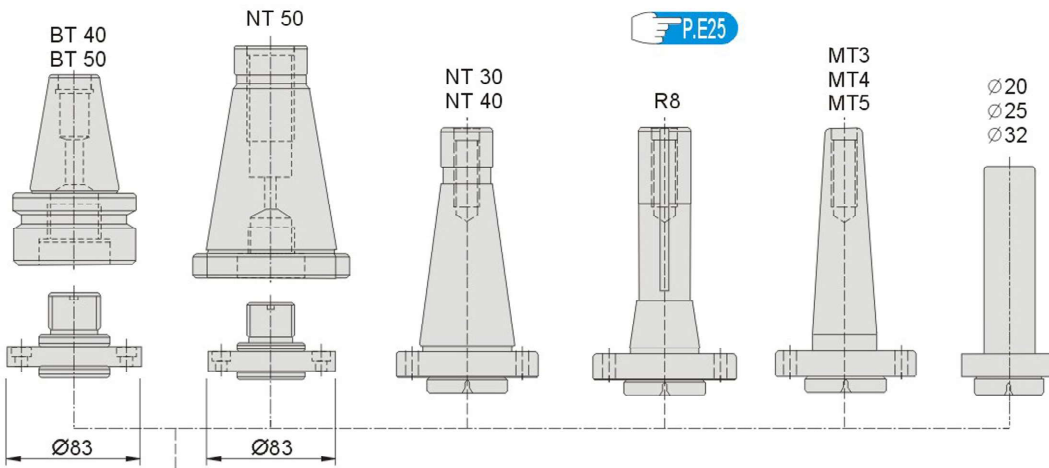


Features:

- ▶ 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



Optional Accessory:

Boring Range: $\varnothing 110\sim\varnothing 260$
 Boring depth: 90mm
 59990-1836 (Optional)

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

BORING HEAD

59450D

BHB

Boring Head Sets

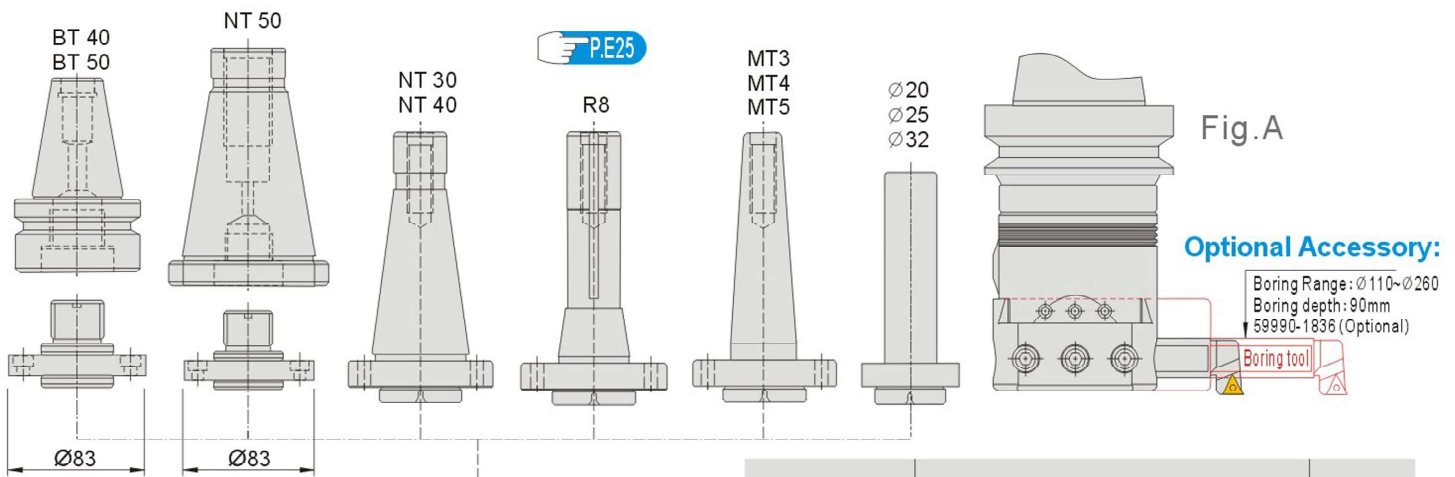


Features:

- ▶ 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:

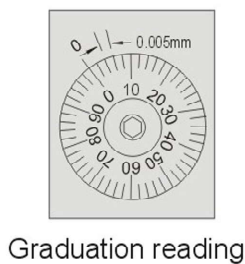
- Shank x 1pc
- Boring tool x 4pcs
- Sleeve x 1pc
- Lathe cutter x 1pc



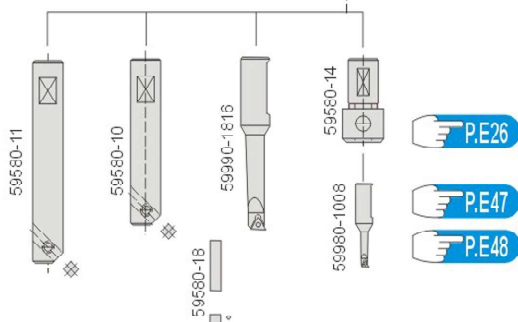
Order No.	Model	Spec.	N.W.
59450D-01	BHB	Without shank	4.6kg
59450D-02	BHB-BT40	M16xP2.0	4.5kg
59450D-04	BHB-BT50	M24xP3.0	9.4kg
59450D-06	BHB-R8	7/16"x20UNF	4.6kg
59450D-08	BHB-NT30	1/2"x12UNC	4.3kg
59450D-10	BHB-NT30	M12xP1.75	4.3kg
59450D-12	BHB-NT40	5/8"x11UNC	4.8kg
59450D-14	BHB-NT40	M16xP2.0	4.8kg
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



Graduation reading



B type Boring Head series

59480A

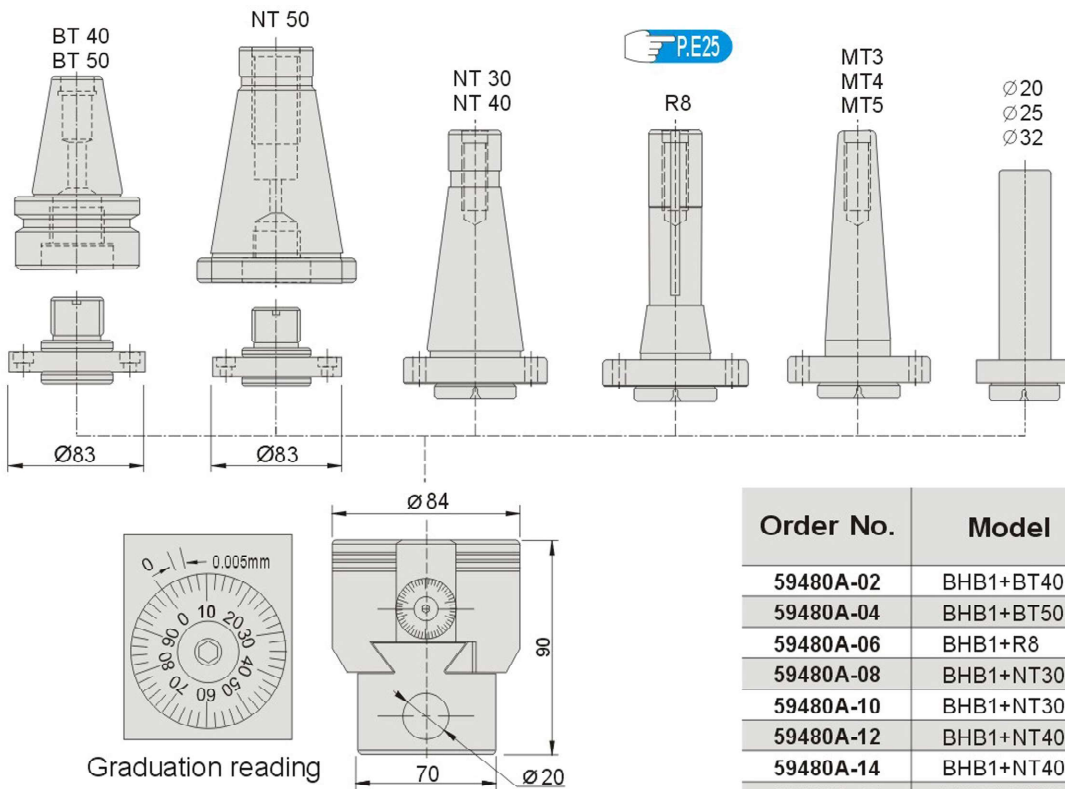
BHB1

Boring Head+Shank



Features :

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



Graduation reading



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

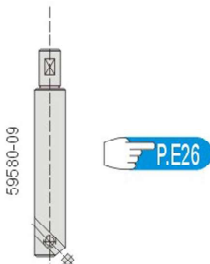
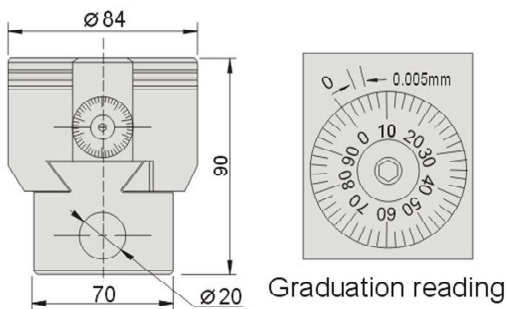
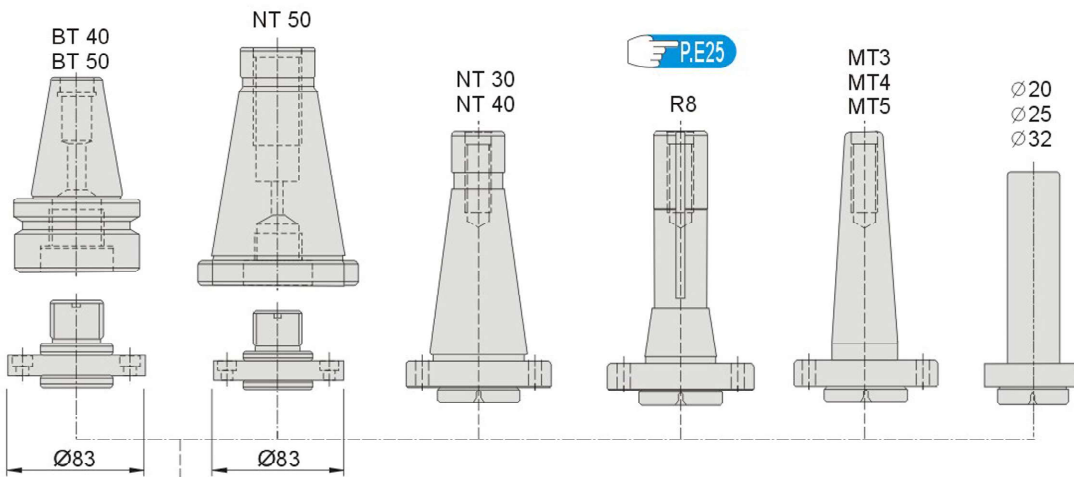


Features:

- ▶ 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

B type Boring Head series

59480C BHB1 Boring Head+Shank+Tool

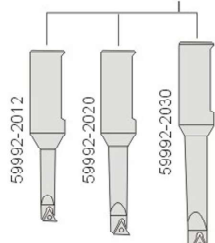
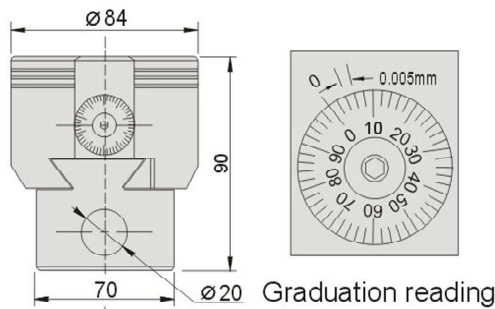
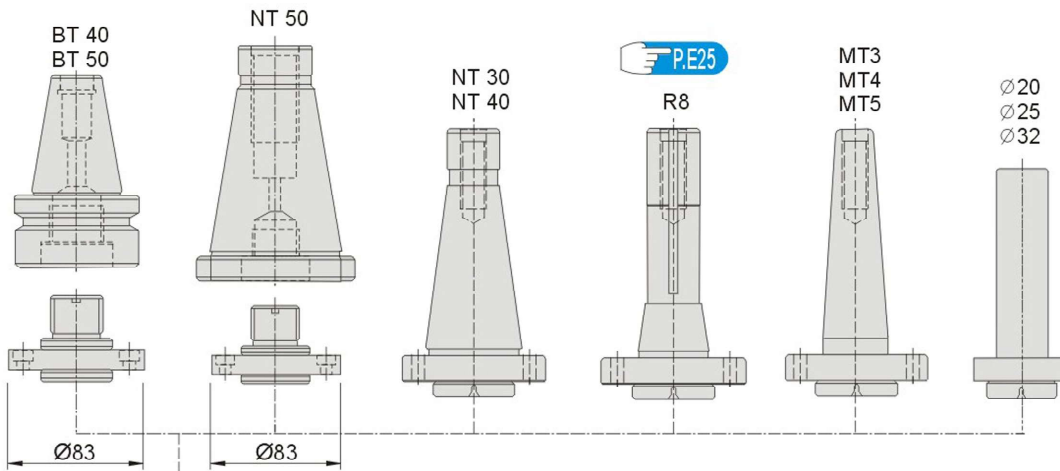


Features:

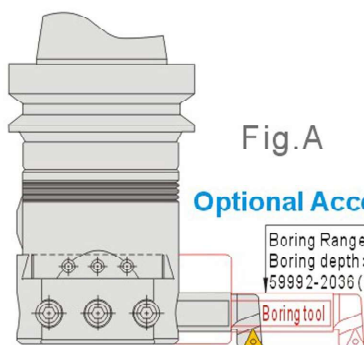
- ▶ Min. boring range $\varnothing 12\text{mm}$.
- ▶ Max. boring range $\varnothing 120\text{mm}$.
- ▶ Max. boring depth 110mm.
- ▶ Inch/Metric standard available.

Standard Accessories:

- Shank x 1pc
- Boring tool x 3pc



P.E48



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

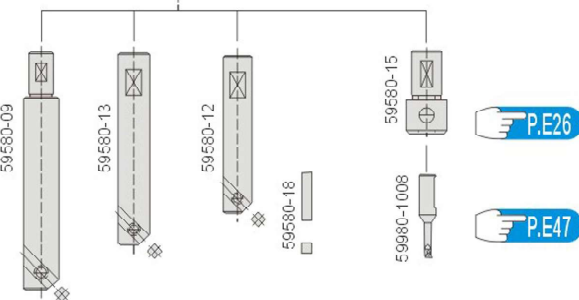
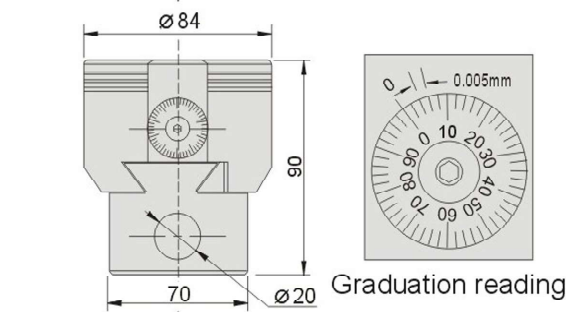
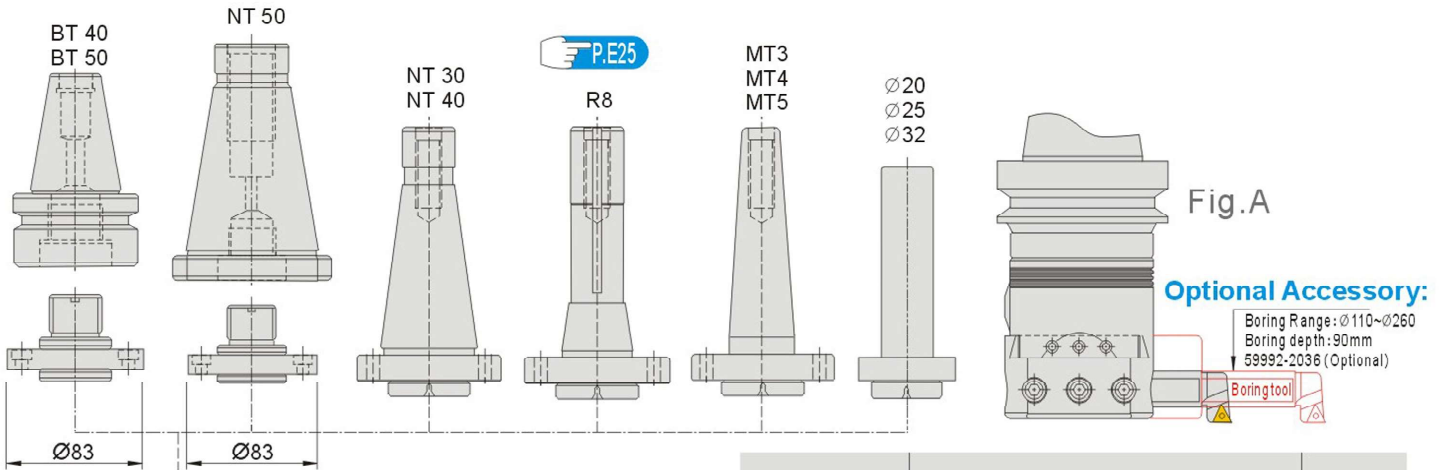


Features :

- ▶ 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

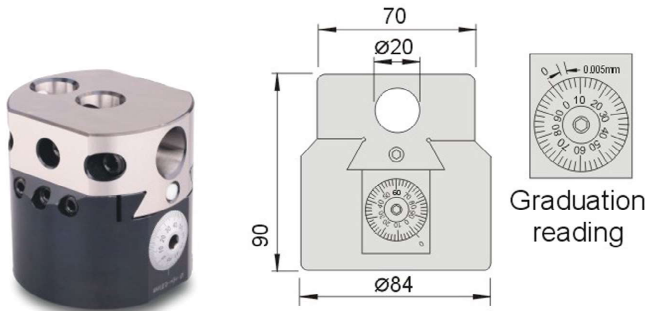
BORING HEAD

B type Boring Head series

59490

BH2084

Boring Head



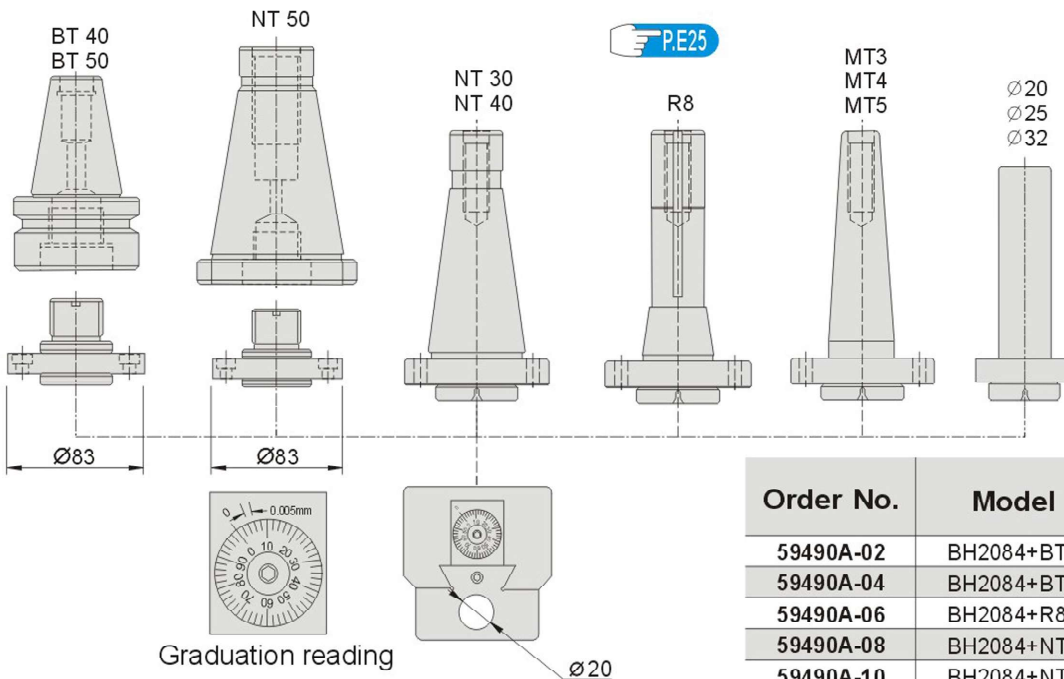
Features:

- ▶ With high precision thread rod each graduation reading is 0.005mm (\varnothing 0.01mm).
- ▶ 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 20x60L	4kg
59490A-40	BH2084+ \varnothing 25	\varnothing 25x60L	4kg
59490A-42	BH2084+ \varnothing 32	\varnothing 32x60L	4.2kg



59490C BH2084 Boring Head+Shank+Tool

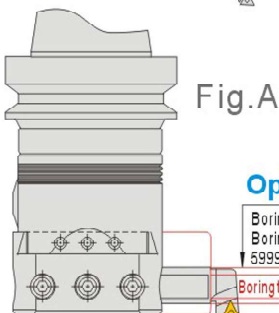
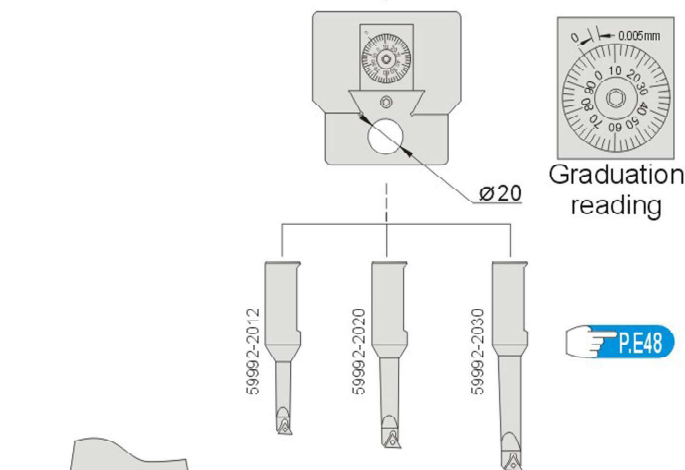
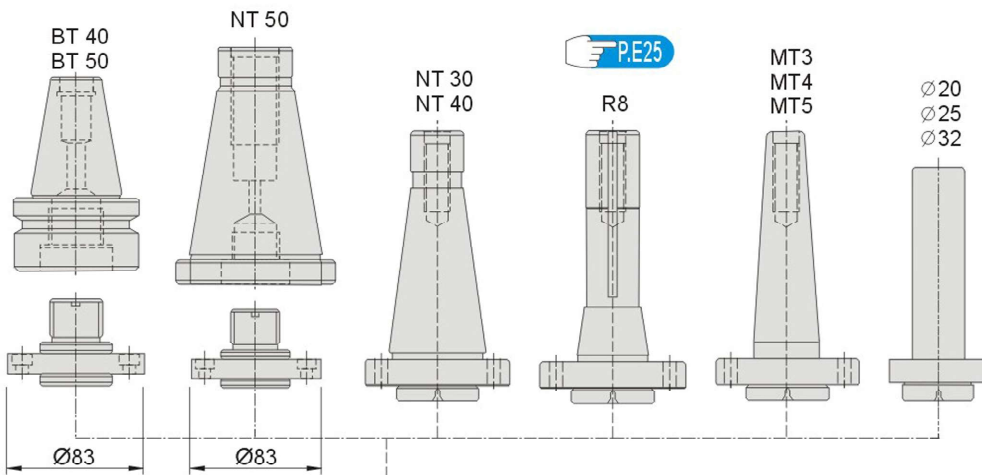


Features :

- ▶ 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: $\varnothing 110\sim\varnothing 260$
 Boring depth: 90mm
 59992-2036 (Optional)

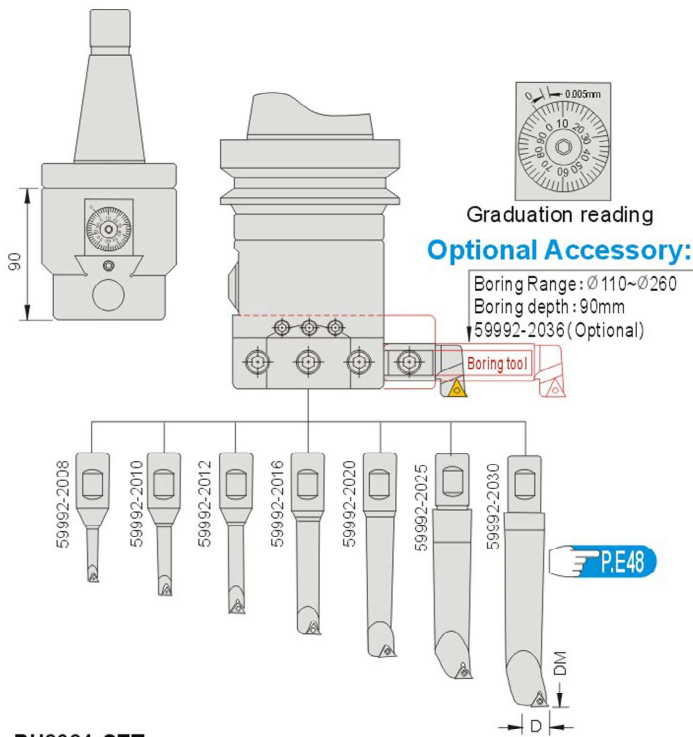
Order No.	Model	Spec.	Tool	N.W.
59490C-02	BH2084+BT40	M16xP2.0	+BH20-12/20/30	5.7
59490C-04	BH2084+BT50	M24xP3.0	+BH20-12/20/30	8.8
59490C-06	BH2084+R8	7/16"x20UNF	+BH20-12/20/30	5.0
59490C-08	BH2084+NT30	1/2"x12UNC	+BH20-12/20/30	4.7
59490C-10	BH2084+NT30	M12xP1.75	+BH20-12/20/30	4.7
59490C-12	BH2084+NT40	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

B type Boring Head series

59490D BH2084 Boring Head Sets



Optional Accessory: Features:

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

Standard Accessories:

Shank x 1pc
Boring bar x 8pcs

BH2084 SET

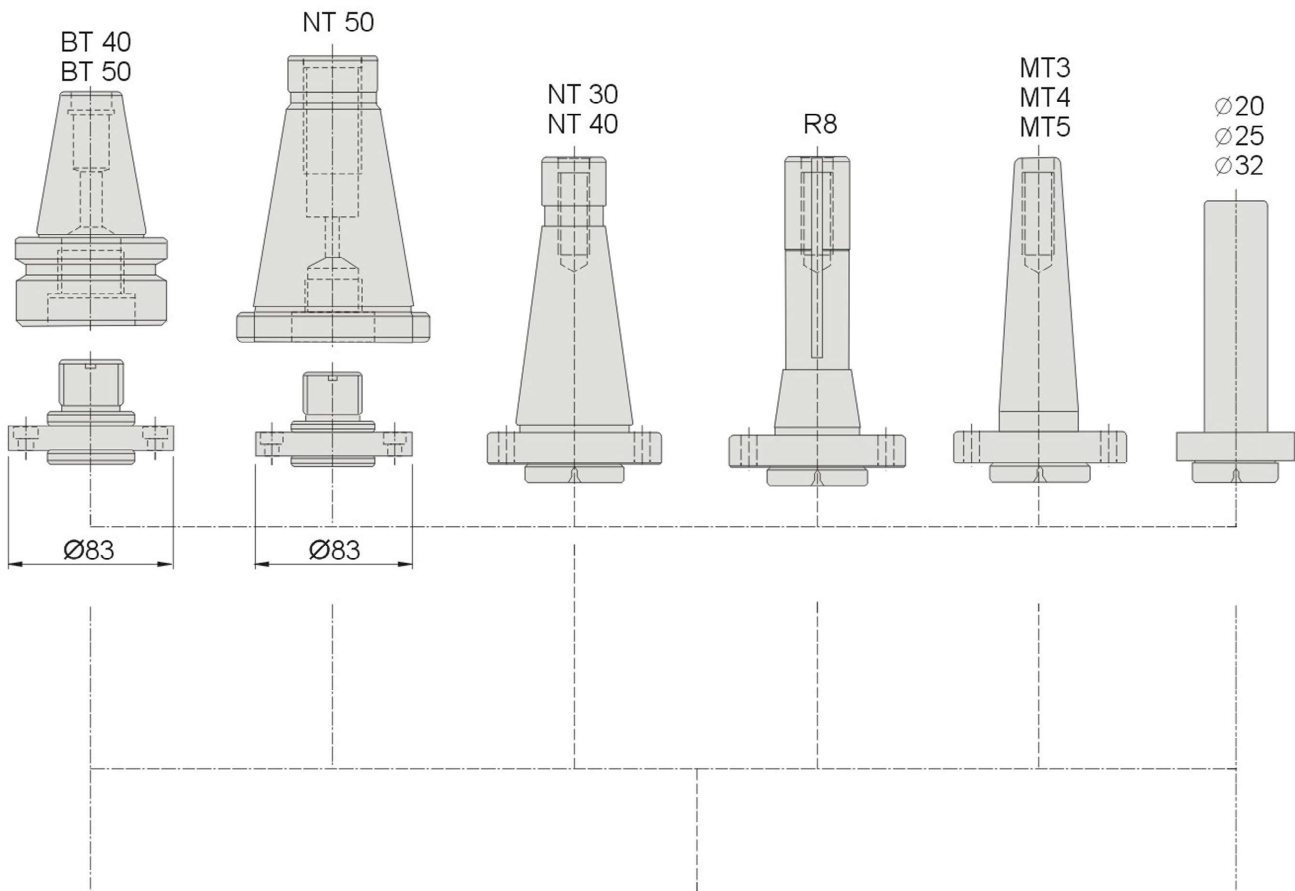
Order No.	Model	Spec.	Boring Range		Max.Boring Depth	N.W.
			Min.	Max.		
59490D-01	BH2084	Without shank	8	270	110	7.45
59490D-02	BH2084-BT40	M16xP2.0	8	270	110	9
59490D-04	BH2084-BT50	M24xP3.0	8	270	110	11.5
59490D-06	BH2084-R8	7/16"-20UNF	8	270	110	8.2
59490D-08	BH2084-NT30	1/2"-12UNC	8	270	110	8
59490D-10	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

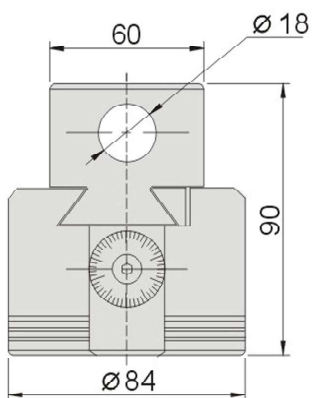
Order No.	Model	Spec.	Boring Range		Max.Boring Depth	N.W.
			Min.	Max.		
59490D-38	BH2084-20	∅20x60	8	270	110	8
59490D-40	BH2084-25	∅25x60	8	270	110	8.1
59490D-42	BH2084-32	∅32x60	8	270	110	8.2

BORING HEAD

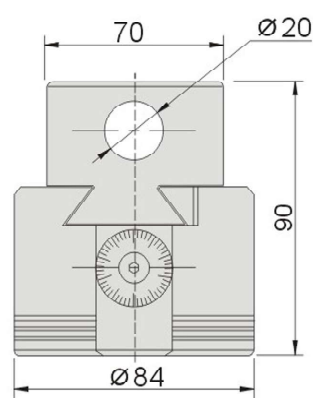
Boring Head+Shank assembly illustration



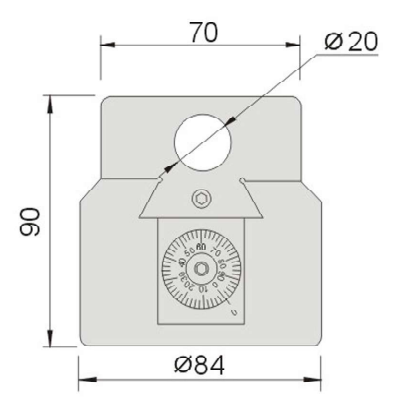
BHB



BHB1



BH2084



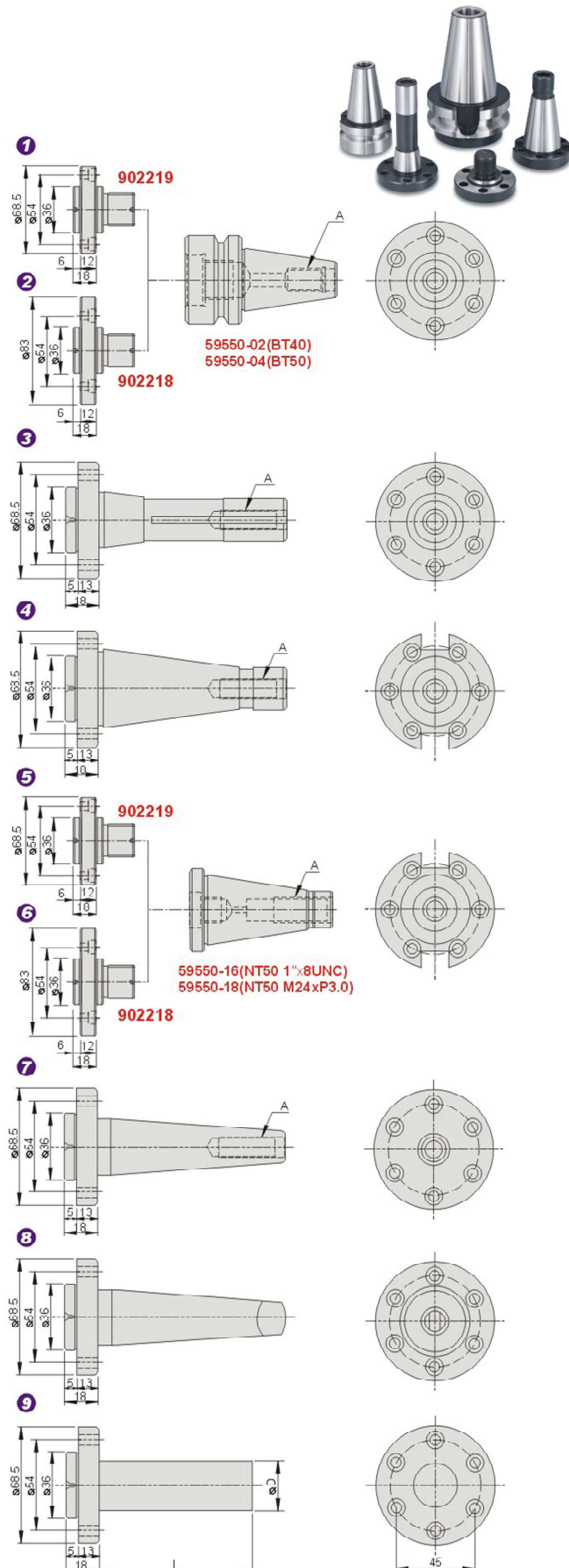
BORING HEAD

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

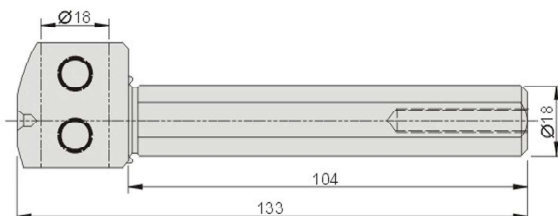
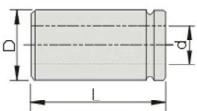
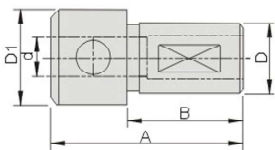
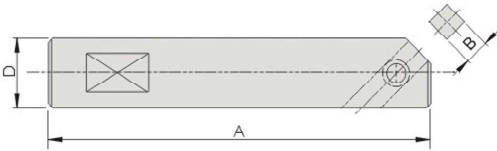
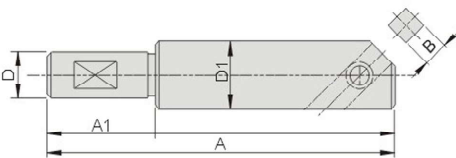
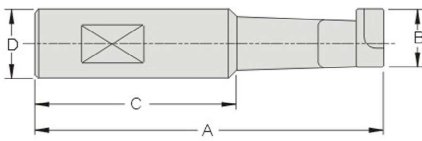
Order No.	Model	D	L	N.W.
59550-38	Ø20	20	60	0.5kg
59550-40	Ø25	25	60	0.7kg
59550-42	Ø32	32	60	0.9kg



BORING HEAD

59580

Boring Tool



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	BHC3.BHB
59580-06	902020	90	18	51	18	ø18X90L	0.14kg	
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

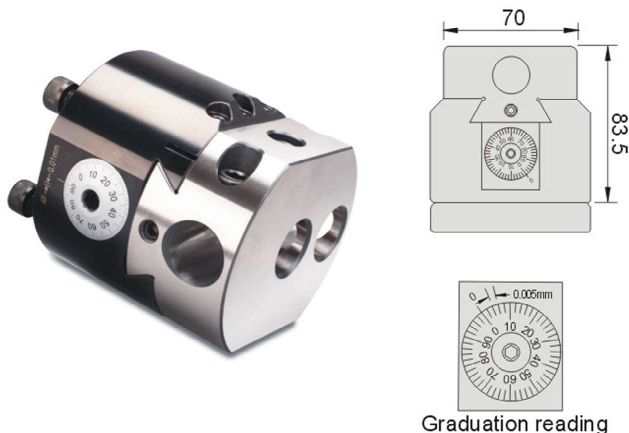
BORING HEAD

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

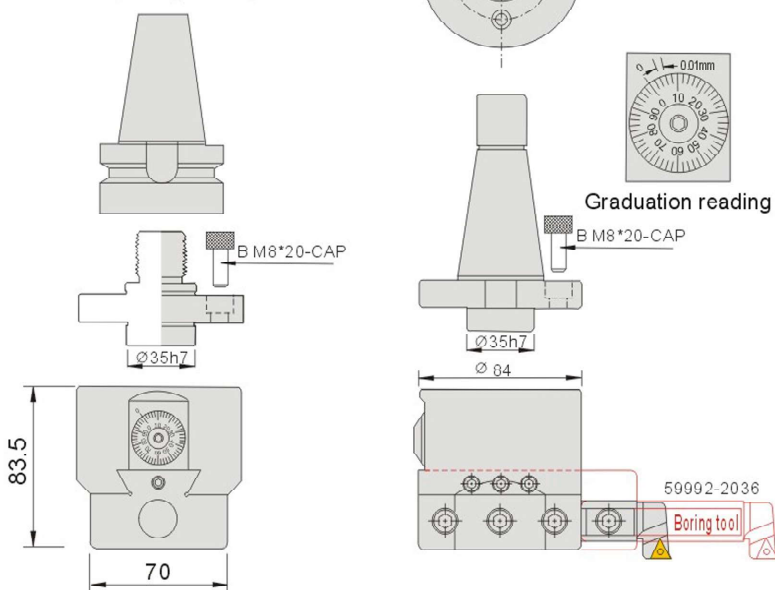
Order No.	Model	Boring Bar dia.	Wrench	N.W.
59600	NBH2084	∅20	4, 6	3.0kg

Shank For NBH2084

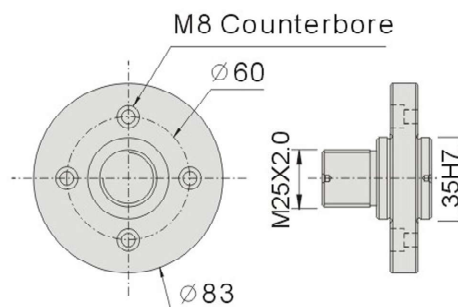
Order No.	Model	Spec.	N.W.
59600-02	BT40-NBH2084	M16xP2.0	1.8kg
59600-04	BT50-NBH2084	M24xP3.0	4.5kg
59600-06	R8-NBH2084	7/16"-20UNF	1.0kg
59600-08	NT30-NBH2084	1/2"-12UNC	0.8kg
59600-10	NT30-NBH2084	M12xP1.75	0.8kg
59600-12	NT40-NBH2084	5/8"-11UNC	1.2kg
59600-14	NT40-NBH2084	M16xP2.0	1.2kg
59600-16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



Shank (See p. E25) ①②

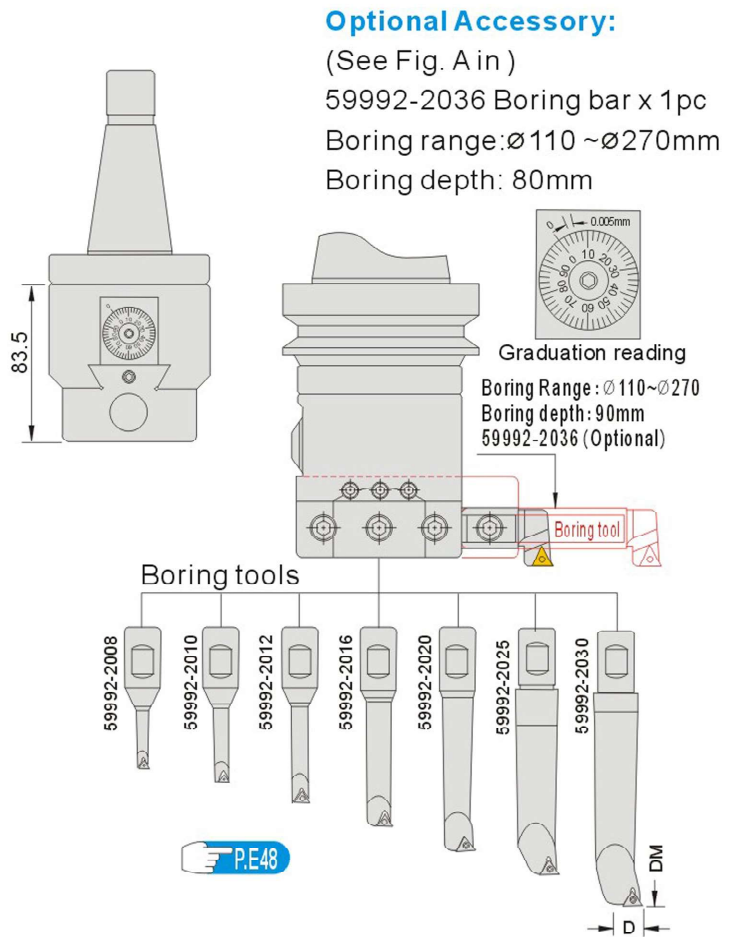


NBH2084 Flange for BT40 /50 & NT50
Order No. 59605



BORING HEAD

59600D NBH2084 Fine-tuning Boring Head



NBH2084(Set)

Order No.	Model	Spec.	Boring Range	N.W.
59600D-02	NBH2084-BT 40	M16xP2.0	8-270	9.0kg
59600D-04	NBH2084-BT 50	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

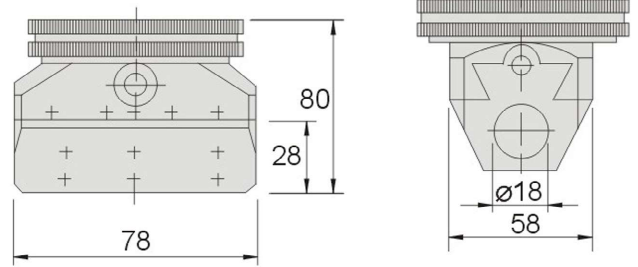
59700

BHAM

Universal Boring and Facing Master Head

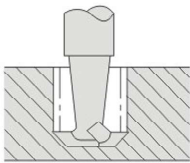
Features:

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

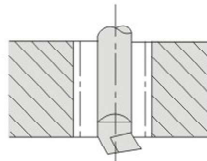


Unit: Metric

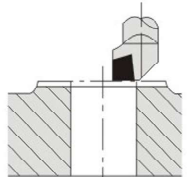
Order No.	Model	Boring Bar Hole Dia.	Center Dist. Btw holes	Adjustable Feed	N.W.
59700	BHAM	$\varnothing 18$	23	15	2.3kg



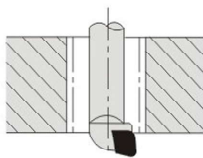
Effective boring range $\varnothing 10$ - $\varnothing 250\text{mm}$ by relevant boring bars.



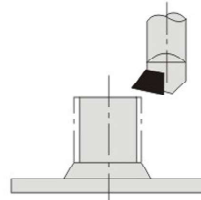
From inside outward



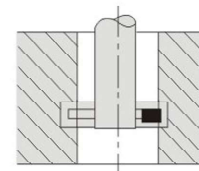
From outside inward



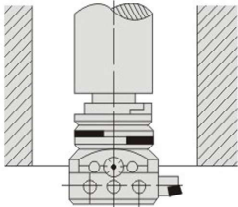
Taper turning



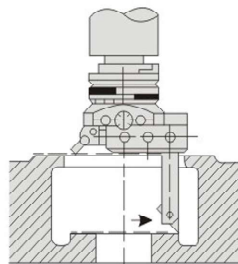
Outside turning



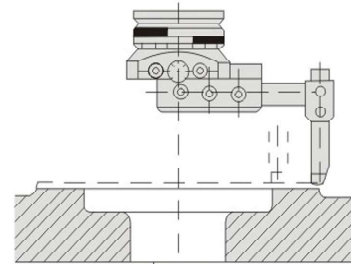
Recessing



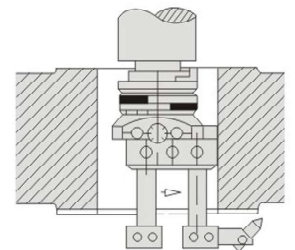
Because of the small construction of the facing and boring heads deep bores can be made. In this case the boring bit is fixed directly in the side



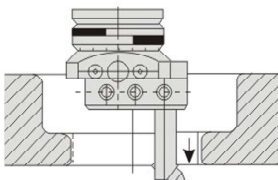
Facing in two areas with one boring bar and a boring bar holder.



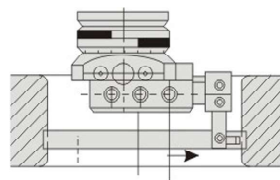
Facing of large with long boring bar holder, reinforced by rings and draw in screw



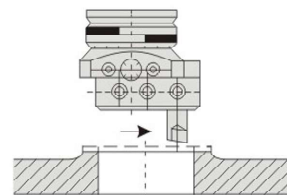
Facing of the reverse side by using boring bar holders contained in attachment



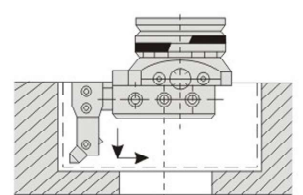
Boring with long boring bar



Recessing with short boring bar holder and a boring bar

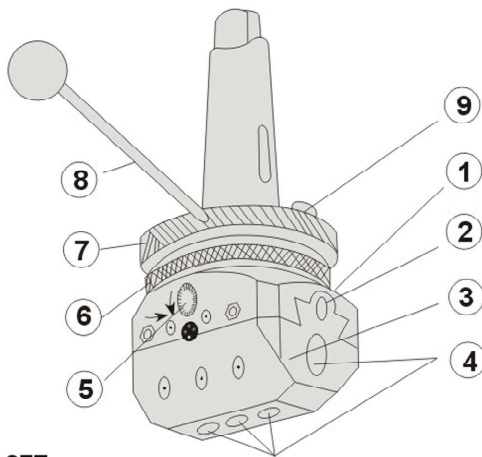


Facing with bit fixed directly in slide



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

59700D BHAM Universal Boring & Facing Master Head Set

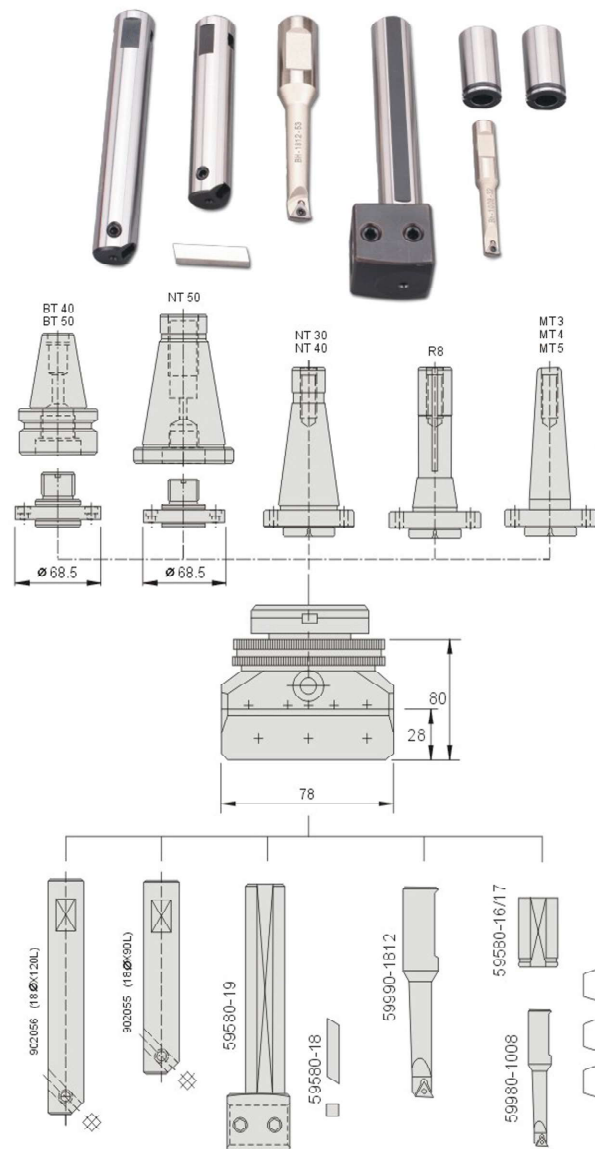


Features :

- ▶ 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

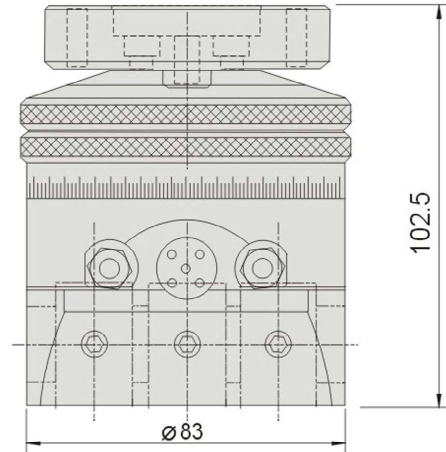
BHAM280

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

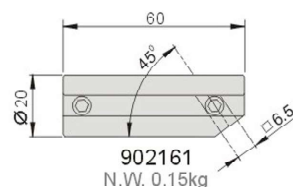
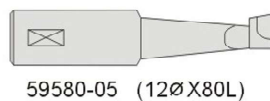
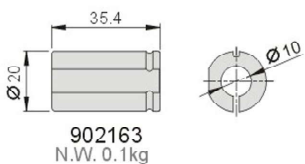
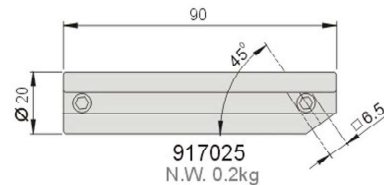
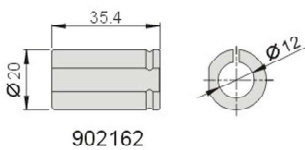
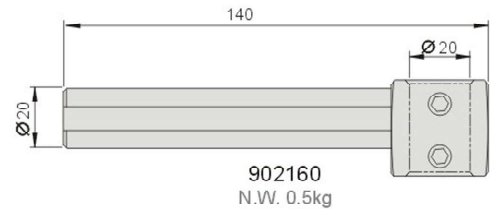
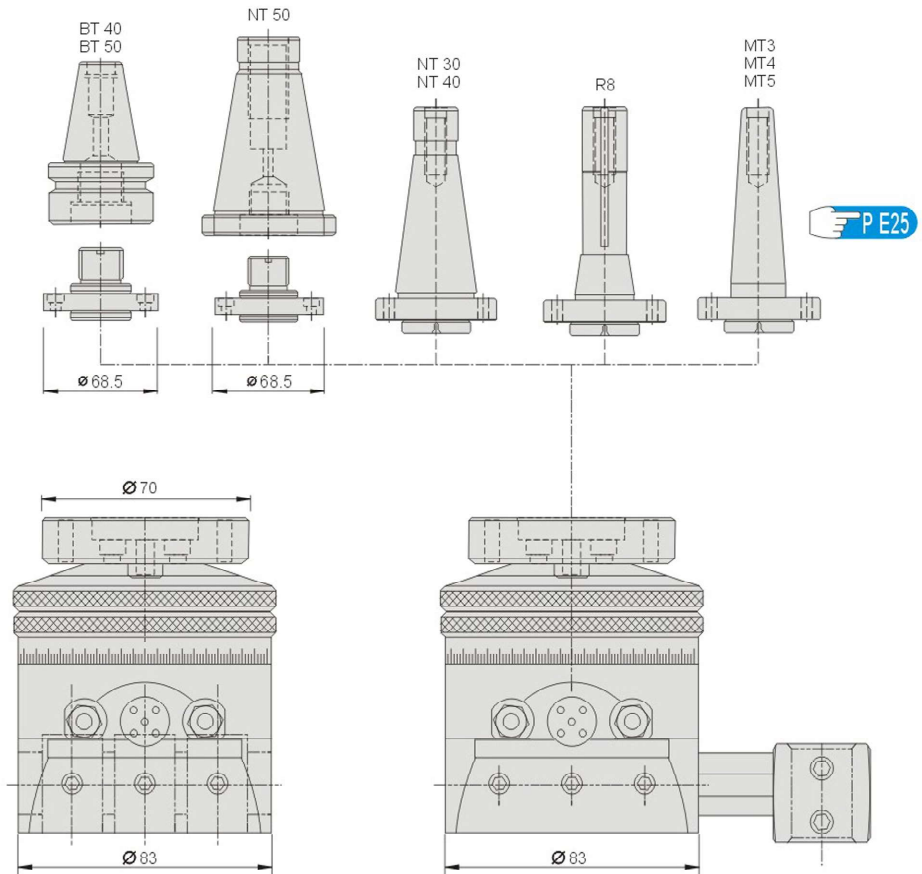
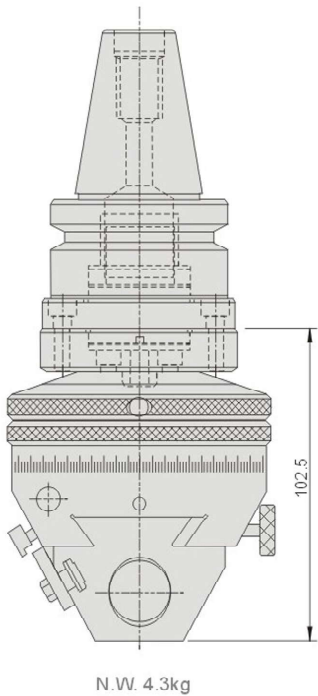
BORING HEAD

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

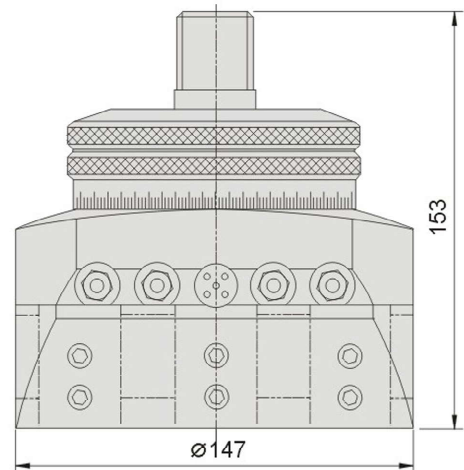
Universal Boring System

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	Ø 147	Ø 30	115	100	12-500	7.5kg

Unit:mm

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



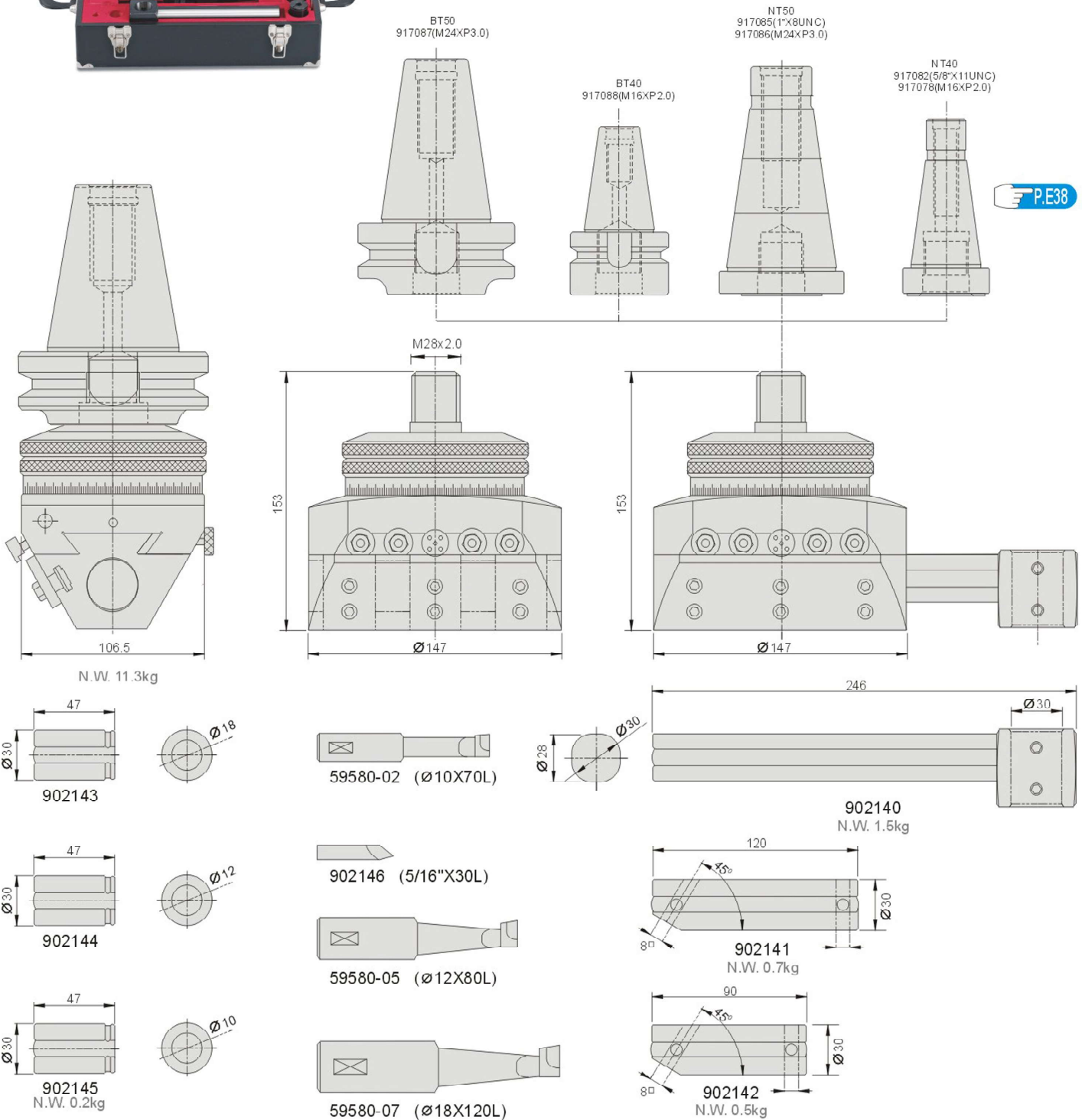
BHAM460 SET

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

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

Features:

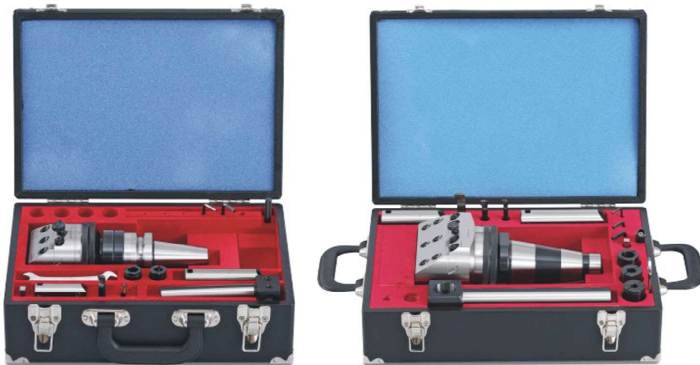
- ▶ BHAM460 is composed of multiple precision parts with automatic feeding and stop function.
- ▶ Boring range from $\varnothing 12\text{mm}$ to $\varnothing 500\text{mm}$



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 bore 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

<p>1. BORING, SMALL HOLE</p>	<p>2. BORING, LARGE HOLE</p>	<p>7. RECESSING, IN LARGE BORE</p>
<p>3. FACING, SMALL DIAMETER</p>	<p>4. FACING, LARGE DIAMETER</p>	<p>8. EXTERNAL TURNING</p>
<p>5. FACING, FROM THE REAR</p>	<p>6. RECESSING, IN SMALL BORE</p>	<p>10. THREAD CUTTING</p>

BORING HEAD

59950 BHAM460 Shank / Arbor for BHAM460



BHAM460

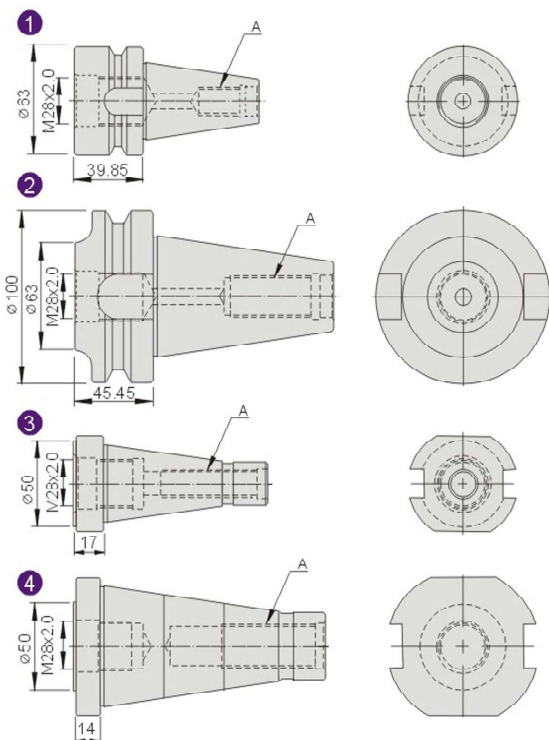


Fig. 1

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



High Power Milling Chuck



P.E71

ST Straight Shank

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



NT Shank(DIN2080)

P.E71

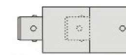
CK ACCESSORIES



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

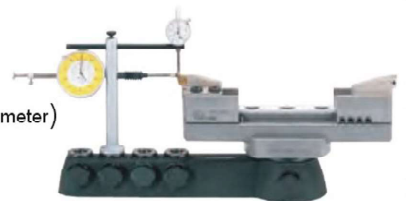
Easy Presetting with the head only.

CKP150Z



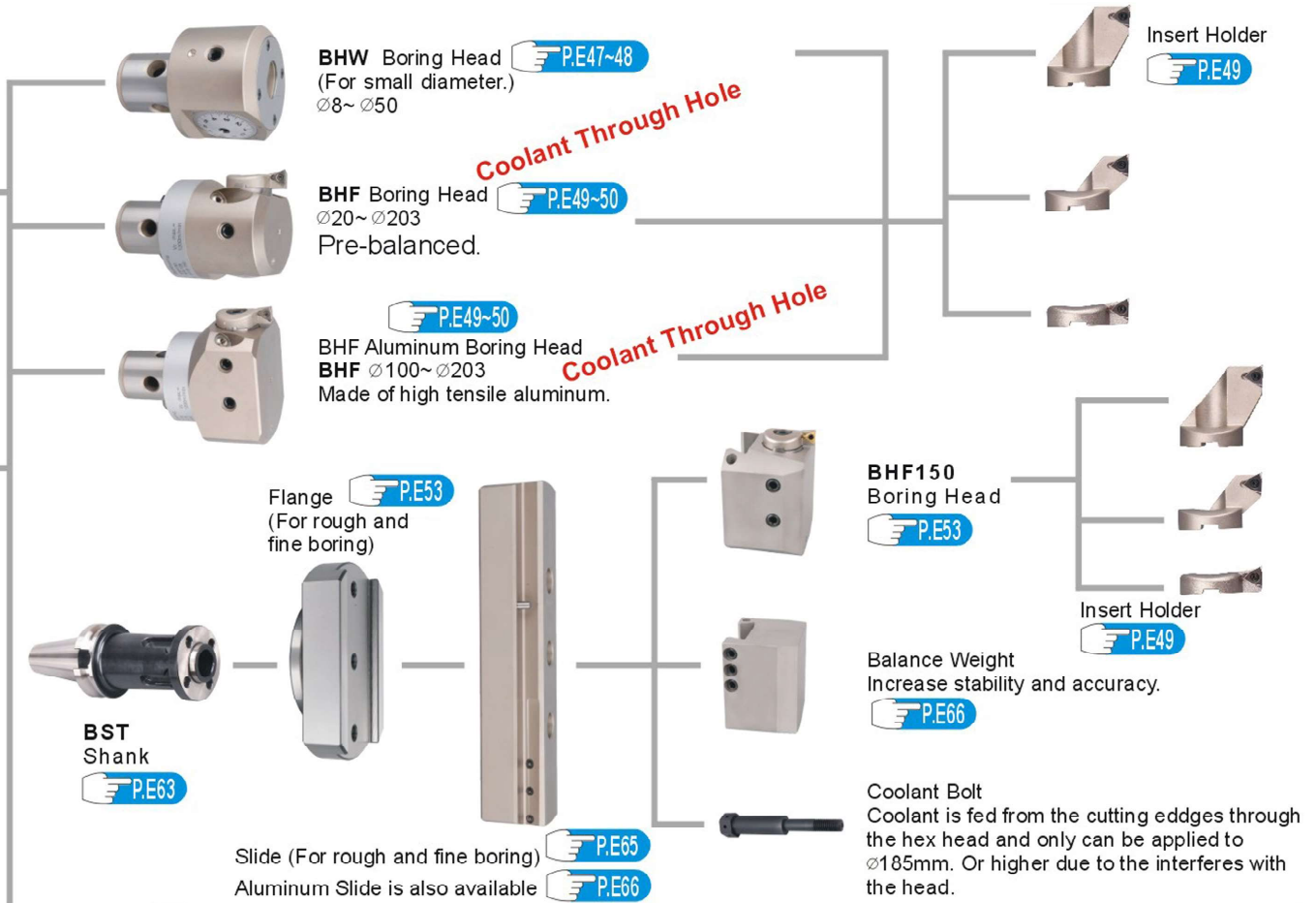
CKP550

(For large diameter)

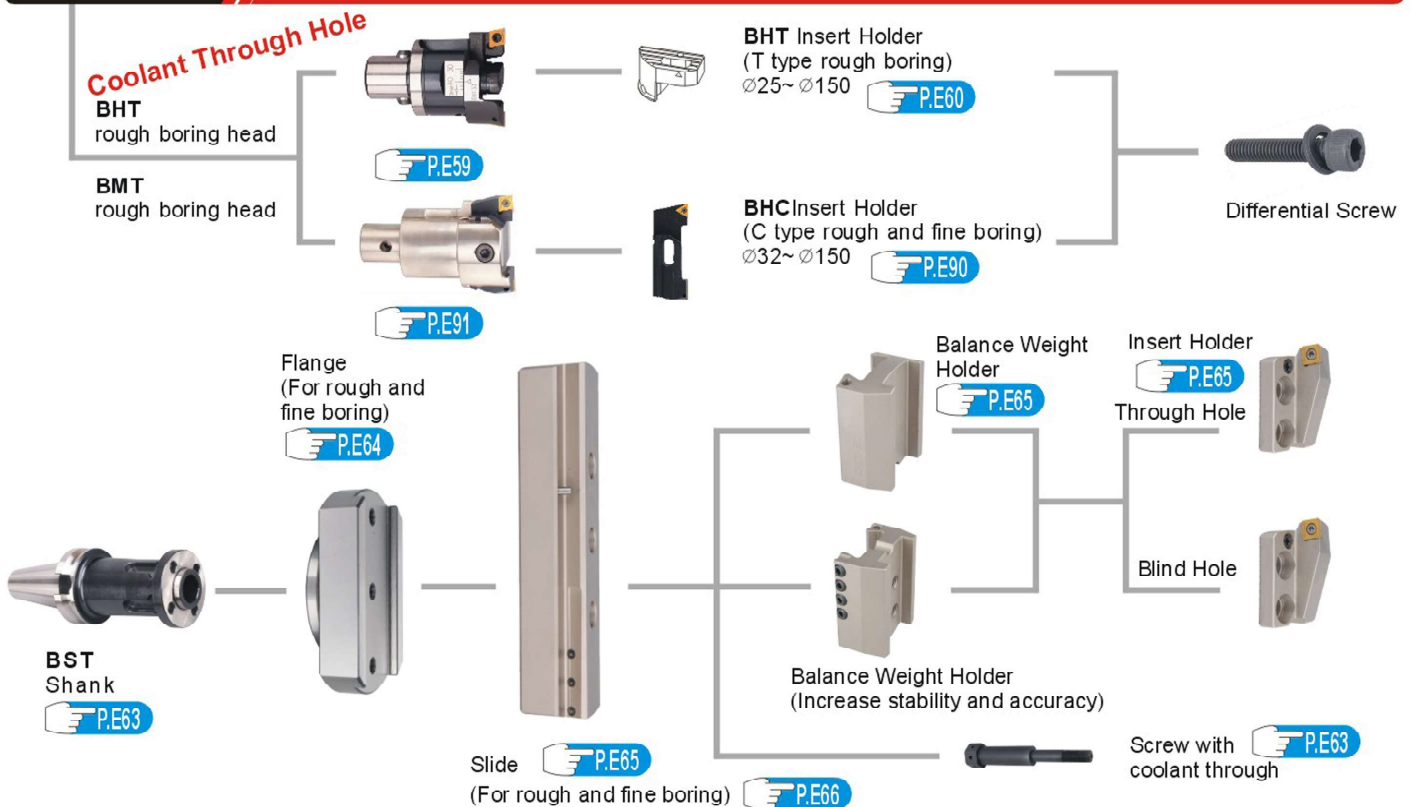


BORING HEAD

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

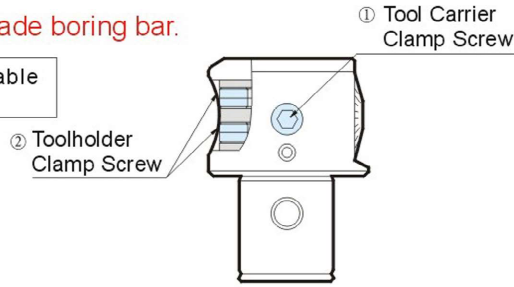
BHW Depth boring & hard alloy made boring bar.
Small Dia Boring Head

PE43~49

Range
Ø8~Ø50
BHW2-22, 2-32, 2-50



Min. adjustable dia. 1µm



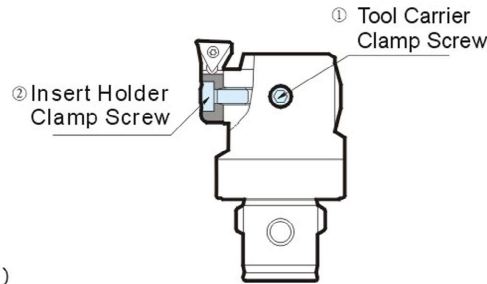
Model

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

BHF
Small Dia Boring Head

PE49~50

Range
Ø20~Ø203
Super precision boring
BHF Boring Head (Back boring too)



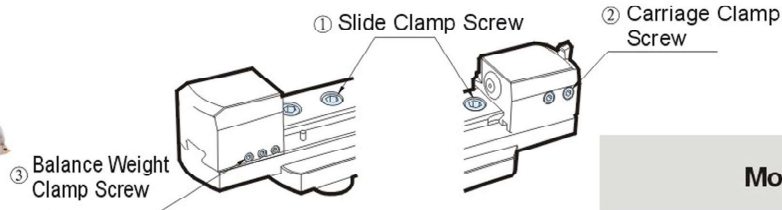
Model

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

BHF
Large Dia. Boring Head

PE53~56

Range
Ø150~Ø880



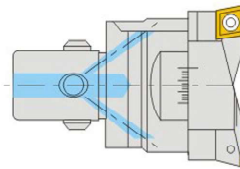
Model

BHF150-830BST

BHT
Boring Heads

PE59~62

Range
Ø25~Ø150
Adopting 3-faces wrapping to enhance rigidity

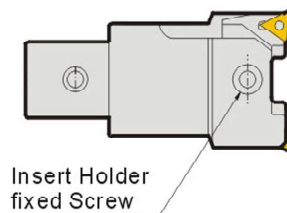


BHT25	BHT62
BHT32	BHT88
BHT44	BHT125

BHC
Boring Heads

PE89~92

Range
Ø32~Ø150
Adopting 3-faces wrapping to enhance rigidity



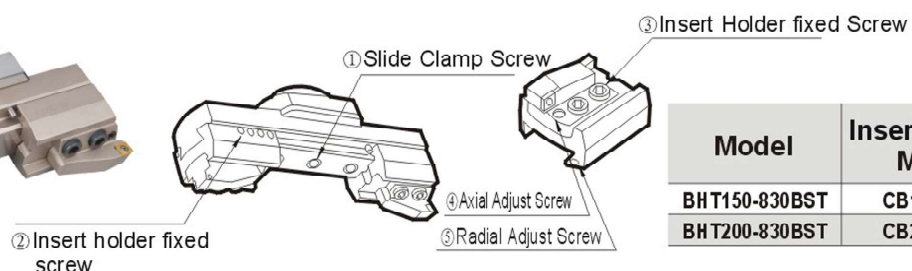
Model

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

BHT
Large Dia. Boring Head

PE63~66

Range
Ø150~Ø830



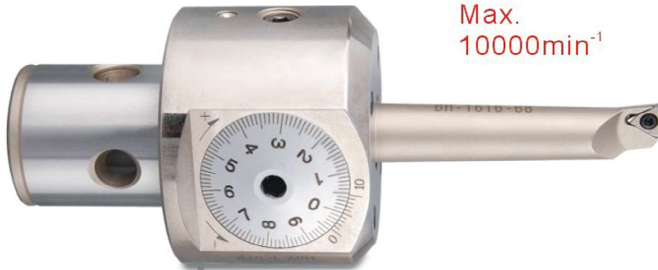
Model	Insert holder Model
BHT150-830BST	CB150-200
BHT200-830BST	CB200-550



Fine Boring System

BHW

Small Diameter Fine Boring Head

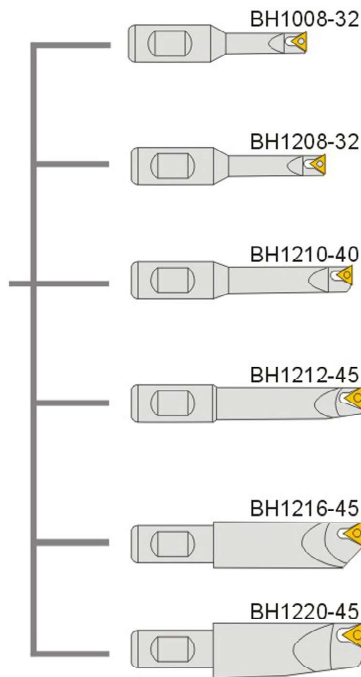


Max.
10000min⁻¹

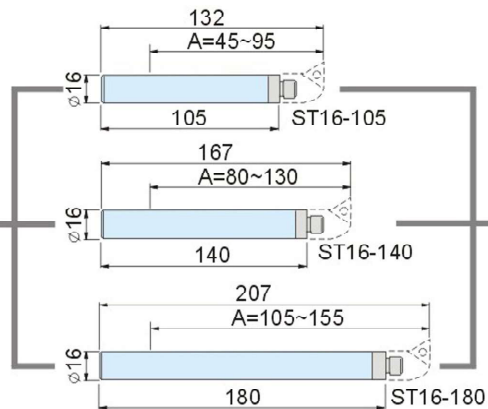
Boring Range: $\varnothing 8 \sim \varnothing 50$

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

EBN Small Boring Heads

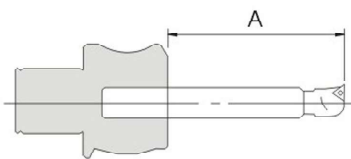
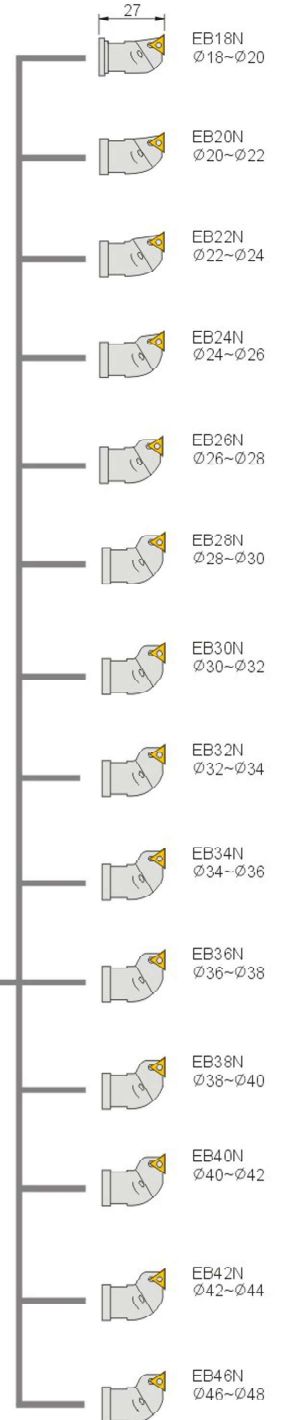


Refer to page E45 for Boring Bar



Refer to page E44 for Boring Bar

Refer to page E67 ~ 71 for Shank



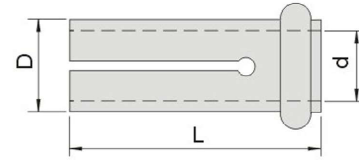
A: length which exposed outside the boring head.

BORING HEAD

59960 EC Collet For Solid Carbide Boring Bar

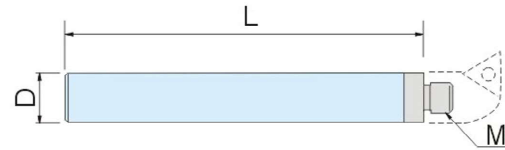
Unit:mm

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



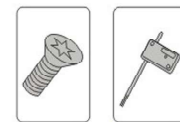
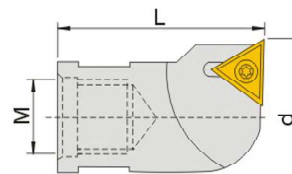
Processing depth does not exceed 6 times the diameter.

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



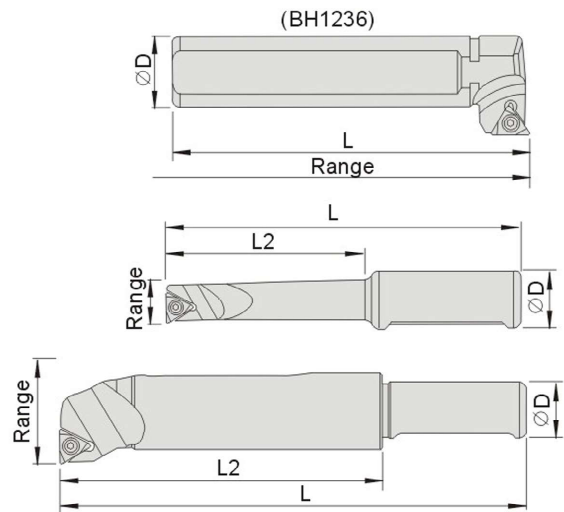
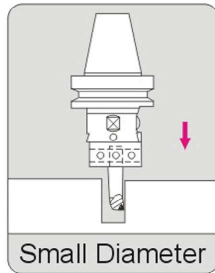
P.E76 P.E77 Unit:mm

Order No.	Model	d	L	M	Boring Range \varnothing	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			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	27	M10	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.

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			
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			
59982-1236	BH1236		70-150	60	60			
59982-1200	BH12(SET)	BH1208-32 BH1210-40 BH1212-45 BH1216-45 BH1220-45						

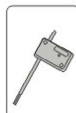
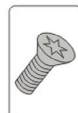
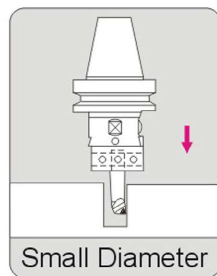
Order No.	Model	D	Range	L	L2	Insert		
59984-1606	BH1606-24	16	6-8	73	24	WBG0601..	SB-1STR-M2	T6
59984-1608	BH1608-32		8-10	80	32			
59984-1610	BH1610-40		10-12	87	40	TBGT0601..	SB-2TR-M2.5	T8
59984-1612	BH1612-53		12-16	98	53			
59984-1616	BH1616-68		16-20	110	68			
59984-1620	BH1620-83		20-25	125	83	TPGH0902..	SB-3TR-M3	T10
59984-1625	BH1625-90		25-30	128	90			
59984-1630	BH1630-90		30-40	128	90			
59984-1600	BH16(SET)		BH1606-24 BH1608-32 BH1610-40 BH1612-53 BH1616-68 BH1620-83 BH1625-90 BH1630-90					

BORING HEAD

59990~92

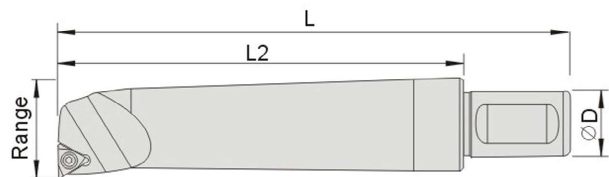
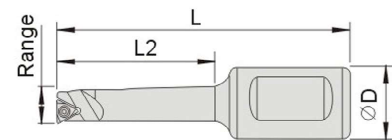
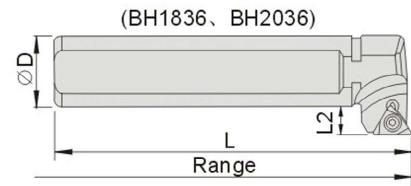
BH

Precision Boring Tool



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							



BORING HEAD

Fine Boring System

60000

BHW

Small Diameter Fine Boring Head



● Model

60000-01

BHW

2-22

CK4

● Order No.

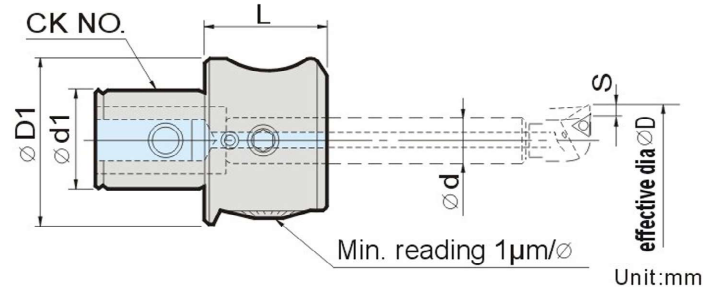
● BHW

● 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

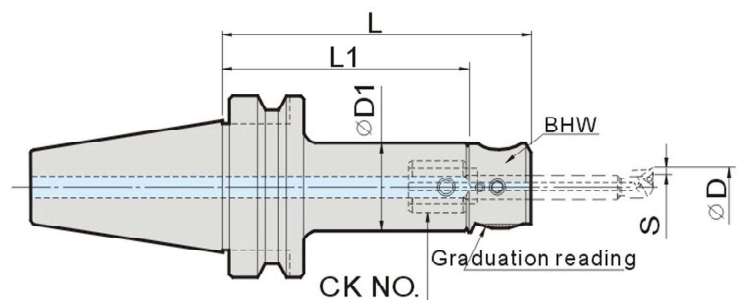
● Order No.

● 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



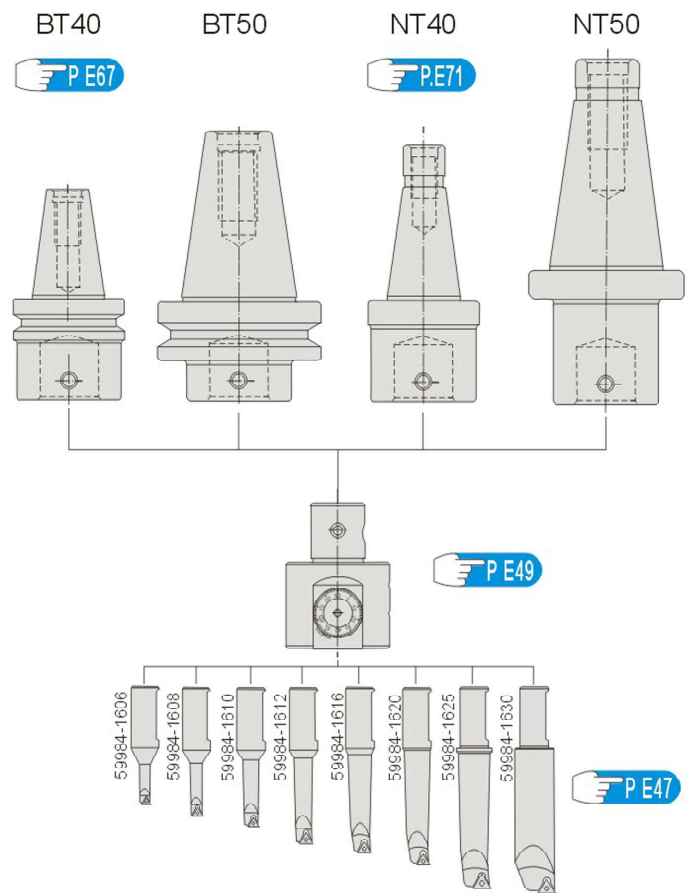
BT40(SET)



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

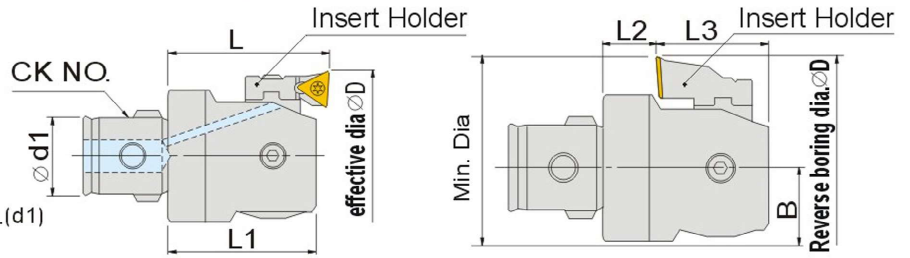
CK1

● Order No.

● BHF

● Range

● CK NO.(d1)



Min. dia = B+(reverse / 2)

Unit:mm

Order No.	Model	CK NO.	d1	Insert Holder	Boring			Reverse			N.W.	Insert	
					Range \varnothing D	L	L1	Range \varnothing 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

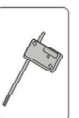


Features :

▶ 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 BHF 100-203CK6 BHF 100-203CK7 BHF 150	60049-01	F6-1E	Match insert TC11	BHF 68-150CK6 BHF 100-203CK6 BHF 100-203CK7 BHF 150
60043-02	F3-2			60046-02	F6-2			60049-02	F6-2E		
60043-03	F3-3			60046-03	F6-3			60049-03	F6-3E		

BORING HEAD

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:



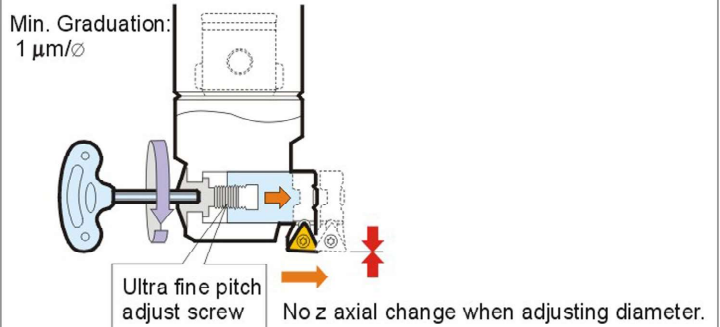
only change the insert holder and enlarge boring range and improve the elimination of chips.



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.



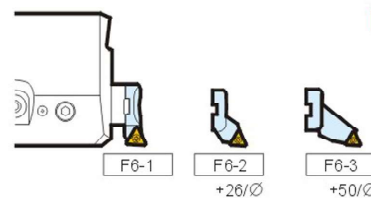
BHF150 >> **BHF150 Fine Boring Head (for large diameter)**

Feature 1:

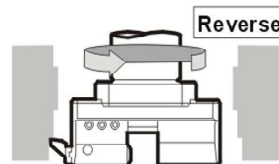


▶ Emphasis on operability which by one allen key.

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



Feature 3:



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



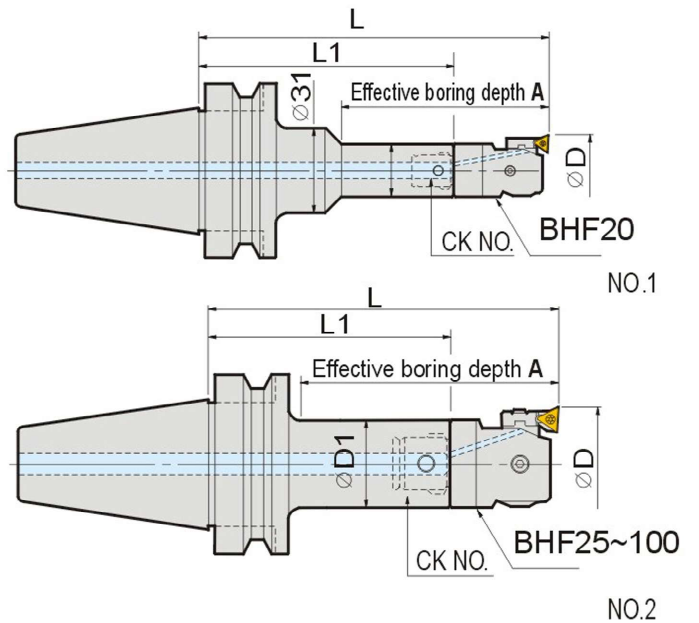
BORING HEAD

Fine Boring System

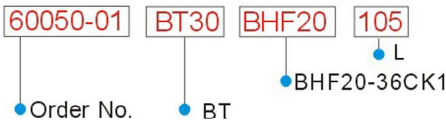
60050

BHF

Small Dia. Fine Boring Head+Shank



● Model



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
60050-12	-BHF25-120	-CK2-84	BHF 25	119.5	84	24	25-33	88	2	1.3kg
60050-15	-BHF32-135	-CK3-95	BHF 32	135	95	31	32-42	103	2	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
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		240	169			197	8.5kg	
60050-44	-BHF68-300	-229	300	229	257	10kg				
60050-48	-BHF100-165	-CK6-94	BHF 100	165	94	64	68-100	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

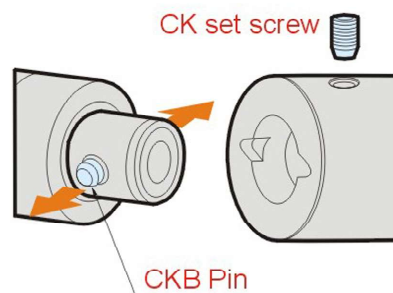
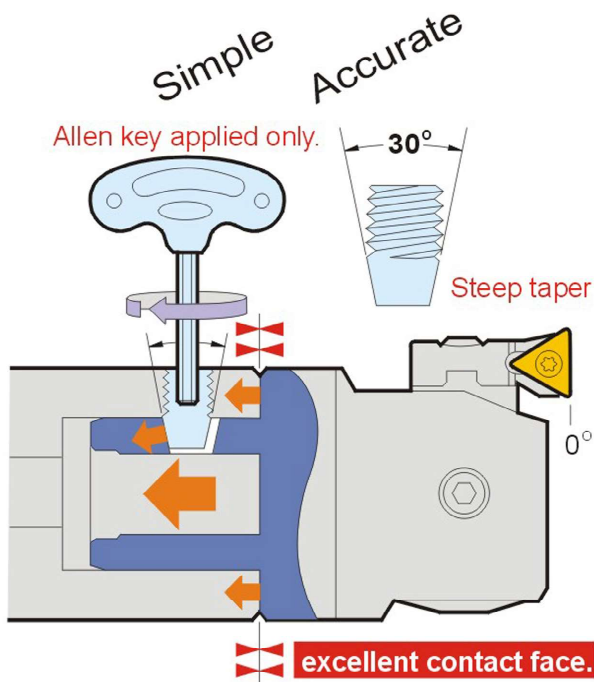
Refer to page E74~75 for Insert

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.



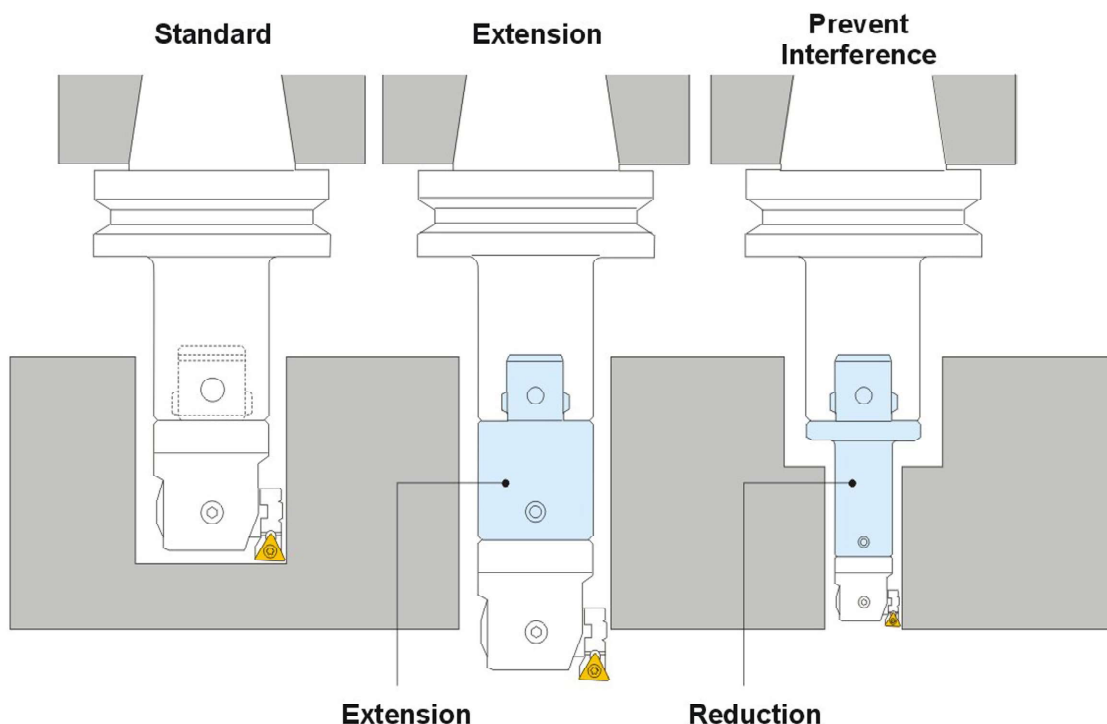
CK No.	Force
CK1	600kg
CK2	1,100kg
CK3	1,400kg
CK4	3,000kg
CK5	4,700kg
CK6	7,100kg
CK7	16,200kg

※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

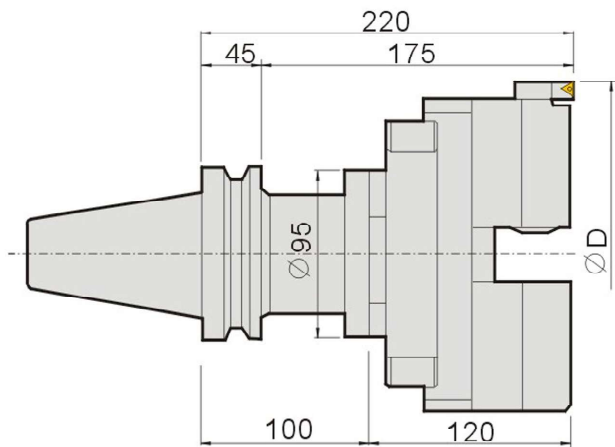
BHF

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

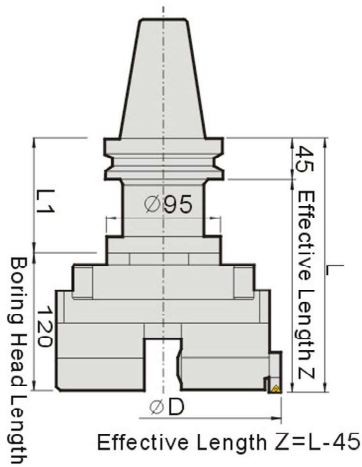
Collocation table

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 Insert Holder F6-1 included.	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								
		60120-02 FL220	4.0			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

Unit:mm

Note: Shank BT50-BST


 Refer to .E64
BST(**60118**)

 Refer to .E65 (**60120**)

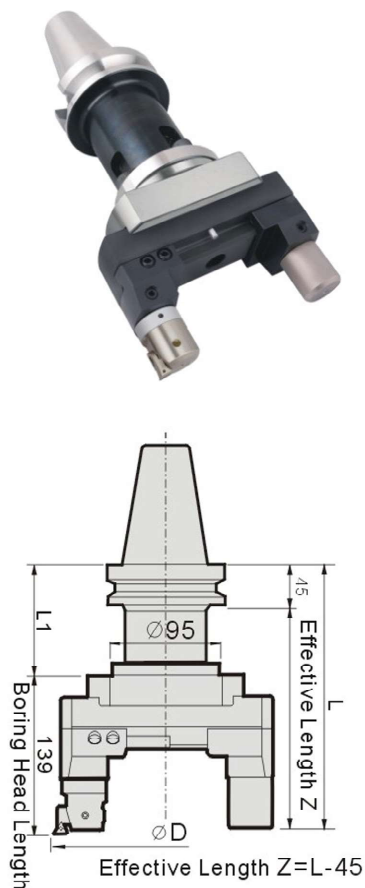
Order No.	Model	Range Ø D	BST	BHF	L	L1	N.W.
60061-01	BT50-BHF150-270	150~200	60118-08 BT50-BST150	BHF150	270	150	13.0kg
60061-02	BHF200-270	200~270		BHF200			14.0kg
60061-03	BHF270-270	270~340		BHF270			15.4kg
60061-04	BHF340-270	340~410		BHF340			16.8kg
60061-05	BHF410-270	410~480		BHF410			18.2kg
60061-06	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



BORING HEAD

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 ∅D	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

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	FL220 (4.0kg)	SL480-550AL (3.20kg)	463	刀片座 F4-1	
60066-07	BHF371-452CK4-L	550~620		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 $\varnothing 100 \sim \varnothing 203$

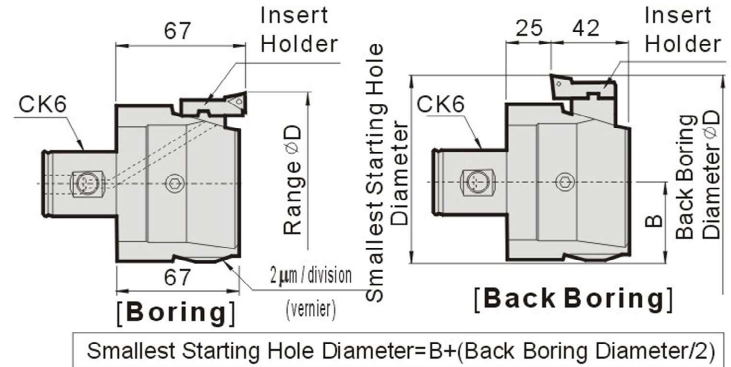
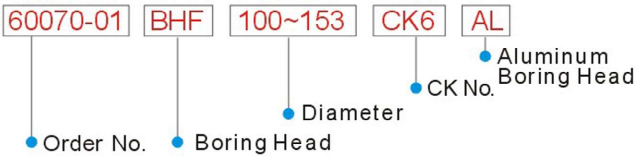


Coolant Through Hole
V Max. 2,000m/min.
2,000m/min

Note:

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

Model Instruction.



Order No.	Model	CK No.	Boring			N.W.	Insert Holder	Insert
			Diameter $\varnothing D$	Diameter $\varnothing D$	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

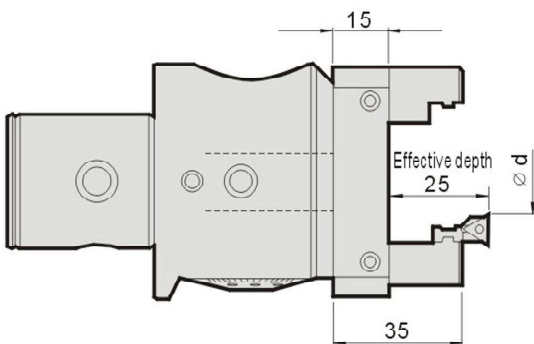
The max. allowable cutting speed for BHF boring head is 2000m/min, condition of shank length, rigidity of machine and workpieces.

60072

BHW

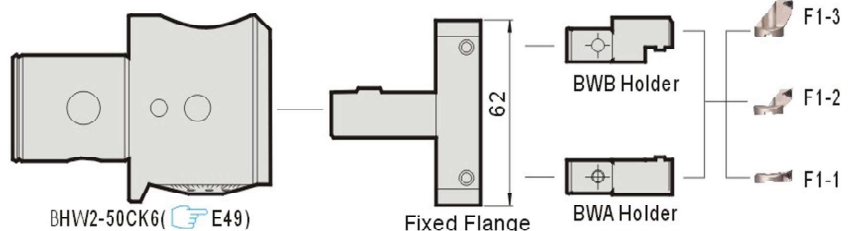
Fine Boring Head (Type S)

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



Note:

- ▶ Min. O.D $\varnothing 2.5$ mm to Max. O.D $\varnothing 32$ 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 $\varnothing d$	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

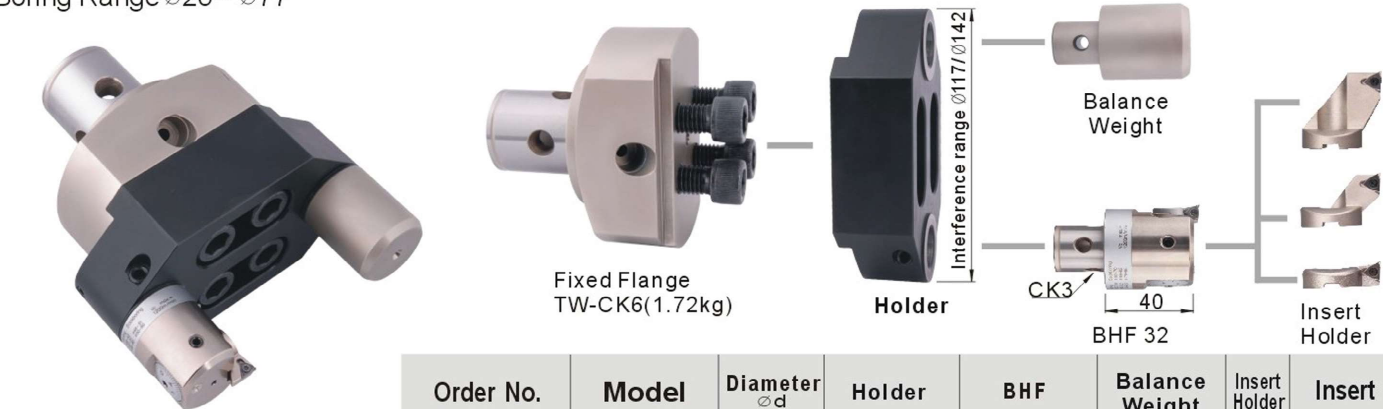
Optional Insert P.E74

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	BHF32-60CK3 (0.21kg)	BW-CK3-BHF (0.21kg)	F3-3	 TP08
60074-02	BHF34-43CK6-M	34~43	SL34-52CK3				
60074-03	BHF43-52CK6-M	43~52	SL43-52CK3				
60074-04	BHF50-59CK6-M	50~59	SL50-77CK3				
60074-05	BHF59-68CK6-M	59~68	SL59-77CK3				
60074-06	BHF68-77CK6-M	68~77	SL68-77CK3				

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		SL410-480 (7.7kg)	393		
60075-06	BHF301-382CK4-L	301~382	SL480-550 (9.1kg)	463	Insert Holder F4-1		
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

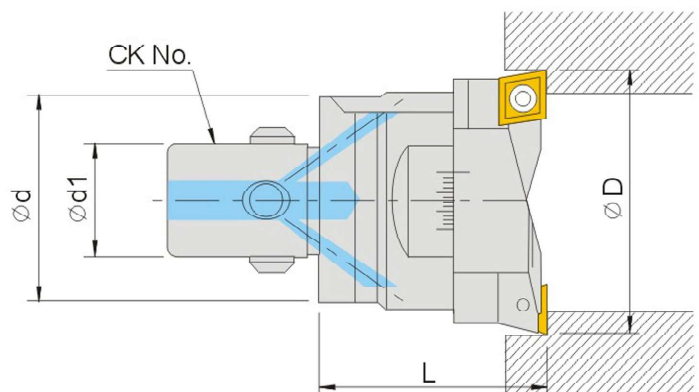
BHT

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

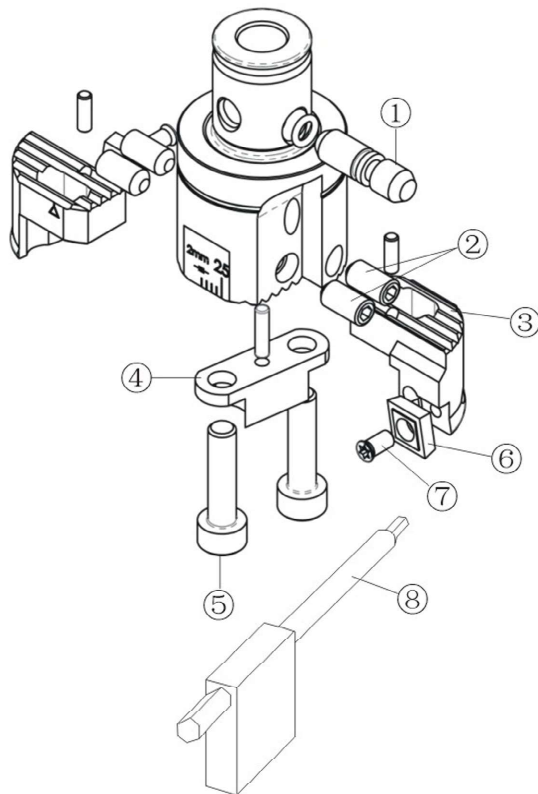


Unit:mm

Order No.	Model	CK No.	$\varnothing d_1$	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
60086-03		BHT44	-BHT44-03		
60086-04		BHT62	-BHT62-03	X.0846-M060P0100-0200	
60086-05		BHT88	-BHT88-03	X.0846-M080P0125-0250	CCMT1204
60086-06		BHT125	-BHT125-03	X.0846-M100P0150-0250	

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-3036-T15
60088-03		BHT44		
60088-04		BHT62	X.0837-M050P080-0110	
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

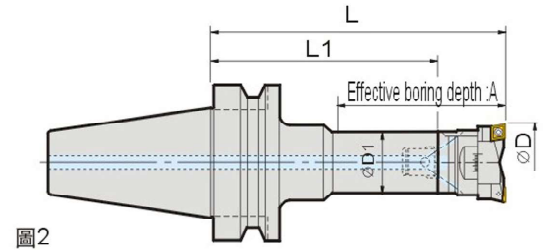
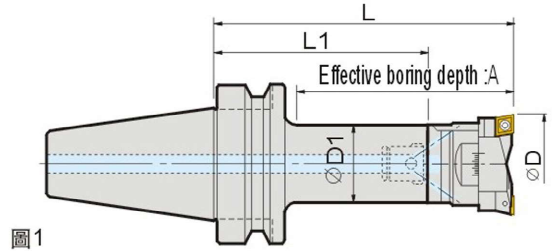
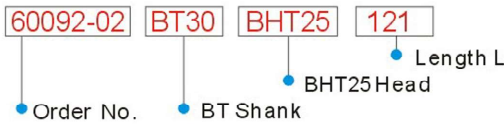
60092 BHT/BT Twin-cutter Rough Boring Head + Shank



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

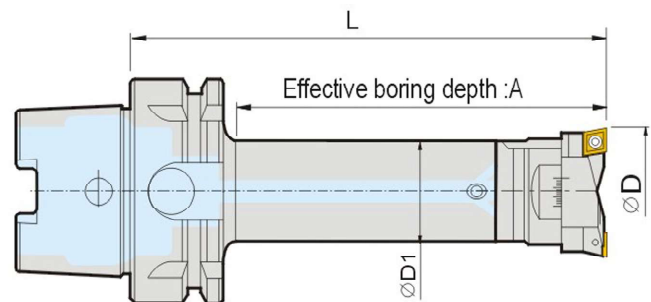
Order No.	Model	CK	BHT	Effective $\varnothing D$	A	$\varnothing D1$	L1	L	N.W.
60092-02	BT30-BHT25-121	BT30-CK2-84	BHT25	25-33	93	24	84	121	1.26kg
60092-04	BHT32-117	CK3-80	BHT32	32-45	89	31	80	117	1.34kg
60092-06	BHT44-120	CK4-73	BHT44	44-63	91	39	73	119.5	1.11kg
60092-08	BHT62-118	CK5-63	BHT62	62-89	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

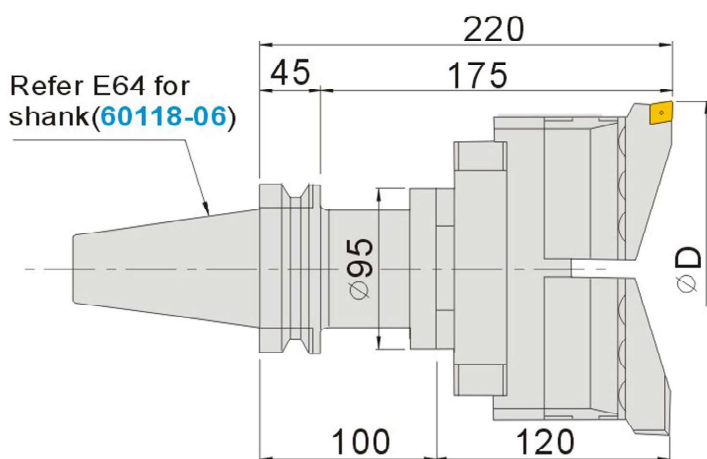
Order No.	Model	CK	BHT	Effective $\varnothing D$	A	$\varnothing D1$	L	N.W.
60094-01	HSK50A-BHT25-115	HSK50A-CK2-080	BHT25	25-33	85	24	115	0.70kg
60094-02	HSK50A-BHT32-130	-CK3-095	BHT32	32-45	100	31	130	0.89kg
60094-03	HSK50A-BHT44-135	-CK4-088	BHT44	44-63		39		1.23kg
60094-04	HSK50A-BHT62-135	-CK5-078	BHT62	62-89	105	50	135	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		1.63kg
60094-08	HSK63A-BHT62-135	-CK5-078	BHT62	62-89	105	50	135	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

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

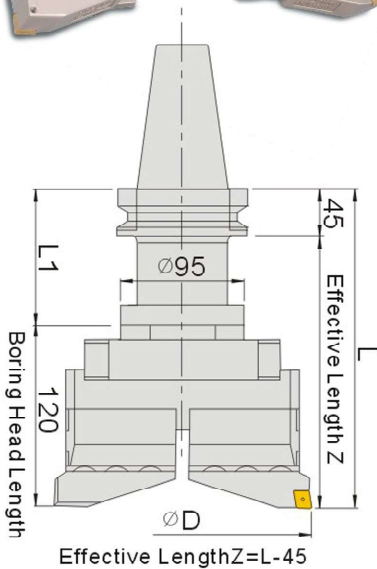


60128
Model: **BST-CNB1**

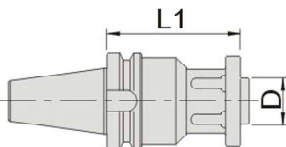
Coolant is fed to the cutting edges trough the hex head of the coolant bolt.

**Coolant Bolt cannot be used for boring with Ø185mm or less due to it interferes with the head.

BORING HEAD

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


BST Shank



Note: Shank BT50-BST

Unit:mm

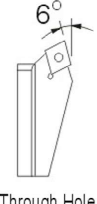
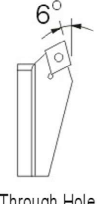
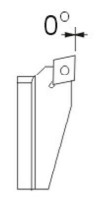
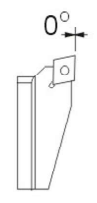
Order No.	Model	effective dia ØD	BST	BHT	L	L1	N.W.
60111-01	BT50-BHT150-270	150~200	60118-08 BT50-BST 150	BHT150	270	150	13.6kg
60111-02	BHT200-270	200~270		BHT200			15.2kg
60111-03	BHT270-270	270~340		BHT270			16.6kg
60111-04	BHT340-270	340~410		BHT340			18.0kg
60111-05	BHT410-270	410~480		BHT410			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	 6° Through Hole	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	 6° Through Hole	0.75	SC12								
				SL620-690	603	12.0													
				SL690-760	673	13.5													
				SL760-830	743	14.9													
				60120-01 FL135	2.75	SL150-200						135	2.5	CB150-200 60122-01	1.6	60123E BHT150E	 0° Blind Hole	0.75	CC12
						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	 0° Blind Hole	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.

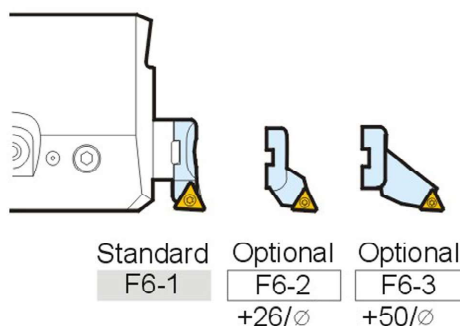
● Balance Weight:

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

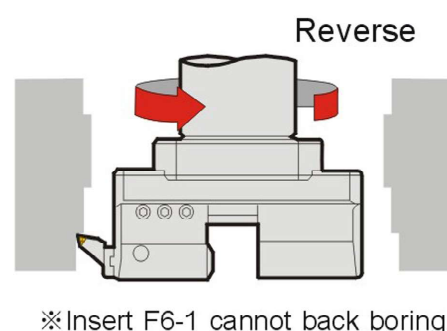
Order No.	Model	Dia. Applicable	Head	Slide
60068-01	BWN150-200	∅150~∅200	BHF150	SL150-200(AL)
60068-02	BWN200-550	∅200~∅830		SL200-270(AL)以上



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.

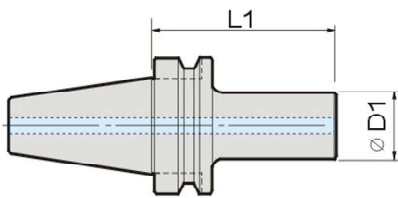
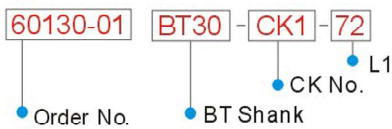


Fig. 1

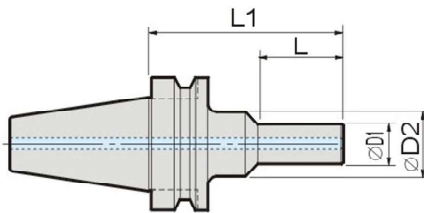


Fig. 2

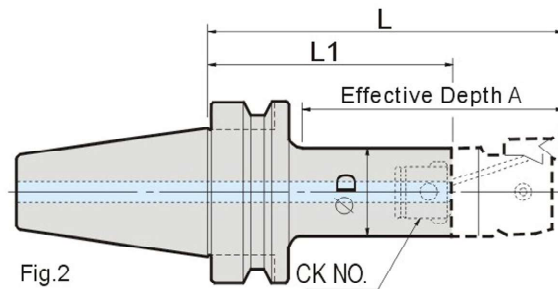
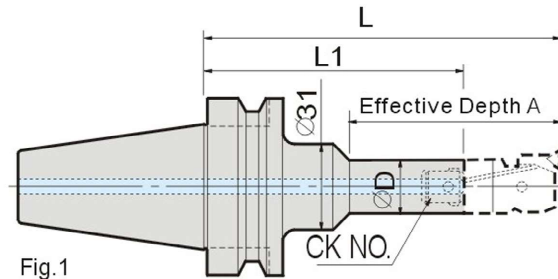
Order No.	Model	CK NO.	$\varnothing D1$	$\varnothing D2$	L1	L	N.W.
60130-01	BT30-CK1-72	1	19	31	72	35	0.44kg
60130-02	BT30-CK2-40	2	24	-	40	-	0.40kg
60130-03	BT30-CK2-84	2	24	-	84	-	1.15kg
60130-04	BT30-CK3-40	3	31	-	40	-	0.40kg
60130-05	BT30-CK3-80	3	31	-	80	-	1.15kg
60130-06	BT30-CK4-40	4	39	-	40	-	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

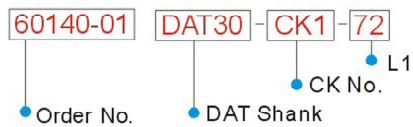
60140

DAT/CK

Shank for Rough & Fine Boring System



Model Instruction.



Unit:mm

Order No.	Model	CK No.	ØD	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

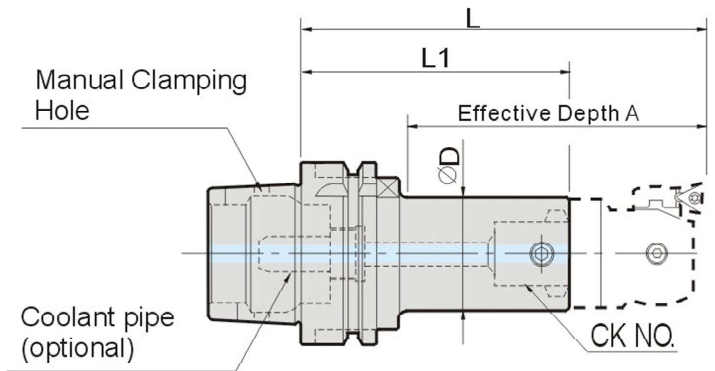
Suitable for Boring Head at page. E49/51/55/56/59/60

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

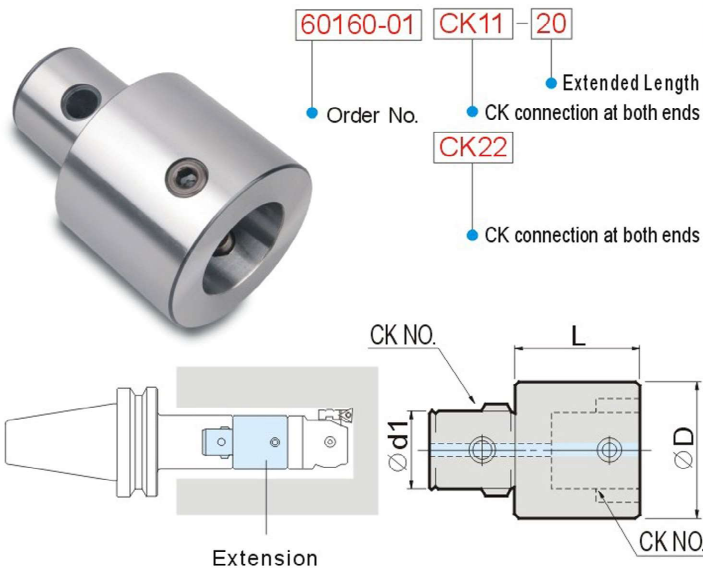
Suitable for Boring Head at page. E49/51/55/56/59/60



BORING HEAD

60160 CK Equal Diameter Extension Adapter

Model Instruction.



Note:

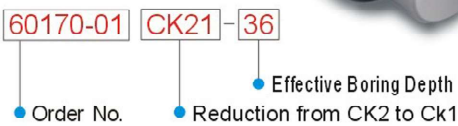
- ▶ Mounted between Shank and Head, the capability is extended.
- ▶ Please be aware of possible vibration when L (Length)/D(∅) ratio become large.

Unit:mm

Order No.	Model	CK No.	∅d1	∅D	L	N.W.
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

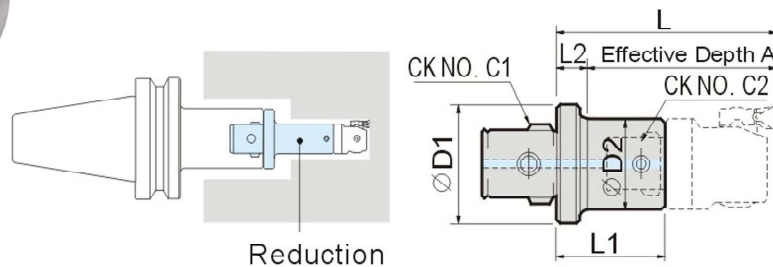
60170 CK Reducing Change Adapter(Big to Small)

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	∅D1	∅D2	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	87	75	52	12	0.16kg
60170-04	CK41-58		1		19					90
60170-05	CK42-52	5	2	50	31	87	70	52	20	0.28kg
60170-06	CK43-47		3		24					87
60170-07	CK51-58	6	1	64	19	99	65	66	34	0.38kg
60170-08	CK52-52		2		24					87
60170-09	-82	6	3	50	117	100	82	82	17	0.51kg
60170-10	CK53-47				3					31
60170-11	-77	6	4	64	117	100	77	77	16	0.64kg
60170-12	CK54-40				4					39
60170-13	-70	6	5	50	117	100	70	70	16	0.82kg
60170-14	CK61-66				1					19
60170-15	CK62-60	6	2	64	24	96	80	60	16	0.69kg
60170-16	-95		3		31					131
60170-17	CK63-56	6	4	64	31	96	80	56	16	0.75kg
60170-18	-91				4					39
60170-19	CK64-49	6	5	50	39	96	80	49	16	0.80kg
60170-20	-84				5					50
60170-21	CK65-39	6	5	50	50	96	80	39	16	0.92kg
60170-22	-74				5					50

Fine Boring System

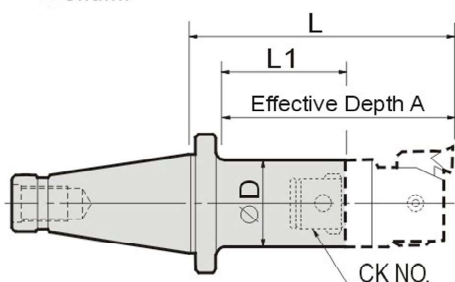
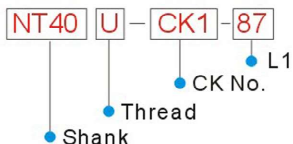
60180

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			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.

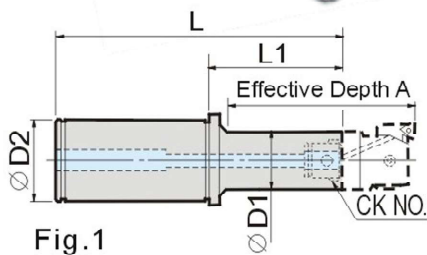


Fig.1

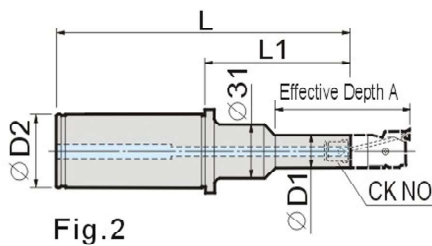


Fig.2

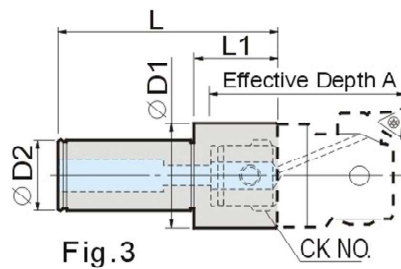


Fig.3

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		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		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

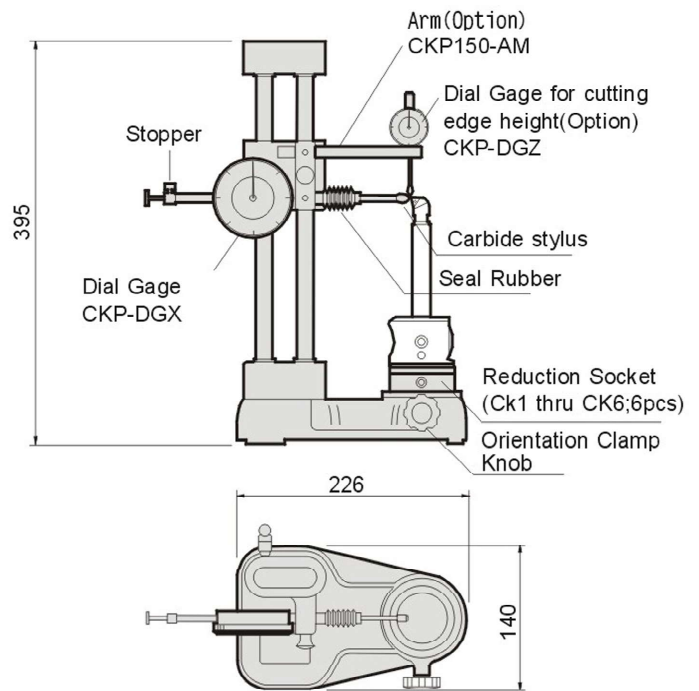
60200 CKP150 Tool Presetter



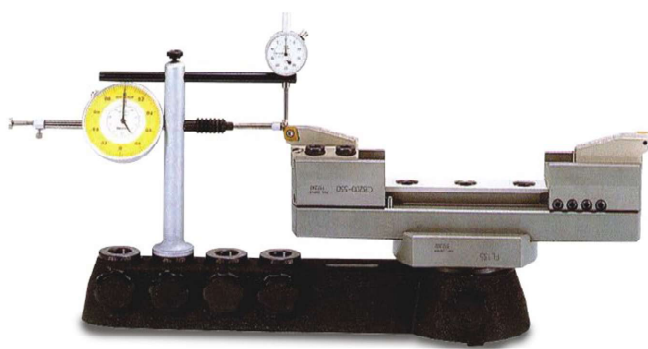
Order No.	60200
Model	CKP150
Measuring capacity	Radial: 0~ \varnothing 150mm(CK1~CK6)
CK No.	Radial: 0.02mm/ \varnothing
Min. scale	CK1~CK6
Max. tool height	227
Master gage	N50 \pm 0.005
Read method	Direct reading of diameter
Weight	6.5kg

Note:

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



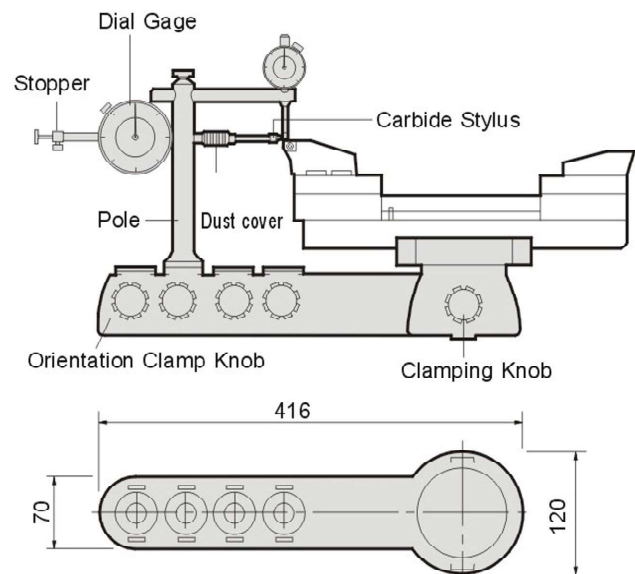
60210 CKP550 Tool Presetter



Order No.	60210
Model	CKP550
Measuring capacity	\varnothing 100~550mm(CK7)
CK No.	Ck7 only
Min. scale	Radial: 0.02mm/ 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

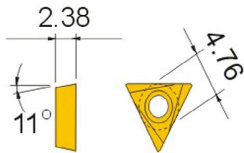
Features :

- ▶ 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



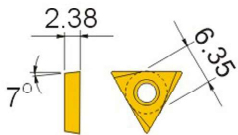
No.	Insert Model	Nose Radius	Workpiece Material	Grade	Material	
1	TPMT080202N-LU	0.2	Steel	T1500A	Cermet (class M)	
2	TPMT080204N-LU	0.4		T2000Z	Coated cermet	
3	TPMT080202N-LU	0.2		T1500A	Cermet (class G)	
4	TPMT080204N-LU	0.4		T1500Z	Coated cermet	
5	TPGT080202L-W	0.2	Steel	T1500Z	Coated cermet	
6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



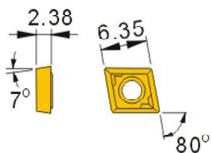
BORING HEAD

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

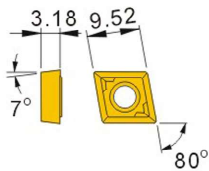
Features :

- ▶ 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

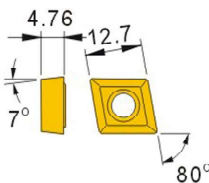


No.	Insert Model	Nose Radius	Workpiece Material	Grade	Material
1	CCGT090301N-SC	0.1	General Steel.	T1500A	Cermet
2	CCGT090302N-SC	0.2			
3	CCMT090308N-SC	0.8	Stainless steel	AC630M	Stainless steel with breaker

60540

CC12

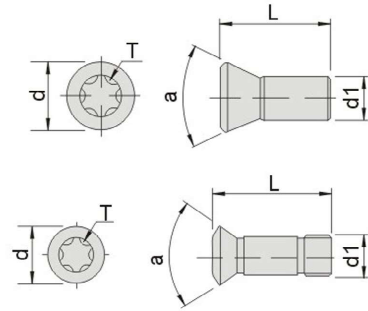
Indexable Insert



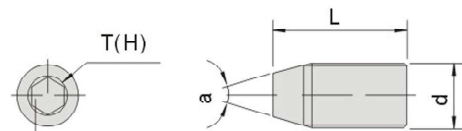
No.	Insert Model	Nose Radius	Workpiece Material	Grade	Material
1	CCMT120404N-FP	0.4	General Steel.	T1500A	Cermet
2	CCMT120408N-FP	0.8			
3	CCMT120404N-FP	0.4		AC820P	Coated carbide
4	CCMT120408N-FP	0.8			
5	CCMT120408N-FP	0.8			
6	CCMT120408N-SU	0.8	Stainless steel	AC630M	Stainless steel with breaker
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

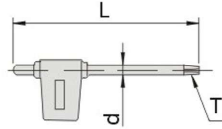
60560
Set Screw


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


BORING HEAD

Fine Boring System

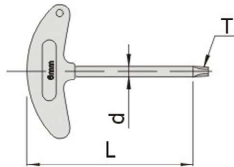
60570 Torx Wrench



Unit:mm

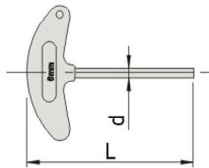
Order No.	Wrench Model	Dimension		
		d	L	T
60570-01	T6	2.5	84	6
60570-02	T8	3	86	8
60570-03	T10	3	90	10
60570-04	T15	5	94	15
60570-05	T20	5	94	20

60580 T-Handle Allen Key



Unit:mm

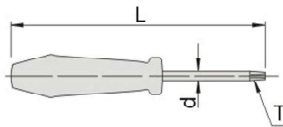
Order No.	Wrench Model	Dimension		
		d	L	T
60580-00	T30T	6	120	30



Unit:mm

Order No.	Wrench Model	Dimension		
		d	L	T
60580-01	TH-20	2	58	2
60580-02	TH-25	2.5	66	2.5
60580-03	TH-30	3	72	3
60580-04	TH-40	4	76	4
60580-05	TH-50	5	92	5
60580-06	TH-60	6	102	6

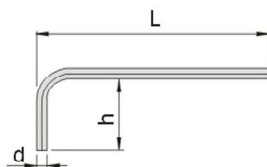
60590 Torx Screwdriver



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.

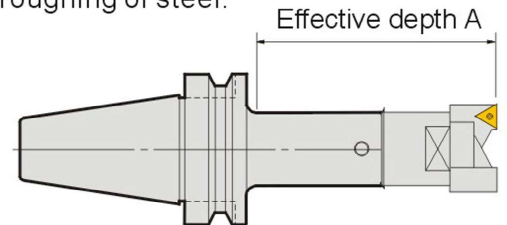


Fine Boring System

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/∅)		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/∅)		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)	≤∅340	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
	>∅340	172	0.8	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



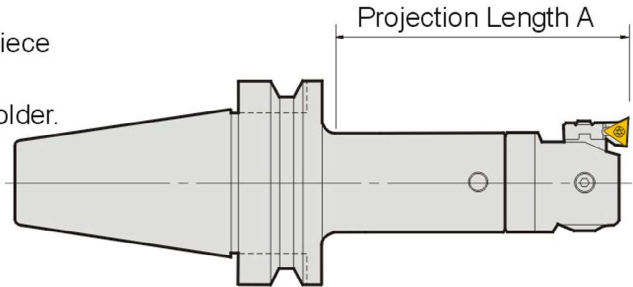
BORING HEAD

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	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