

Locating Pins for Jigs & Fixtures

Tip Shape Selectable, Threaded/Set Screw Mounting

Shouldered Type

Type	Material	Hardness
Threaded		
RANA	4137 Alloy Steel	Treated Hardness 35-40 HRC min.
RAND	4137 Alloy Steel	Treated Hardness 35-40 HRC min.
TRANA	4115 Alloy Steel	Carburized Treated Hardness 55 HRC min. (Depth 0.7-0.8) Anti-Carburizing on Threads
TRAND	4115 Alloy Steel	Carburized Treated Hardness 55 HRC min. (Depth 0.7-0.8) Anti-Carburizing on Threads

*A30=R10
A60, 90, 120=R3, however, for A90 and 120 of B Shape, only edge part will be removed as the tip becomes short.
Reference: $\sin 15^\circ=0.259$ $\sin 30^\circ=0.5$ $\sin 45^\circ=0.707$
 $\tan 15^\circ=0.267$ $\tan 30^\circ=0.577$ $\tan 45^\circ=1$

Tip Shape The center hole remains.

Tapered

A Shape

B Shape

Tip Shapes Select from the diagram on the right.

Threaded

Set Screw

Retaining Part Shape

N (Threaded)

T (Set Screws)

B (Screw Mounted)

Round

Diamond

Retaining Part Shape Select from the figure on the left.

Round

Diamond

Shouldered

Type	Tip Shape	D _{h7}	P 0.1 mm Increment	B 1 mm Increment	L Selection	A Selection	E (Shape A) 1 mm Increment	ℓ	L ₁	ℓ ₁	d	Applicable Set Screw	H	R ₁	W
Hardened (Round)	A	6	3.0-7.0	5-30 (B≤Px4)	5 8 10	30	3-10	6	8	8	4	M5	9	1	1-2
		8	3.0-9.0		5 8 10 12 15	10		5	5		11		1.5		
		10	4.5-12.0		(5) (8) 10 12 15	12		7	7		13		2		
		10T	9.0-13.0		(8) 10 12 15 18	15		9	9		15		3		
(Diamond)	B	12	13.0-16.0	(5) (8) 10 12 15 18 20	(8) 10 12 15 18	120		15	10	10	9	M8	15	3	4
		16	13.0-16.0		(10) 12 15 18 20	18		13	13		19		3	5	

⊙ W Dimension D6, 8, 10, 10T: W=1 when P>5.0. D10, 10T: W=1 when P<5.0; W=2 when 5.0≤P≤7.0; W=3 when P>7.0. ⊗ L dimension in () is not applicable to diamond shape.

No Shoulder Type

Type	Material	Hardness
Threaded		
RNNA	4137 Alloy Steel	Treated Hardness 35-40 HRC min.
RNND	4137 Alloy Steel	Treated Hardness 35-40 HRC min.
TRNNA	SCM415 Alloy Steel	Carburized Treated Hardness 55 HRC min. (Depth 0.7-0.8) Anti-Carburizing on Thread
TRNND	SCM415 Alloy Steel	Carburized Treated Hardness 55 HRC min. (Depth 0.7-0.8) Anti-Carburizing on Thread

*A30, 60 = R10
A90, 120 = R3
Reference: $\sin 15^\circ=0.259$ $\sin 30^\circ=0.5$ $\sin 45^\circ=0.707$
 $\tan 15^\circ=0.267$ $\tan 30^\circ=0.577$ $\tan 45^\circ=1$

Tip Shape The center hole remains.

Tapered

A Shape

B Shape

Tip Shapes Select from the diagram on the right.

Threaded

Set Screw

Retaining Part Shape

N (Threaded)

T (Set Screws)

B (Screw Mounted)

Round

Diamond

Retaining Part Shape Select from the figure on the left.

Round

Diamond

No Shoulder

Type	Tip Shape	D _{h7}	P 0.1 mm Increment	B 1 mm Increment	L Selection	A Selection	E (Shape A) 1 mm Increment	ℓ	L ₁	ℓ ₁	d	Applicable Set Screws	R ₁	W
Hardened (Round)	A	6	9.0-12.0	5-30 (B≤Px3)	5 8 10	30	3-10	6	8	8	4	M5	3	3
		8	11.0-16.0		5 8 10 12 15	10		5	5		3.5			
		10	13.0-20.0		(5) (8) 10 12 15	12		7	7		4			
		10T	15.0-25.0		(8) 10 12 15 18	15		9	9		5			
(Diamond)	B	16	19.0-32.0	(5) (8) 10 12 15 18 20	(8) 10 12 15 18	90		18	10	10	9	M8	6	8
		20	23.0-35.0		(10) 12 15 18 20	18		13	13		8			
					12 15 18 20	22		17	17		9			

⊗ L dimension in () is not applicable to diamond shape.

Part Number Example

Part Number: **P** - **B** - **L** - **A** - **E**

RANA A 10 - P8.8 - B10 - L10 - A30 - E5
RNTA B 10 - P15.0 - B15 - A60

Part Number Alterations

Part Number: **P** - **B** - **L** - **A** - **E** - (KC / SC)

RNNDA10 - P13.8 - B10 - L10 - A60 - E5 - KC

Application Example

Work insertion and extraction is smooth as the insertion guide has an R shape.

Machines Edge

Workpiece

Alterations	Grooves for Wear Sign	Flat Position	Wrench Flats	Flat Machining	Thread Dia.	Relief
Code	MK	KC	SC	KD	MC	NNC
Spec.	Machine 4 grooves on B Dimension. The wear and tear of the grooves indicate the degree of wears. ⊙ Applicable to Hardened, Carburized and Round Shape Products only ⊙ The groove starts from the area of R value + 1 mm. Groove Depth: 0.2mm Groove Shape: V Groove	Ordering Code: KC Changes the flat position to 90° from the standard position 0°. ⊙ Applicable to Diamond Shape Type only.	Ordering Code: SC Adds wrench flats. H 9 11 13 15 19 H ₁ 7 8 11 13 17	Ordering Code: KD Machining on one side. ⊙ Applicable to Round Shape Type only. ⊙ H-P≥2	Ordering Code: MC8 Changes the thread diameter. ⊙ D/3≤M<D Mmin3 ⊙ Applicable to Threaded only.	Ordering Code: NNC Adds a relief at the thread end. ⊙ Not applicable to Set Screw Type. ⊙ For damage prevention, Dicoat® treatment is not applicable.

Locating Pin for Jigs & Fixtures

Bullet Nose, Selectable Shank

Features: R shape at insertion guide enables smooth insertion of workpiece.

Shouldered Type

Type	Retaining Part Shape	Shape	Material	Hardness
HATA	N (Threaded)	Round	4137 Alloy Steel or Equiv.	Treated Hardness 35 ~ 40 HRC min.
HATD	T (Set Screws)	Diamond	4137 Alloy Steel	Treated Hardness 35 ~ 40 HRC min.
THATA	B (Screw Mounted)	Round	SCM415 Alloy Steel (JIS)	Carburized Hardness 55 HRC min. (Depth 0.7-0.8) Anti-Carburizing on Threads
THATD	B (Screw Mounted)	Diamond	SCM415 Alloy Steel (JIS)	Carburized Hardness 55 HRC min. (Depth 0.7-0.8) Anti-Carburizing on Threads

Reference: $\sin 15^\circ=0.259$ $\sin 30^\circ=0.5$ $\sin 45^\circ=0.707$
 $\tan 15^\circ=0.267$ $\tan 30^\circ=0.577$ $\tan 45^\circ=1$

Retaining Part Shape

N (Threaded)

T (Set Screws)

B (Screw Mounted)

Retaining Part Shape Select from the figure on the left.

Round

Diamond

Note the strength of under-head part for screw mounted. See P.1542

Type	Retaining Part Shape	D _{h7}	P 0.1 mm Increment	B 1 mm Increment	L Selection	ℓ	L ₁	ℓ ₁	d	Applicable Set Screw	M (Coarse Thread) Screw Mounted	H	R	W
Hardened (Round)	N (Threaded)	6	3.0-8.0	5-30 (B≤Px4)	5 8 10	6	8	8	4	M5	—	9	1	1-2
		8	3.0-10.0		5 8 10 12 15	10	5		5		11	1.5		
		10	4.5-12.0		(5) (8) 10 12 15	12	7		7		13	2		
		10T	9.0-14.0		(8) 10 12 15 18	15	9		9		15	3		
(Diamond)	B (Screw Mounted)	12	13.0-18.0	(5) (8) 10 12 15 18 20	(8) 10 12 15 18	15	10	10	9	M8	M4	11	1	1-3
		16	13.0-18.0		(10) 12 15 18 20	18	13		13		19	3	4	

⊙ W Dimension D6, 8, 10, 10T: W=1 when P>5.0. D10, 10T: W=1 when P<5.0; W=2 when 5.0≤P≤7.0; W=3 when P>7.0. ⊗ L dimension in () is not applicable to diamond shape.

No Shoulder Type

Type	Retaining Part Shape	Shape	Material	Hardness
HNTA	N (Threaded)	Round	4137 Alloy Steel	35 ~ 40 HRC min.
HNTD	T (Set Screws)	Diamond	4137 Alloy Steel	35 ~ 40 HRC min.
THNTA	B (Screw Mounted)	Round	SCM415 Alloy Steel	Carburized Hardness 55 HRC min. (Depth 0.7-0.8) Anti-Carburizing on Thread
THNTD	B (Screw Mounted)	Diamond	SCM415 Alloy Steel	Carburized Hardness 55 HRC min. (Depth 0.7-0.8) Anti-Carburizing on Thread

Reference: $\sin 15^\circ=0.259$ $\sin 30^\circ=0.5$ $\sin 45^\circ=0.707$
 $\tan 15^\circ=0.267$ $\tan 30^\circ=0.577$ $\tan 45^\circ=1$

Retaining Part Shape

N (Threaded)

T (Set Screws)

B (Screw Mounted)

Retaining Part Shape Select from the figure on the left.

Round

Diamond

With Surface Treatment

1.6^G changes to

Note the strength of under-head part for screw mounted. P.1542

Type	Retaining Part Shape	D _{h7}	P 0.1 mm Increment	B 1 mm Increment	L Selection	ℓ	L ₁	ℓ ₁	d	Applicable Set Screw	M (Coarse Thread) Screw Mounted	R	W
Hardened (Round)	N (Threaded)	6	9.0-12.0	5-30 (B≤Px3)	5 8 10	6	8	8	4	M5	—	3	3
		8	11.0-16.0		5 8 10 12 15	10	5		5		3.5		
		10	13.0-20.0		(5) (8) 10 12 15	12	7		7		4		
		10T	15.0-25.0		(8) 10 12 15 18	15	9		9		5		
(Diamond)	B (Screw Mounted)	16	19.0-32.0	(5) (8) 10 12 15 18 20	(8) 10 12 15 18	15	10	10	9	M8	M4	2	3.5
		20	23.0-35.0		(10) 12 15 18 20	18	13		13		5		
					12 15 18 20	22	17		17		6		

⊗ L dimension in () is not applicable to diamond shape and Dicoat® treatment.
⊙ HNTAT is no longer available. The alternative product is HNTAX.
⊙ D6 not available for screw mounted part types. ⊙ D16, D20 not available for D-HNTA, D-HNTD part types.

Part Number Example

Part Number: **P** - **B** - **L**

HATA N 8 - P7.8 - B15 - L8
HNTA T 8 - P12.0 - B15
HNTAX T 8 - P12.0 - B15

Part Number Alterations

Part Number: **P** - **B** - **L** - (KC / SC)

HATDB8 - P4.5 - B10 - L12 - KC

Alterations	Grooves for Wear Sign	Flat Position	Wrench Flats	Flat Machining	Thread Dia.	Relief
Code	MK	KC	SC	KD	MC	NNC
Spec.	Machine 4 grooves on B Dimension. The wear and tear of the grooves indicate the degree of wears. ⊙ Applicable to Hardened, Carburized and Round Shape Products only ⊙ The groove starts from the area of R value + 1 mm. Groove Depth: 0.2mm Groove Shape: V Groove	Ordering Code: KC Changes the flat position to 90° from the standard position 0°. ⊙ Applicable to Diamond Shape Type only.	Ordering Code: SC Adds wrench flats. H 9 11 13 15 19 H ₁ 7 8 11 13 17	Ordering Code: KD Machining on one side. ⊙ Applicable to Round Shape Type only. ⊙ H-P≥2	Ordering Code: MC8 Changes the thread diameter. ⊙ D/3≤M<D Mmin3 ⊙ Applicable to Threaded only.	Ordering Code: NNC Adds a relief at the thread end. ⊙ Not applicable to Set Screw Type. ⊙ For damage prevention, Dicoat® treatment is not applicable.