

WATERPROOF DIGITAL PROTRACTOR (HEAVY DUTY)

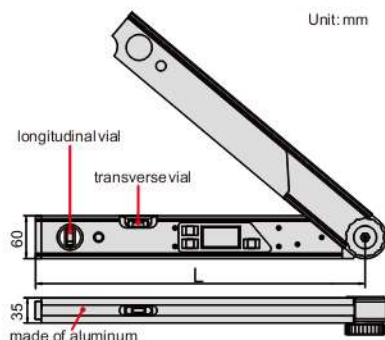
- IP54
WATERPROOF
- ABSOLUTE
LEVEL
- AUTOMATIC
BACKLIGHT



- Suitable for setting horizontal and vertical mitre angles of cutting machine
- Buttons: ON/OFF, HOLD/SUP, SPR/CNR/MTR/BVL
- IP54 dust/waterproof
- With transverse and longitudinal vials
- 2xAAA batteries
- Absolute level, zero setting is not needed when batteries are replaced
- Backlight will turn off in one minute after no data changing, automatic power off in 5 minutes



2174-225

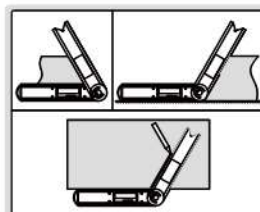
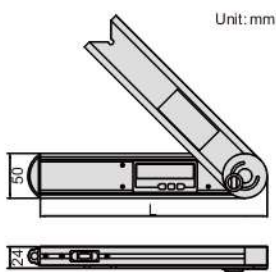


Code	Size (L)	Range	Resolution	Accuracy
2174-225	460mm	0-225°	0.05°	±0.10°

DIGITAL PROTRACTOR



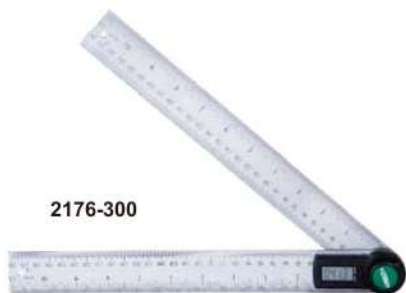
2171-250



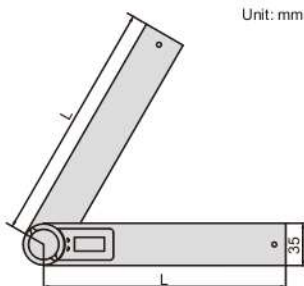
- Buttons: on/off, hold (keep the reading), zero, ABS (absolute and incremental measurement)
- Fix the locking screw at 4 positions for different measuring ranges: 0°~225°, -225°~0°, -45°~180°, -180°~45°
- Remove the locking screw for 360° range
- With level vial
- Battery CR2032
- Automatic power off

Code	Size (L)	Range	Resolution	Accuracy
2171-250	250mm	0-360°	0.05°	±0.15°

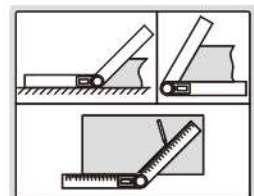
DIGITAL PROTRACTORS



2176-300



- Buttons: on/off, zero
- With clamping screw to lock the blades
- Graduation of blade: 1mm and 1/32"
- Made of stainless steel
- CR2032 battery
- Automatic power off



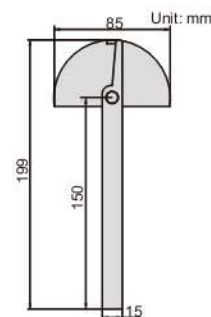
Code	Size(L)	Range	Resolution	Accuracy
2176-200	200mm	0-360°	0.1°	±0.3°
2176-300	300mm	0-360°	0.1°	±0.3°

PROTRACTOR

- Made of stainless steel
- Satin chrome plated scale
- With clamping screw



4780-85



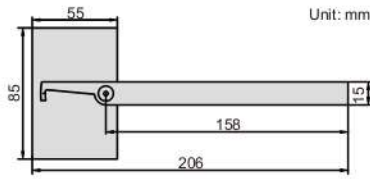
Code	Size	Range	Graduation	Accuracy
4780-85	85x150mm	0-180°	1°	±0.3°

PROTRACTOR

4 working edges



- Made of stainless steel
- Satin chrome plated scale
- With clamping screw



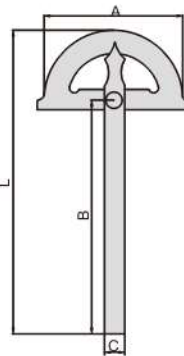
4781-85

Code	Size	Range	Graduation	Accuracy
4781-85	85x158mm	0-180°	1°	±0.3°

PROTRACTORS

- Graduation: 1°
- Made of stainless steel (4799-1300 is made of carbon steel)
- Satin chrome plated scale
- With clamping screw

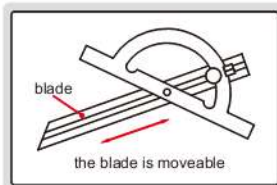
Code	Size (AxB)	Range	Accuracy	L	C
4799-180	80x120mm	0-180°	±0.3°	168	11
4799-1120	120x150mm	0-180°	±0.3°	220	14
4799-1150	150x200mm	0-180°	±0.3°	285	16
4799-1200	200x300mm	0-180°	±0.3°	413	20
4799-1300	300x500mm	0-180°	±0.3°	675	30



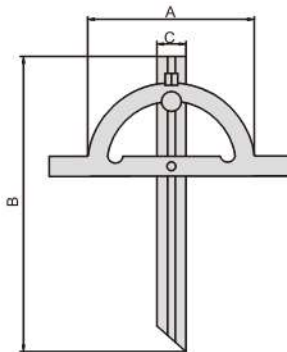
4799-180

PROTRACTORS

- Graduation: 1°
- Made of carbon steel
- Satin chrome plated
- With clamping screw
- The blade is moveable

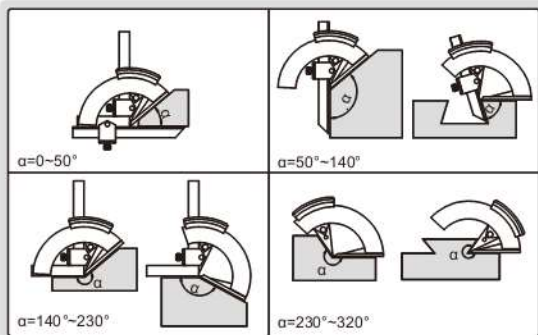


Code	Size (AxB)	Range	Accuracy	C
4797-100	100x150mm	10-170°	±0.3°	18
4797-150	150x300mm	10-170°	±0.3°	22
4797-200	200x400mm	10-170°	±0.3°	24
4797-250	250x500mm	10-170°	±0.3°	28
4797-300	300x600mm	10-170°	±0.3°	32

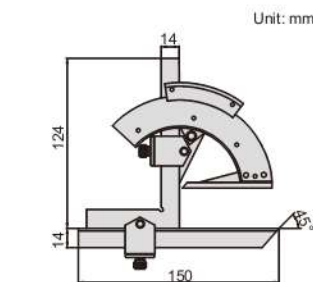


4797-100

PROTRACTOR



Code	Range	Graduation	Accuracy
2374-320	0-320°	2'	±2'

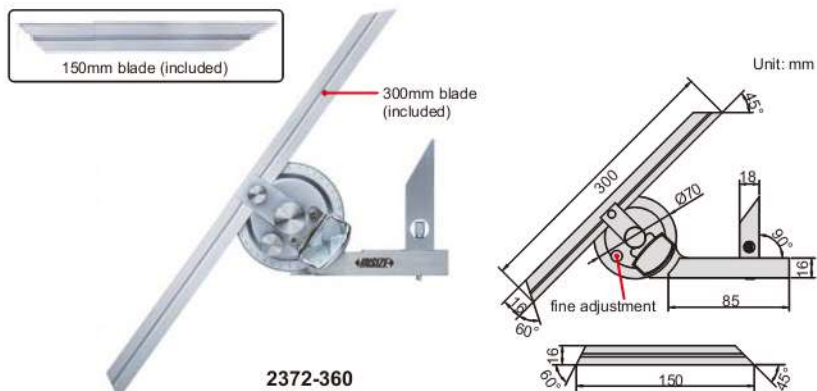


- Made of stainless steel
- Satin chrome plated scale



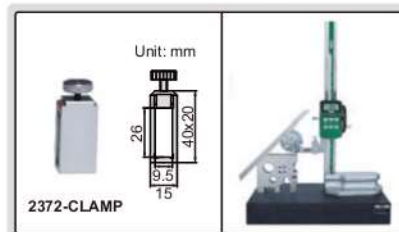
2374-320

UNIVERSAL PROTRACTOR



2372-360

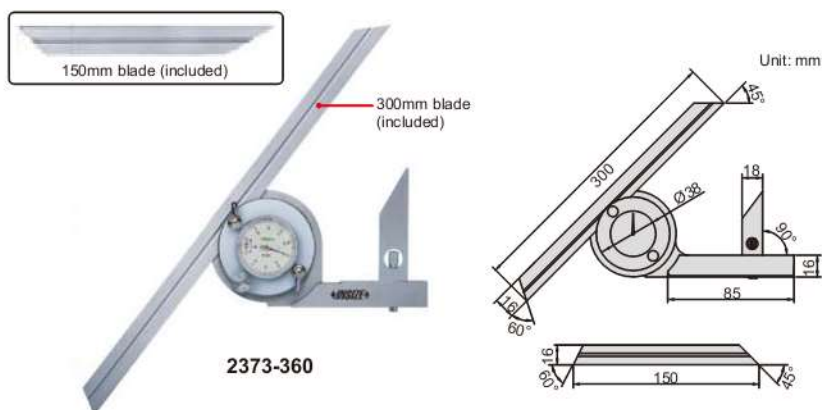
clamp for height gages (optional)



- Parallax-free reading
- Made of stainless steel
- Optional accessory: clamp (code 2372-CLAMP), suitable for height gages 1156, 1351 and 1250

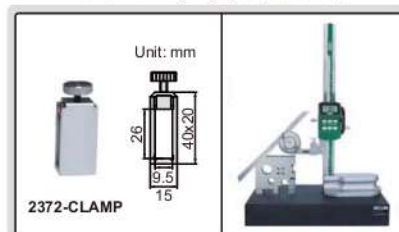
Code	Range	Graduation	Accuracy
2372-360	0-360°	5'	±5'

DIAL PROTRACTOR



2373-360

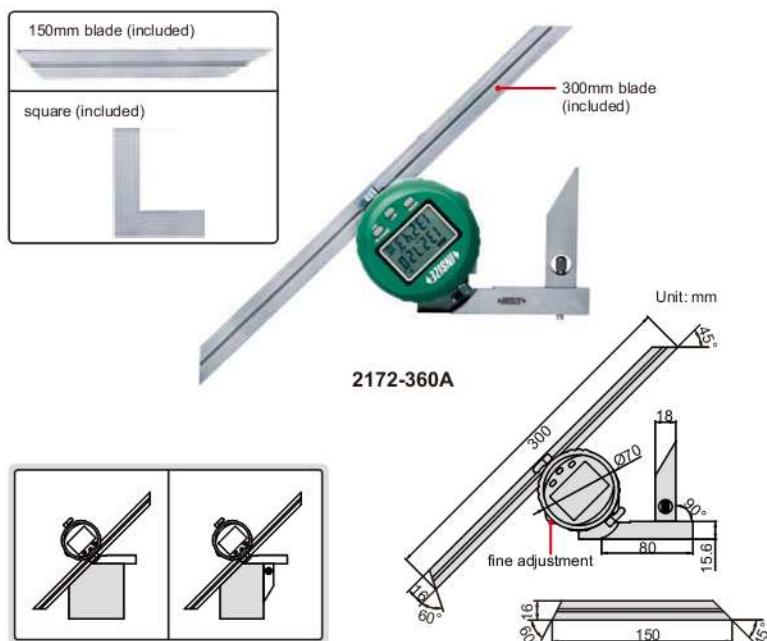
clamp for height gages (optional)



- Made of stainless steel
- Optional accessory: clamp (code 2372-CLAMP), suitable for height gages 1156, 1351 and 1250

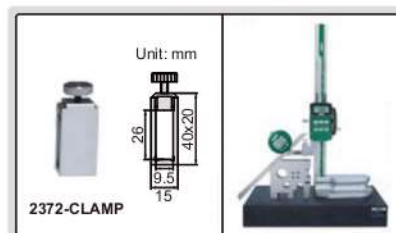
Code	Range	Graduation	Accuracy
2373-360	0-360°	5'	±5'

DIGITAL PROTRACTOR



2172-360A

clamp for height gages (optional)



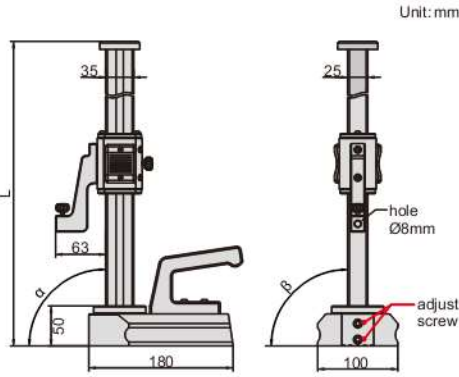
DATA OUTPUT



- Display in degree (for example 32.655°) and degree/minute/second (for example 32°39'30")
- SET button: preset the reading, change measuring direction
- MODE button: choose 0~90°, 0~180° or 0~360° display
- ZERO/ON/OFF button: zero and power on/off
- Battery CR2032, automatic power off
- Data output
- Supplied with square to set 90°
- Made of stainless steel
- Optional accessory: data output cable (code 7305-SPC1A), clamp (code 2372-CLAMP), suitable for height gages 1156, 1351 and 1250

Code	Range	Resolution	Accuracy
2172-360A	0-360°	10"/0.005°	±5'

PERPENDICULARITY TESTERS



Unit: mm

- Optional accessory:
dial test indicators (graduation: 1µm or 2µm),
cylinder square (code 4710, for calibration),
granite square (code 4141, for calibration)

Code	Range (H)	Perpendicularity (α)	Side perpendicularity (β)	L
4770-300	0-300mm	3µm	10µm	460mm
4770-600	0-600mm	5µm	20µm	760mm

dial test indicator is not included



CYLINDER SQUARES



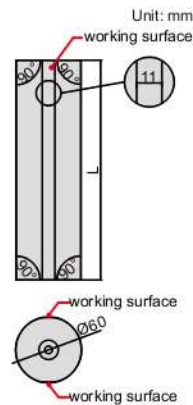
- Made of special alloy steel, hardness HRC58-60
- The handle can be removed

Code	Length (L)	Squareness
4710-200*	200mm	1µm
4710-300*	300mm	2µm

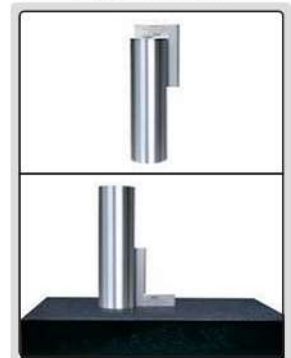
* Supplied with manufacturer inspection certificate



4710-200



inspect 90° internal and external angles

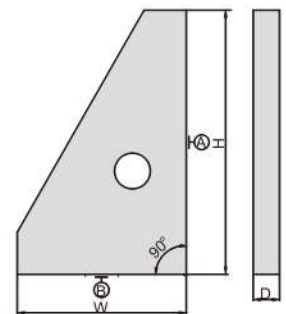


GRANITE SQUARES

CUSTOM-MADE
SUPPLY SPECIAL SIZES ACCORDING
TO CUSTOMER'S REQUEST

Code	Size (HxW)	Flatness of A	Flatness of B	Squareness of A to B	D
4141-250	250x160mm	1µm	1µm	2µm	25mm
4141-400	400x250mm	1.5µm	1µm	3µm	40mm
4141-630	630x400mm	2µm	1.5µm	4µm	63mm

4141-250



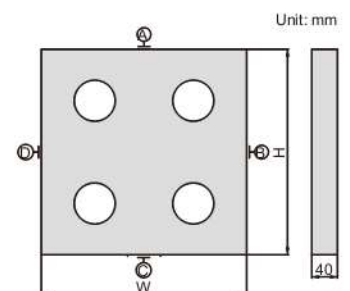
GRANITE SQUARE

CUSTOM-MADE
SUPPLY SPECIAL SIZES ACCORDING
TO CUSTOMER'S REQUEST

Code	Size (HxW)	Flatness of A, B, C and D	Squareness and parallelism between A, B, C and D
4144-315	315x315mm	1.1µm	2.6µm



4144-315



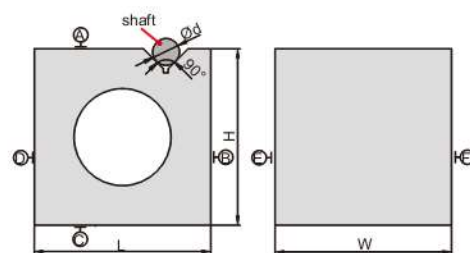
Unit: mm

GRANITE SQUARE WITH V GROOVE

- Parallelism and squareness of A, B, C, D, E and F: 6µm
- Parallelism and squareness of V groove to A, B, C, D, E and F: 6µm



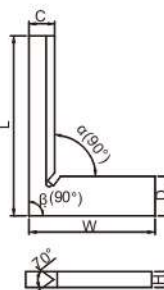
4142-200



Code	Size (LxWxH)	Range of shaft (Ød)
4142-200	200x200x200mm	9~70mm

90° TOOL MAKER SQUARES

- DIN875 grade 00
- Beveled edge for inside measurement
- Made of hardened stainless steel

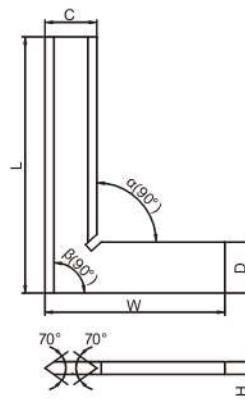


4794-040

Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4794-025	25x20mm	2.2µm	2.3µm	4	6.5	3.5
4794-040	40x28mm	2.3µm	2.4µm	5.5	8.5	3.5

90° BEVELED EDGE SQUARES

- Satin chrome plating
- Beveled edges for inside and outside measurement
- Made of hardened stainless steel



4790-0100

DIN875 grade 00 (mm)

Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4790-050	50x40mm	2.4µm	2.5µm	13	13	4
4790-075	75x50mm	2.6µm	2.8µm	15	15	4
4790-0100	100x70mm	2.8µm	3.0µm	20	20	5
4790-0150	150x100mm	3.2µm	3.5µm	30	30	6
4790-0200	200x130mm	3.7µm	4.0µm	34	34	7
4790-0250	250x165mm	4.2µm	4.5µm	35	35	7
4790-0300	300x200mm	4.6µm	5.0µm	40	40	8

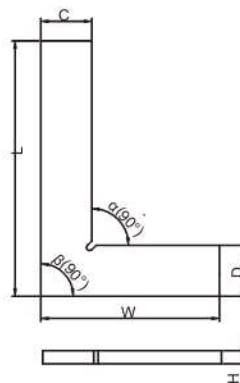
DIN875 grade 0 (mm)

Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4790-500	50x40mm	6µm	6µm	13	13	4
4790-750	75x50mm	6µm	7µm	15	15	4
4790-1000	100x70mm	7µm	7µm	20	20	5
4790-1500	150x100mm	7µm	8µm	30	30	6
4790-2000	200x130mm	8µm	9µm	34	34	7
4790-2500	250x165mm	9µm	10µm	35	35	7
4790-3000	300x200mm	10µm	11µm	40	40	8

90° FLAT EDGE SQUARES

- DIN875 grade 0
- Made of hardened stainless steel

Code	Size (LxW)	Squareness		C	D	H	(mm)
		Inside (α)	Outside (β)				
4791-50	50x40mm	6 μ m	6 μ m	15	15	4	
4791-75	75x50mm	6 μ m	7 μ m	15	15	4	
4791-100	100x70mm	7 μ m	7 μ m	20	20	5	
4791-150	150x100mm	7 μ m	8 μ m	30	30	6	
4791-200	200x130mm	8 μ m	9 μ m	30	30	7	
4791-250	250x165mm	9 μ m	10 μ m	35	35	7	
4791-300	300x200mm	10 μ m	11 μ m	40	40	8	

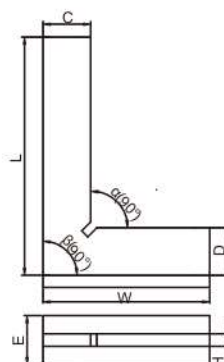


4791-100

90° FLAT EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Made of hardened stainless steel

Code	Size (LxW)	Squareness		C	D	H	E	(mm)
		Inside (α)	Outside (β)					
4793-50	50x40mm	6 μ m	6 μ m	13	13	4	13	
4793-75	75x50mm	6 μ m	7 μ m	15	15	4	15	
4793-100	100x70mm	7 μ m	7 μ m	20	20	5	20	
4793-150	150x100mm	7 μ m	8 μ m	30	30	6	30	
4793-200	200x130mm	8 μ m	9 μ m	30	30	7	30	
4793-250	250x165mm	9 μ m	10 μ m	35	35	7	35	
4793-300	300x200mm	10 μ m	11 μ m	40	40	8	40	

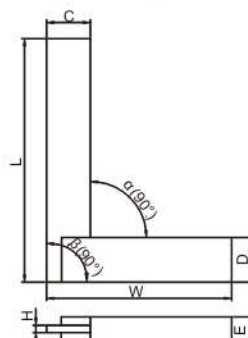


4793-100

90° FLAT EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Made of hardened stainless steel

Code	Size (LxW)	Squareness		C	D	H	E	(mm)
		Inside (α)	Outside (β)					
4792-50	50x40mm	6 μ m	6 μ m	12	12	3	10	
4792-75	75x50mm	6 μ m	7 μ m	14	14	3	10	
4792-100	100x70mm	7 μ m	7 μ m	18	18	3	10	
4792-150	150x100mm	8 μ m	8 μ m	22	22	4	12	
4792-200	200x130mm	9 μ m	9 μ m	25	25	4	12	

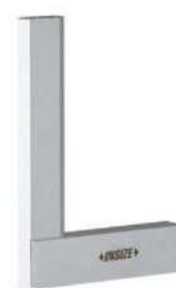
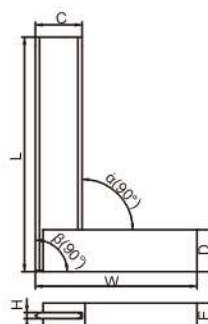


4792-100

90° BEVELED EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Beveled edges for inside and outside measurement
- Made of hardened stainless steel

Code	Size (LxW)	Squareness		C	D	H	E	(mm)
		Inside (α)	Outside (β)					
4795-50	50x40mm	6 μ m	6 μ m	12	12	3	10	
4795-75	75x50mm	6 μ m	7 μ m	14	14	3	10	
4795-100	100x70mm	7 μ m	7 μ m	18	18	3	10	
4795-150	150x100mm	8 μ m	8 μ m	22	22	4	12	
4795-200	200x130mm	9 μ m	9 μ m	25	25	4	12	



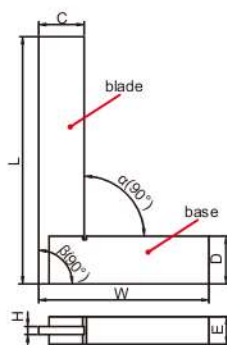
4795-100

MACHINIST SQUARES WITH WIDE BASE

ATTENTION:
LOW ACCURACY



4707-100



Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4707-50	50x40mm	24 μ m	25 μ m	16	12	3	9
4707-75	75x50mm	26 μ m	28 μ m	16	16	3	9
4707-100	100x70mm	28 μ m	30 μ m	19	19	3	12
4707-150	150x100mm	33 μ m	35 μ m	25	25	3	16
4707-200	200x130mm	37 μ m	40 μ m	30	32	4	16
4707-250	250x165mm	42 μ m	45 μ m	30	32	4	19
4707-300	300x200mm	47 μ m	50 μ m	32	32	4	19
4707-400	400x250mm	56 μ m	60 μ m	38	38	5	22
4707-500	500x300mm	65 μ m	70 μ m	45	50	6	25
4707-600	600x350mm	75 μ m	80 μ m	50	50	6	30
4707-750	750x400mm	90 μ m	95 μ m	55	55	6	50
4707-900	900x500mm	103 μ m	110 μ m	65	75	9	50
4707-1000	1000x550mm	113 μ m	120 μ m	65	75	9	50

- Economic model
- DIN875 grade 2
- Made of carbon steel, no anti-rust treatment, not hardend

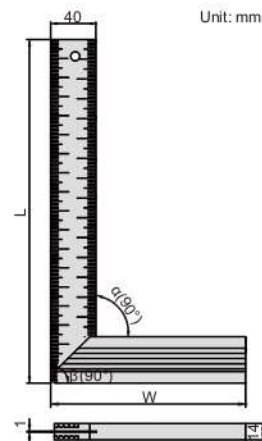
TRY SQUARE

- Graduation: 1mm
- Stainless steel blade, aluminum base

Code	Size (LxW)	Squareness	
		Inside (α)	Outside (β)
2275-300	300x170mm	0.5mm	0.5mm



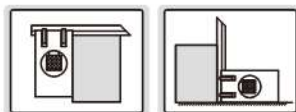
2275-300



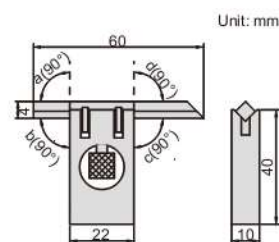
ADJUSTABLE SQUARE

- The straight edge can move and can be locked by the clamping screw
- Made of hardened stainless steel

Code	Squareness (a, b, c, d)
4701-1	7 μ m



4701-1



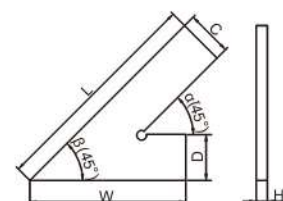
45° SQUARES

- Made of hardened stainless steel

Code	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4745-1100	100x70mm	27 μ m	30 μ m	20	20	5
4745-1120	120x80mm	29 μ m	32 μ m	20	20	5
4745-1150	150x100mm	32 μ m	35 μ m	20	20	5
4745-1200	200x130mm	36 μ m	40 μ m	25	25	5



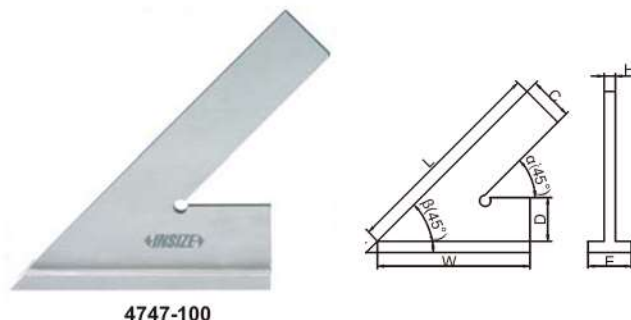
4745-1100



45° SQUARES WITH WIDE BASE

■ Made of hardened stainless steel

Code	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4747-100	100x70mm	27 μ m	31 μ m	20	20	5	20
4747-120	120x80mm	29 μ m	33 μ m	20	20	5	20
4747-150	150x100mm	32 μ m	36 μ m	20	20	5	20
4747-200	200x130mm	36 μ m	41 μ m	25	25	5	25

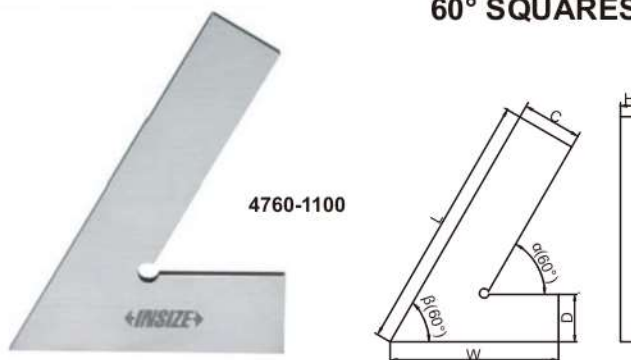


4747-100

60° SQUARES

■ Made of hardened stainless steel

Code	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4760-1100	100x70mm	28 μ m	30 μ m	20	20	5
4760-1120	120x80mm	30 μ m	32 μ m	20	20	5
4760-1150	150x100mm	32 μ m	35 μ m	20	20	5
4760-1200	200x130mm	37 μ m	40 μ m	25	25	5

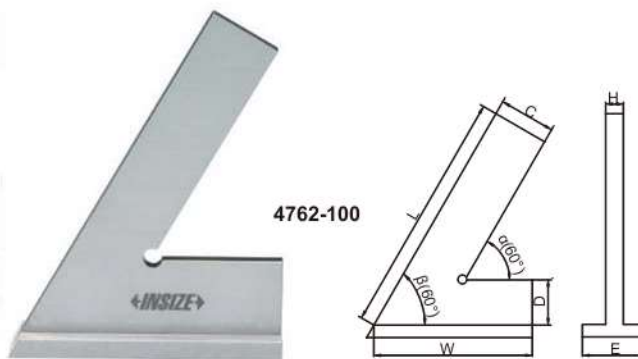


4760-1100

60° SQUARES WITH WIDE BASE

■ Made of hardened stainless steel

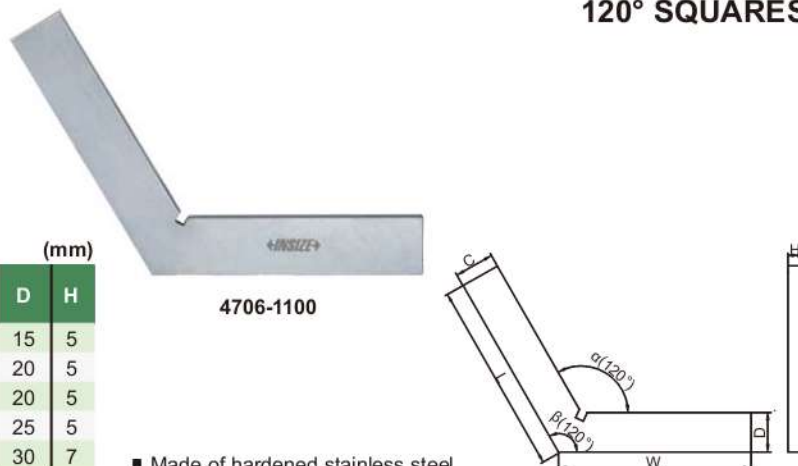
Code	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4762-100	100x70mm	28 μ m	31 μ m	20	20	5	20
4762-120	120x80mm	30 μ m	33 μ m	20	20	5	20
4762-150	150x100mm	33 μ m	36 μ m	20	20	5	20
4762-200	200x130mm	37 μ m	41 μ m	25	25	5	25



4762-100

120° SQUARES

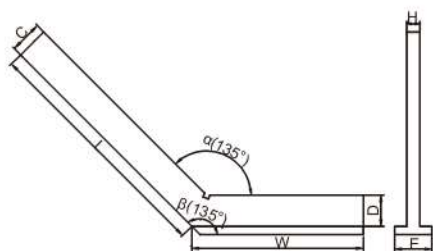
Code	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4706-150	50x50mm	24 μ m	25 μ m	15	15	5
4706-175	75x75mm	26 μ m	28 μ m	20	20	5
4706-1100	100x100mm	29 μ m	30 μ m	20	20	5
4706-1150	150x150mm	34 μ m	35 μ m	25	25	5
4706-1200	200x200mm	38 μ m	40 μ m	30	30	7



4706-1100

■ Made of hardened stainless steel

135° SQUARES WITH WIDE BASE



(mm)

Code	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4754-3100	100x70mm	29 μ m	31 μ m	20	20	5	20
4754-3120	120x80mm	31 μ m	33 μ m	20	20	5	20
4754-3150	150x100mm	34 μ m	36 μ m	20	20	5	20
4754-3200	200x130mm	39 μ m	41 μ m	30	30	7	30
4754-3250	250x165mm	44 μ m	46 μ m	30	30	7	30
4754-3300	300x175mm	49 μ m	51 μ m	35	35	7	35



4754-3120

- Made of hardened stainless steel

STRAIGHT EDGES



4700-100

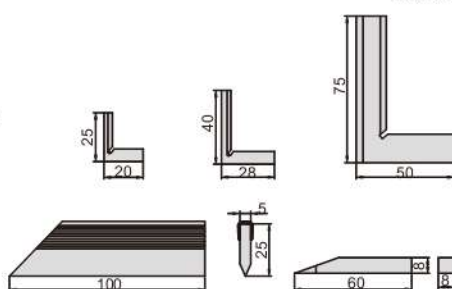
- DIN874
- Beveled edge
- Made of hardened stainless steel
- Satin chrome plating

Code	Size (L)	Straightness	W	H
4700-50	50mm	2.2 μ m	5	20
4700-75	75mm	2.3 μ m	5	25
4700-100	100mm	2.4 μ m	5	25
4700-125	125mm	2.5 μ m	6	30
4700-150	150mm	2.6 μ m	6	30
4700-200	200mm	2.8 μ m	6	30
4700-250	250mm	3.0 μ m	8	40
4700-300	300mm	3.2 μ m	8	40
4700-400	400mm	3.6 μ m	10	50
4700-500	500mm	4.0 μ m	10	50

SQUARE SET

- Includes:
 - 90° tool maker square 25x20mm DIN875 grade 00 (code **4794-025**)
 - 90° tool maker square 40x28mm DIN875 grade 00 (code **4794-040**)
 - 90° beveled edge square 75x50mm DIN875 grade 00 (code **4790-075**)
 - straight edge 100mm DIN874 (code **4700-100**)
 - scraper
- Made of hardened stainless steel

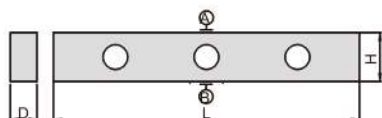
Unit: mm



4702-1

Code
4702-1

GRANITE STRAIGHT EDGES



(mm)

Code	Length (L)	Flatness of A and B	Parallelism between A and B	D	H
4147-500A	500mm	2.1 μ m	3.2 μ m	50	80
4147-1000A	1000mm	3 μ m	4.5 μ m	60	120



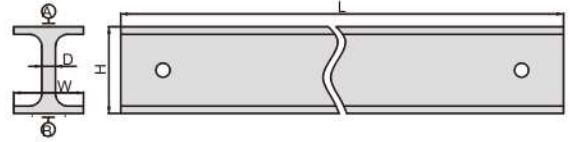
4147-500A

MAGNALIUM STRAIGHT EDGES



4180-500

- Made of magnalium, light weight, non-deform, no rusty



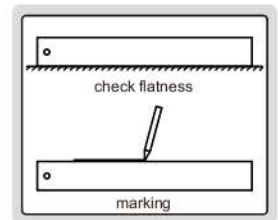
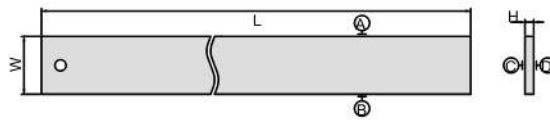
Code	Length (L)	Flatness of A and B	Parallelism between A and B	H	W	D
4180-500	500mm	3µm	4µm	60mm	30mm	5mm
4180-1000	1000mm	5µm	8µm	60mm	30mm	5mm
4180-1500	1500mm	15µm	22µm	100mm	40mm	5mm
4180-2000	2000mm	18µm	27µm	100mm	40mm	8mm

PRECISION STRAIGHT EDGES



7117-300

- Check flatness, straightness and for marking
- Made of tool steel



Code	Range (L)	Straightness and parallelism of A and B	Straightness and parallelism of C and D	W	H
7117-300	305	0.005	0.05	41	6.3
7117-600	610	0.006	0.06	51	7.9
7117-900	914	0.007	0.06	64	9.5

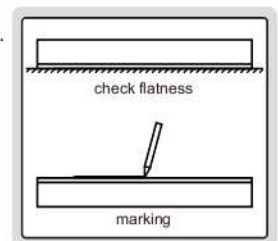
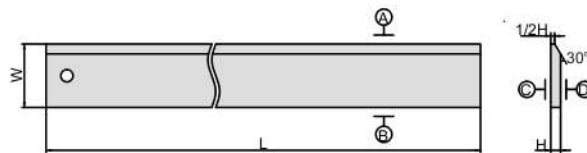
(mm)

PRECISION STRAIGHT EDGES WITH BEVELED EDGE



7118-300

- Check flatness, straightness and for marking
- Made of tool steel



Code	Range (L)	Straightness and parallelism of A and B	Straightness and parallelism of C and D	W	H
7118-300	305	0.005	0.05	41	6.3
7118-600	610	0.006	0.06	51	7.9
7118-900	914	0.007	0.06	64	9.5

(mm)