

# Holtest

## SERIES 368 — Three-Point/Two-Point Internal Micrometers

These Holtests are versatile, self-centering three-point internal micrometers for the accurate and efficient direct-measurement of internal diameters. Three anvils, evenly spaced at 120° apart, contact the internal wall surfaces and find true alignment with the axis of the bore for accurate ID measurement.

### FEATURES

- Titanium-coated measuring pins (over 12mm range models) provide excellent durability and impact resistance and allow the instrument to measure right to the bottom of a blind hole.
- Measurement can be taken closer to the bottom of the blind bore.
- Can measure deep holes using an Extension rod (optional) which is available on models over 6mm (.275") measuring range.
- With Ratchet Stop for constant force.
- Setting Rings for zero point adjustment are optional.



368-168

368-174



Two-point contact type

368-001



Titanium coated contact points (excluding models up to 12mm/.5")

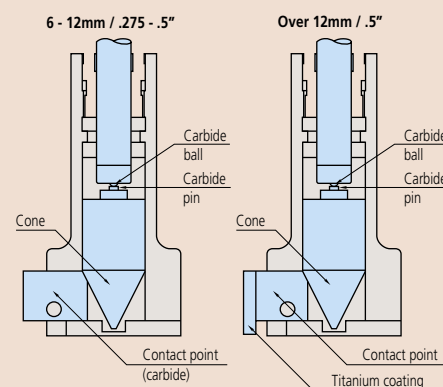


(Refer to the page 9 for details.)

### Technical Data

Accuracy: Refer to the list of specifications.  
Graduation: 0.001mm, 0.005mm (models over 12mm),  
.0001" or .0002" (models over .5")

Range	Measuring method	Contact-point material
2 - 3mm .08 - .12"	Two-point method	Carbide
3 - 6mm .12 - .28"	Two-point method	Carbide
6 - 12mm .275 - .5"	Three-point method	Carbide
over 12mm over .5"	Three-point method	Titanium coating (1700-2000Hv)



### Optional Accessory

- : Extension rod (Refer to the list of specifications.)
- : Setting ring (See page 122.)

### DIMENSION

Unit: mm

## Measuring a Blind Hole

The measuring pins held in the jaws permit measuring the diameter of a blind hole right down to the bottom.

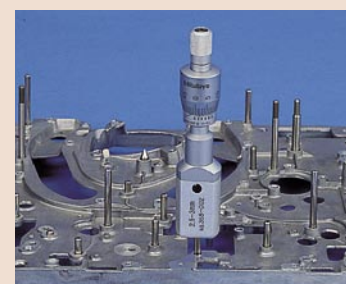
A detailed diagram of an internal micrometer. It features a C-shaped frame with a sleeve and thimble at the top for reading measurements. The sleeve has markings for 'SE' and 'OS'. The overall length of the tool is indicated by a dimension line labeled 'L'.

Range	L
2 - 2.5mm	12
2.5 - 3mm	12
3 - 4mm	22
4 - 5mm	22
5 - 6mm	22
6 - 8mm	59
8 - 10mm	59
10 - 12mm	59
12 - 16mm	82
16 - 20mm	82
20 - 25mm	94
25 - 30mm	94
30 - 40mm	102

Range	L
40 - 50mm	102
50 - 63mm	105
62 - 75mm	105
75 - 88mm	105
87 - 100mm	105
100 - 125mm	161
125 - 150mm	161
150 - 175mm	161
175 - 200mm	161
200 - 225mm	161
225 - 250mm	161
250 - 275mm	161
275 - 300mm	161

A cross-sectional diagram of a blind hole in a workpiece. An internal micrometer is positioned at the bottom of the hole. Three dimensions are labeled: 'a' is the distance from the hole's entrance to the micrometer's measuring pins; 'b' is the distance between the two measuring pins; and 'c' is the distance from the hole's entrance to the back of the micrometer's frame.

Range	a	b	c
2 - 6mm	—	—	2
6 - 12mm	2	—	2.5
12 - 20mm	0.3	5.6	3.5
20 - 30mm	0.3	8.3	5.2
30 - 50mm	0.3	13	10
50 - 100mm	0.3	17	14
100 - 300mm	12.4	21	13.8



Using the optional extension rod



## SPECIFICATIONS

Metric		Individual	Inch		Individual			with titanium coated contact points	
Range	Order No.		Range	Order No.		Accuracy*	Extension Rod (optional)		
2 - 2.5mm	368-001		.08" - .1"	368-021		±2μm (within 2μm)	—		
2.5 - 3mm	368-002		.1" - .12"	368-022		±2μm (within 2μm)	—		
3 - 4mm	368-003		.12" - .16"	368-023		±2μm (within 2μm)	—		
4 - 5mm	368-004		.16" - .2"	368-024		±2μm (within 2μm)	—		
5 - 6mm	368-005		.2" - .24"	368-025		±2μm (within 2μm)	—		
—	—		.24" - .28"	368-026		±2μm (within 2μm)	—		
6 - 8mm	368-101-10		.275" - .35"	368-201-10		±2μm (within 2μm)	100mm (952322)		
8 - 10mm	368-102-10		.35" - .425"	368-202-10		±2μm (within 2μm)	100mm (952322)		
10 - 12mm	368-103-10		.425" - .5"	368-203-10		±2μm (within 2μm)	100mm (952322)		
12 - 16mm	368-164		.5" - .65"	368-264		±2μm (within 2μm)	150mm (952621)		
16 - 20mm	368-165		.65" - .8"	368-265		±2μm (within 2μm)	150mm (952621)		
20 - 25mm	368-166		.8" - 1"	368-266		±3μm (within 3μm)	150mm (952622)		
25 - 30mm	368-167		1" - 1.2"	368-267		±3μm (within 3μm)	150mm (952622)		
30 - 40mm	368-168		1.2" - 1.6"	368-268		±3μm (within 3μm)	150mm (952622)		
40 - 50mm	368-169		1.6" - 2"	368-269		±3μm (within 3μm)	150mm (952622)		
50 - 63mm	368-170		2" - 2.5"	368-270		±3μm (within 3μm)	150mm (952623)		
62 - 75mm	368-171		2.5" - 3"	368-271		±3μm (within 3μm)	150mm (952623)		
75 - 88mm	368-172		3" - 3.5"	368-272		±3μm (within 3μm)	150mm (952623)		
87 - 100mm	368-173		3.5" - 4"	368-273		±3μm (within 3μm)	150mm (952623)		
100 - 125mm	368-174		4" - 5"	368-274		±5μm (within 5μm)	150mm (952623)		
125 - 150mm	368-175		5" - 6"	368-275		±5μm (within 5μm)	150mm (952623)		
150 - 175mm	368-176		6" - 7"	368-276		±5μm (within 5μm)	150mm (952623)		
175 - 200mm	368-177		7" - 8"	368-277		±5μm (within 5μm)	150mm (952623)		
200 - 225mm	368-178		8" - 9"	368-278		±5μm (within 5μm)	150mm (952623)		
225 - 250mm	368-179		9" - 10"	368-279		±5μm (within 5μm)	150mm (952623)		
250 - 275mm	368-180		10" - 11"	368-280		±5μm (within 5μm)	150mm (952623)		
275 - 300mm	368-181		11" - 12"	368-281		±5μm (within 5μm)	150mm (952623)		

\*Instrumental error (maximum error)

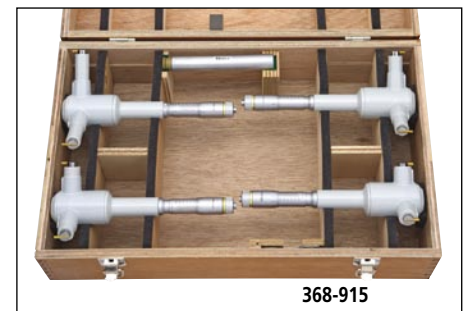
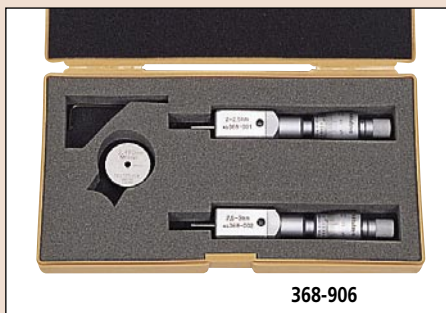
### Complete-Unit Set

Each set includes complete gages (micrometer head units and measuring heads for each size).

Metric					with titanium coated contact points	
Range	Order No.	Individual range	Setting rings included	Remarks		
2 - 3mm	368-906	2-2.5, 2.5-3mm	ø2.5mm	—		
3 - 6mm	368-907	3-4, 4-5, 5-6mm	ø4mm, ø5mm	—		
6 - 12mm	368-901-10	6-8, 8-10, 10-12mm	ø8mm, ø10mm	with extension rod		
12 - 20mm	368-912	12-16, 16-20mm	ø16mm	with extension rod		
20 - 50mm	368-913	20-25, 25-30, 30-40, 40-50mm	ø25mm, ø40mm	with extension rod		
50 - 100mm	368-914	50-63, 62-75, 75-88, 87-100mm	ø62mm, ø87mm	with extension rod		
100 - 200mm	368-915	100-125, 125-150, 150-175, 175-200mm	ø125mm, ø175mm	with extension rod		

Inch					with titanium coated contact points	
Range	Order No.	Individual range	Setting rings included	Remarks		
.08" - .12"	368-926	.08-.1", .1-.12"	.1" DIA.	—		
.12" - .28"	368-927	.12-.16", .16-.2", .2-.24", .24-.28"	.16" DIA., .24" DIA.	—		
.275" - .5"	368-921-10	.275-.35", .35-.425", .425-.5"	.35" DIA., .5" DIA.	with extension rod		
.5" - .8"	368-917	.5-.65", .65-.8"	.65" DIA.	with extension rod		
.8" - 2"	368-918	.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1" DIA., 1.6" DIA.	with extension rod		
2" - 4"	368-919	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5" DIA., 3.5" DIA.	with extension rod		
4" - 8"	368-920	4-5", 5-6", 6-7", 7-8"	5" DIA., 7" DIA.	with extension rod		

\*.0001" graduation



# Holtest (Type II)

## SERIES 368 — Three-Point Internal Micrometers

### FEATURES

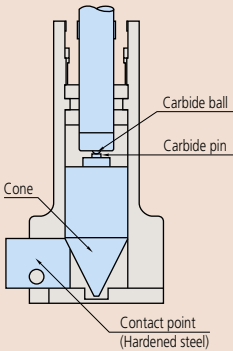
- The Holtests (type II) have three contact points made of alloyed steel.
- Economy price.
- Measurement can be taken closer to the bottom of the blind bore.
- Can measure deep holes using an Extension Rod (optional).
- With Ratchet Stop for constant force.
- Setting Rings for zero point adjustment are optional.



(Refer to the page 9 for details.)

### Technical Data

Accuracy: Refer to the list of specifications.  
 Graduation: 0.005mm or .0002"  
 Measuring method: Three-point method  
 Contact point: Hardened steel



### Optional Accessory

- : Extension rod (Refer to the list of specifications.)
- : Setting ring (See page 122.)

### DIMENSION AND MASS

Range	L
12 - 16mm	82
16 - 20mm	82
20 - 25mm	94
25 - 30mm	94
30 - 40mm	102
40 - 50mm	102
50 - 63mm	105
62 - 75mm	105
75 - 88mm	105
87 - 100mm	105
100 - 125mm	161
125 - 150mm	161
150 - 175mm	161
175 - 200mm	161
200 - 225mm	161
225 - 250mm	161
250 - 275mm	161
275 - 300mm	161

**Measuring a Blind Hole**

The measuring pins held in the jaws permit measuring the diameter of a blind hole right down to the bottom.

Range	a	b
12 - 20mm	2.6	3.5
20 - 30mm	3.4	5.2
30 - 50mm	3.4	10
50 - 100mm	3.4	14
100 - 300mm	19.6	13.8

Unit: mm

## SPECIFICATIONS

Metric		Individual	Inch		Individual	Accuracy	Extension Rod (optional)
Range	Order No.		Range	Order No.			
12 - 16mm	<b>368-764</b>		.5" - .65"	<b>368-864</b>		±2µm (within 2µm)	150mm ( <b>952621</b> )
16 - 20mm	<b>368-765</b>		.65" - .8"	<b>368-865</b>		±2µm (within 2µm)	150mm ( <b>952621</b> )
20 - 25mm	<b>368-766</b>		.8" - 1"	<b>368-866</b>		±3µm (within 3µm)	150mm ( <b>952622</b> )
25 - 30mm	<b>368-767</b>		1" - 1.2"	<b>368-867</b>		±3µm (within 3µm)	150mm ( <b>952622</b> )
30 - 40mm	<b>368-768</b>		1.2" - 1.6"	<b>368-868</b>		±3µm (within 3µm)	150mm ( <b>952622</b> )
40 - 50mm	<b>368-769</b>		1.6" - 2"	<b>368-869</b>		±3µm (within 3µm)	150mm ( <b>952622</b> )
50 - 63mm	<b>368-770</b>		2" - 2.5"	<b>368-870</b>		±3µm (within 3µm)	150mm ( <b>952623</b> )
62 - 75mm	<b>368-771</b>		2.5" - 3"	<b>368-871</b>		±3µm (within 3µm)	150mm ( <b>952623</b> )
75 - 88mm	<b>368-772</b>		3" - 3.5"	<b>368-872</b>		±3µm (within 3µm)	150mm ( <b>952623</b> )
87 - 100mm	<b>368-773</b>		3.5" - 4"	<b>368-873</b>		±3µm (within 3µm)	150mm ( <b>952623</b> )
100 - 125mm	<b>368-774</b>		4" - 5"	<b>368-874</b>		±5µm (within 5µm)	150mm ( <b>952623</b> )
125 - 150mm	<b>368-775</b>		5" - 6"	<b>368-875</b>		±5µm (within 5µm)	150mm ( <b>952623</b> )
150 - 175mm	<b>368-776</b>		6" - 7"	<b>368-876</b>		±5µm (within 5µm)	150mm ( <b>952623</b> )
175 - 200mm	<b>368-777</b>		7" - 8"	<b>368-877</b>		±5µm (within 5µm)	150mm ( <b>952623</b> )
200 - 225mm	<b>368-778</b>		8" - 9"	<b>368-878</b>		±5µm (within 5µm)	150mm ( <b>952623</b> )
225 - 250mm	<b>368-779</b>		9" - 10"	<b>368-879</b>		±5µm (within 5µm)	150mm ( <b>952623</b> )
250 - 275mm	<b>368-780</b>		10" - 11"	<b>368-880</b>		±5µm (within 5µm)	150mm ( <b>952623</b> )
275 - 300mm	<b>368-781</b>		11" - 12"	<b>368-881</b>		±5µm (within 5µm)	150mm ( <b>952623</b> )

### Complete-Unit Set

Each set includes complete gages (micrometer head units and measuring heads for each size).

Metric				
Range	Order No.	Individual range	Setting rings included	Remarks
12 - 20mm	<b>368-991</b>	12-16, 16-20mm	ø16mm	with extension rod
20 - 50mm	<b>368-992</b>	20-25, 25-30, 30-40, 40-50mm	ø25mm, ø40mm	with extension rod
50 - 100mm	<b>368-993</b>	50-63, 62-75, 75-88, 87-100mm	ø62mm, ø87mm	with extension rod
100 - 200mm	<b>368-994</b>	100-125, 125-150, 150-175, 175-200mm	ø125mm, ø175mm	with extension rod

Inch				
Range	Order No.	Individual range	Setting rings included	Remarks
.5" - .8"	<b>368-995</b>	.5-.65", .65-.8"	.65" DIA.	with extension rod
.8" - 2"	<b>368-996</b>	.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1" DIA., 1.6" DIA.	with extension rod
2" - 4"	<b>368-997</b>	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5" DIA., 3.5" DIA.	with extension rod
4" - 8"	<b>368-998</b>	4-5", 5-6", 6-7", 7-8"	5" DIA., 7" DIA.	with extension rod

