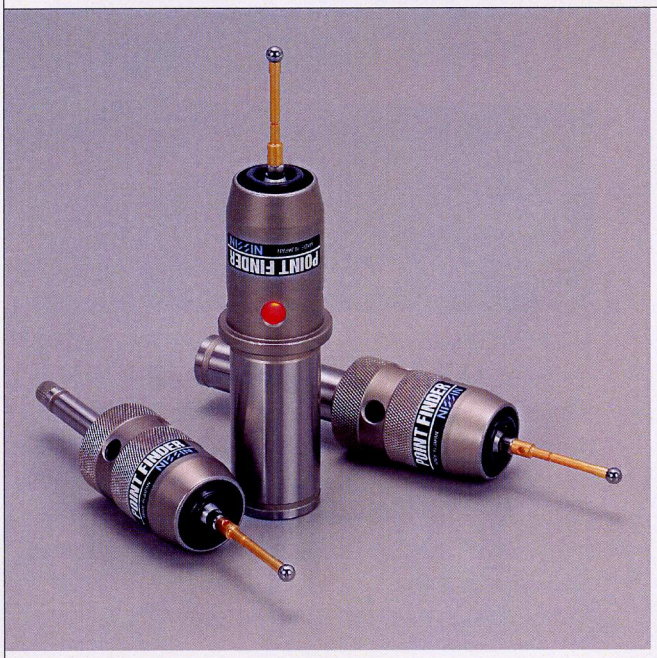
Point Finder

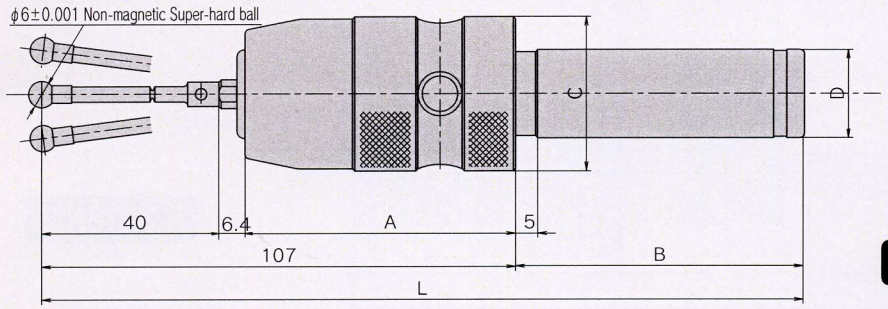
Point Finder® PAT.P



Detects and measure any position, and centre.

LED emits light with 0.1g of pressure and in 4directions, so it can be seen in any directions. Thin workpieces can be measured precisely. The stylus can swing in X,Y, and Z direction, and is safe. Iron and nonferrous metals are measurable likewise. No measuring errors caused by magnetism. Battery lifespan is approximately 1year. (except for PTN-06N, PTN-10)

- Over Travel XYaxis ····· ±13mm
- Zaxis ····· +5mm
- Repeatability ····· ±0.5μm
- Measuring pressure ····· 0.1gf

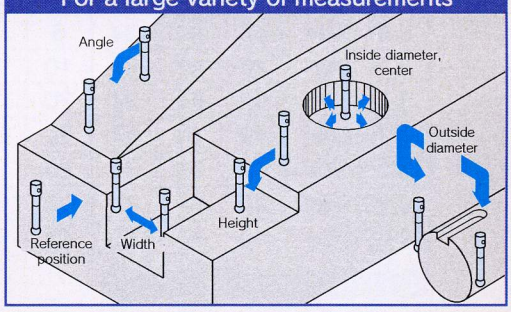


PTN-20 Standard stylus is ST-6x40NM, and is changeable with others.

Pattern	D(h7)	A	B	C	L	Batteries	Mass(g)
PTN-06N (with Magnet Cable)	φ6	28.6	41	35	144	①Silver oxide SR44×2	160
PTN-10	φ10	61	46	35	154	②Lithium BR-435×1	280
PTN-20	φ20	61	65	35	173	③Manganese R1×2	310
PTN-25	φ25	61	65	35	173		450
PTN-32	φ32	61	65	35	173		610

Non-magnetic Stylus		
Pattern		Screw size
ST-1×40NM	φ1 Non-magnetic Stylus	M3×0.5
ST-2×40NM	φ2 Non-magnetic Stylus	
ST-3×40NM	φ3 Non-magnetic Stylus	
ST-4×40NM	φ4 Non-magnetic Stylus	
ST-5×40NM	φ5 Non-magnetic Stylus	
ST-6×40NM	φ6 Non-magnetic Stylus	

For a large variety of measurements

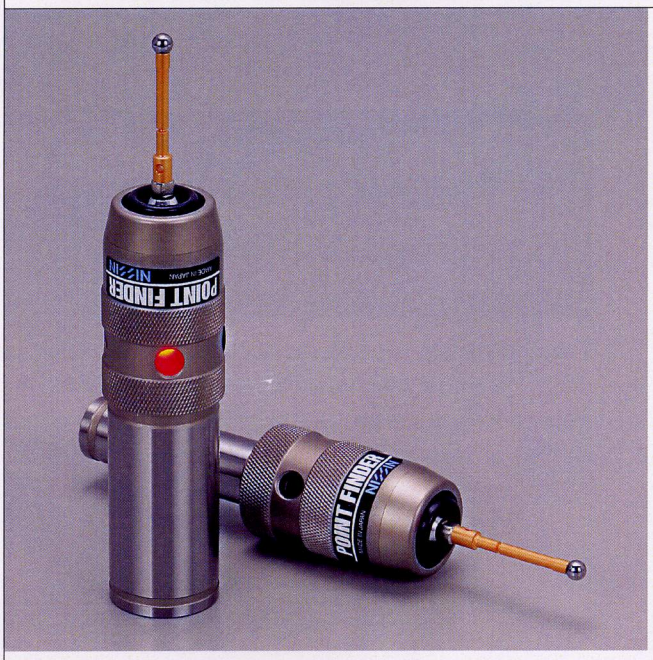


Diameter of the standard stylus is φ6.
Spanner for replacing stylus is not included.
Contour/quality can be changed for improvement

Refer 21,22p for details.

Point Finder with Buzzer

Point Finder with Buzzer ® PAT.P

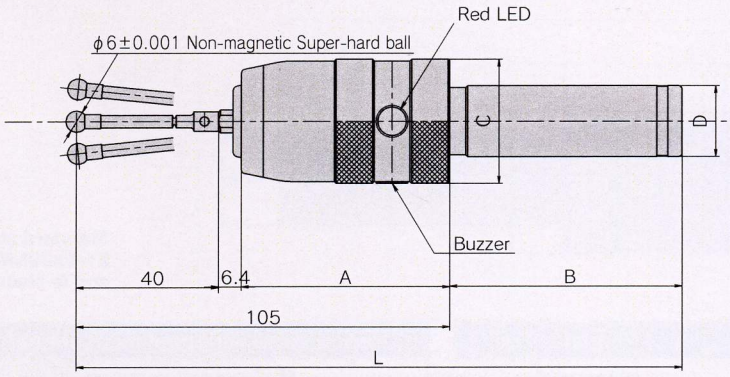


Buzzer indicates.

'Point Finder with Non-magnetic Stylus', Precise touch sensor with ±0.0005mm repeatability and a special mechanism -the stylus swings ±13mm in X,Y direction, +5mm in Z direction.

Inside and outside diameter, reference position, center, angle, groove width, and height etc, can be all measured. No measuring errors caused by magnetism. The screw type stylus facilitates exchange of it. LED emits light in 3directions and the buzzer indicates the position. The battery lifespan is approximately 1 year. Iron and nonferrous metals are measurable likewise. ϕ20, and ϕ30 shank size are offered. For non-metals, please utilize Point Finder-i.

- Over Travel XYaxis ····· ±13mm
  Zaxis ····· +5mm
- Repeatability ····· ±0.5μm
- Frequency of the buzzer ····· 2,700Hz
- Measuring pressure ····· 0.1gf



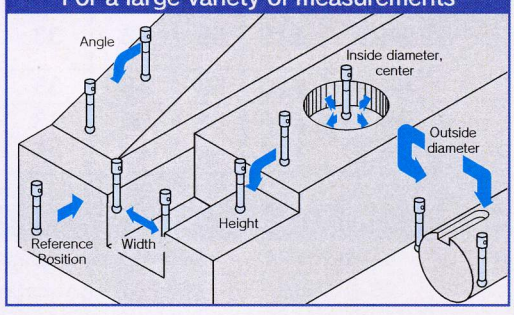
PTC-20 Standard stylus is ST-6x40NM, and is changeable with others

Pattern	D(h7)	A	B	C	L	Batteries	Mass(g)
PTC-20	ϕ20	56	65	35	170	Manganese R1(UM-5)×2	350
PTC-32	ϕ32	56	65	35	170		600

Non-magnetic Stylus		
Pattern		Screw size
ST-3×40NM	ϕ3 Non-magnetic Stylus	M3×0.5
ST-6×40NM	ϕ6 Non-magnetic Stylus	

Diameter of the standard stylus is ϕ6
Spanner for exchanging stylus is not included.
Contour/quality can be changed for improvement.

For a large variety of measurements



Refer 21,22p for details.

Centering Gauge Swing Type

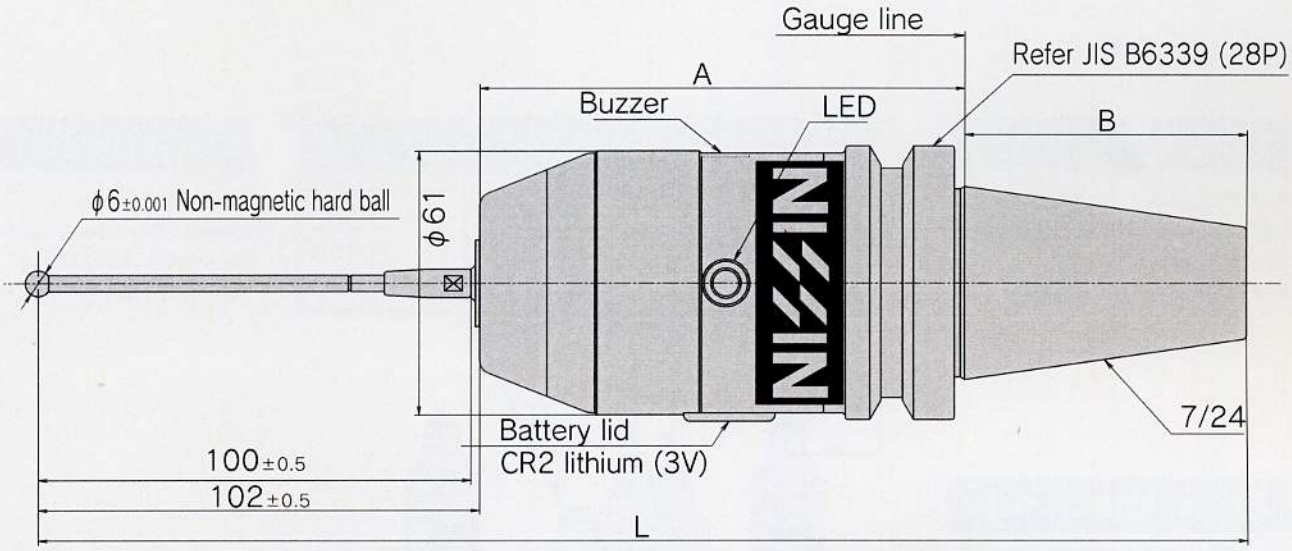
Centering Gauge Swing Type® PAT.P

The precise three-dimensional measurer

Precise measurement is possible with the built-in highly-sensitive CT board (No chattering phenomenon*1) and no triangle-errors. Every pattern comes with a buzzer. Stylus is elective from ϕ1 to ϕ6. Iron and nonferrous metals can be measured likewise (Please utilize Point Finder-i for non-metals). No reaction to an oil film. Thin workpieces can be measured accurately. Stylus swings in X,Y, and Z directions, and is safe. Battery lifespan is approximately 1year.

- Over Travel XYaxis ····· ±50mm
  (with 100mm stylus) Zaxis ····· +10mm
- Repeatability ····· ±0.25μm
- Frequency of the buzzer ····· 2,700Hz
- Measuring pressure XYZ ····· 0.01gf

Refer 23p for details.



BT-40NM Standard stylus is ST-6x100N, and is changeable

Pattern	D(h7)	A	B	L	Mass(kg)
S-20NM	φ20	84	60	246	1.3
S-25NM	φ25	84	68	254	1.4
S-32NM	φ32	84	68	254	1.5
S-42NM	φ42	84.5	89	275.5	2.1
MT-04NM	MT4	96	108.6	306.6	1.7
MT-04NMT	MT4 with tongue	96	117	314.5	1.8
NT-30NM	NT30	100.5	68.4	270.9	1.4
NT-40NM	NT40	94.5	93.4	289.9	1.9
NT-50NM	NT50	104.7	126.8	332.8	3.9
BT-30NM	BT30	106	48.4	256.4	1.6
BT-40NM	BT40	111.8	65.4	279.1	2.1
BT-50NM	BT50	127.7	101.8	331.5	4.8

Non-magnetic Stylus screwed with 5.5mm/6mm sized spanner (not included)

Pattern	Size	Screw size
ST-1×50N	φ1×50mm	
ST-2×50N	φ2×50mm	
ST-3×50N	φ3×50mm	
ST-4×50N	φ4×50mm	
ST-5×50N	φ5×50mm	
ST-6×50N	φ6×50mm	
ST-1×100N	φ1×100mm	M4×0.7
ST-2×100N	φ2×100mm	
ST-3×100N	φ3×100mm	
ST-4×100N	φ4×100mm	
ST-5×100N	φ5×100mm	
ST-6×100N	φ6×100mm	
ST-6×150N	φ6×150mm	
ST-6×200N	φ6×200mm	

Please inquire about positioning the groove of the flange.
Please indicate the pattern if used with OKUMA's machining centre.
Contour/quality can be changed for improvement

Please indicate the pattern if used with OKUMA's machining centre.
Half-automatic measurement is possible.

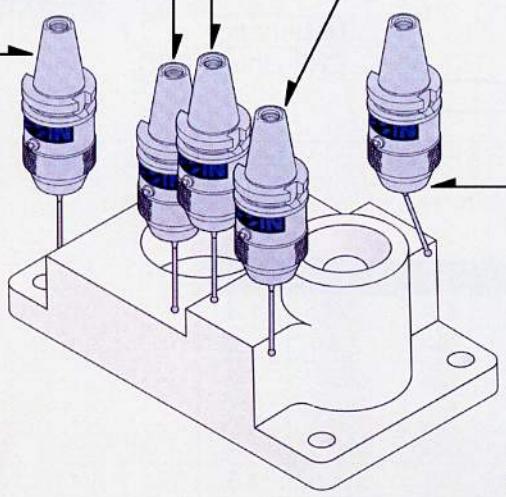
Outside measuring

x=X-6(diameter of stylus)
Yaxis likewise X=297.986
Inside measure likewise
x=X+6(diameter of stylus)

Height measuring

X −303.986	X −120.000	X 0.000
Y 0.000	Y 100.000	Y 0.000
Z −10.000	Z −40.012	Z −10.000

Height −40.012



Reference position measuring

LED indicates the position 3mm away from the centre of the stylus. Input the origin zero.

Error checking

When a gauge block held on the table is measured, the gap between 'gauge block+6(diameter of stylus)' and the reading is the error that the machinery makes.

Enough range of over travel prevents breakage, and facilitates quick and easy measurements, remote control, measurement at unseeable positions.

External diameter measuring

Input X as zero.
Calculate the value of X by moving the stylus in the other direction.
x=X-6(diameter of stylus)
X=80.022
Yaxis likewise

Centering

X	26.990
Y	26.990
Z	150.000

(Calculate 1/2 of the reading of X,Y)
Centering
x=X+a(particular value on Xaxis)
y=Y+b(particular value on Yaxis)

Internal diameter measuring

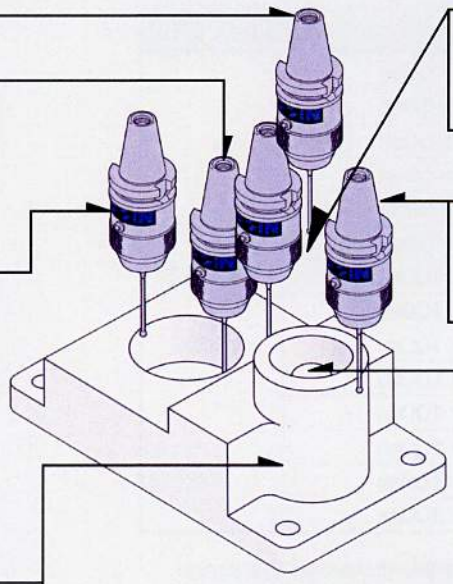
Input Y as zero.
Calculate the value of Y by moving the stylus in the other direction.
x=X+6(diameter of stylus)
X=59,980
Yaxis likewise

X	0.000
Y	26.990
Z	−15.000

X	53.980
Y	26.990
Z	−15.000

X	0.000
Y	43.011
Z	−15.000

X	86.022
Y	43.011
Z	−15.000



Curved line can be also measured by co-ordinate value.

Angle measuring

Taper can be also measured.