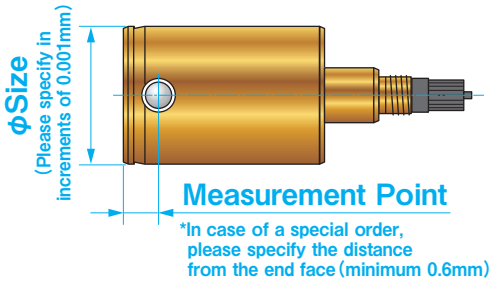


INQUIRY SHEET

S-LINE PRECISION MEASURING PLUG GAUGE HEAD is complete custom-made product to meet customer's workpiece size.
Please fill in the form below and contact your distributor.



●HEAD

Item	Entry column			
Model No.	2-point measuring head	●Standard type <input type="checkbox"/> NO-02 <input type="checkbox"/> NO-03	●Short type <input type="checkbox"/> XK-02 <input type="checkbox"/> XK-03	●Bottom type <input type="checkbox"/> SL-02 <input type="checkbox"/> SL-03
	3-point measuring head	●Standard type <input type="checkbox"/> NO-03-3P	●Short type <input type="checkbox"/> XSO-03-3P	
Workpiece size (0.001mm unit)				
Workpiece tolerances (Specified/ fit tolerances)				
Position of measurement point	<input type="checkbox"/> Standard *See inside <input type="checkbox"/> Special order ()			
Probe material	<input type="checkbox"/> Standard (Carbide coating polished finish) <input type="checkbox"/> Special order (Diamond) *Not available for SL-02 and SL-03			

*Measuring range is to be determined by Niigata Seiki based on the workpiece tolerance.

●OPTION

Item	Entry column
Holder	<input type="checkbox"/> Purchase (Model No. ...) <input type="checkbox"/> Not necessary
Ring gauge	<input type="checkbox"/> Purchase (Size ...) ↳ <input type="checkbox"/> Steel <input type="checkbox"/> Carbide (up to φ50mm) <input type="checkbox"/> Ceramic (up to φ50mm) <input type="checkbox"/> Not necessary
Dial gauge	<input type="checkbox"/> Purchase (Model No. ...) <input type="checkbox"/> Not necessary
Depth stopper	<input type="checkbox"/> Purchase (Model No. ...) <input type="checkbox"/> Not necessary

*The appearance and specifications are subject to change without notice for product improvement.
*There may be a slight difference in color between the printed material and the actual product.

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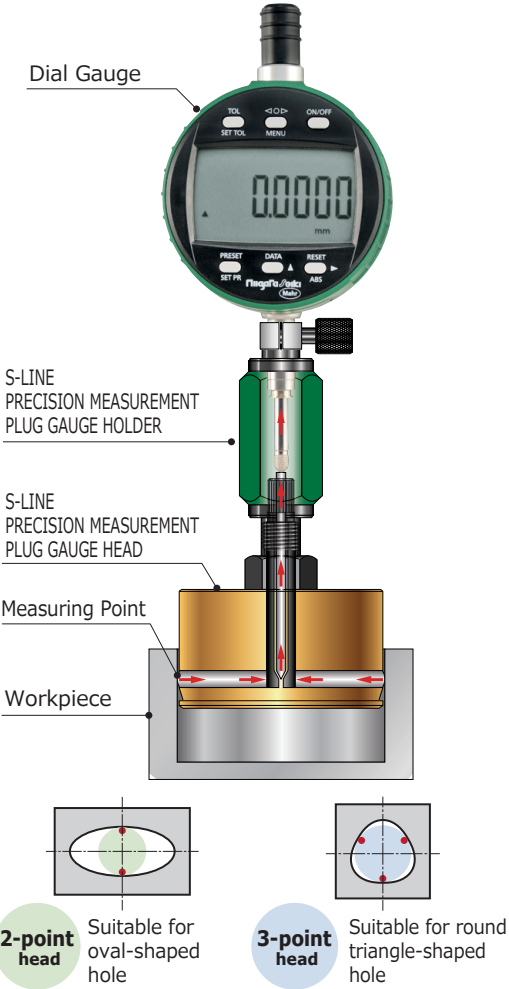
■Distributor

No23041000PA



For increasing efficiency + accuracy of internal diameter measurement in inspection process of mass-produced products.

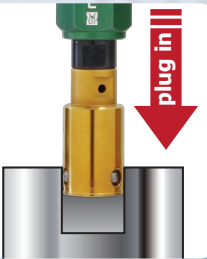
S-LINE PRECISION MEASUREMENT PLUG GAUGE



Easy

- (1) Origin setting with reference ring gauge
- (2) Just plug in

Not only skilled workers, anyone can perform highly accurate measurements.



Efficient

- ▶ Dedicated gauge head to be used in mass-production lines
- ▶ Unlike limit gauges, numerical control is possible
- ▶ No air-piping equipment is required and can be used at any site

Accurate

- ▶ Low error in a stable form of measurement
- ▶ Repeatability less than 1μm
- ▶ Titanium coating prevents wear and maintains high precision

Comparison of advantages/ disadvantages of bore measuring gauges

Bore measuring gauges	Advantages	Disadvantages	How to measure
Pin gauge・Limit plug gauge	◎ Easy pass-fail judgement	✕ Unable to take readings ✕ Unsure of workpiece shape	Go/ Nogo judgement
Bore gauge	◎ Wide measurement range allows measurement of various diameters	✕ Unstable measurements ✕ Requires a certain skill	Manually locate measurement points
Three-point micrometer	◎ Wide measurement range allows measurement of various diameters ◎ Stable measurement by three-point contact	✕ Due to the longer length of the probe, it is difficult to know where being measured ✕ The probe needs to be in contact with all sides of the workpiece ✕ Unsure of workpiece shape	Ratchet to adjust diameter
S-LINE PRECISION MEASUREMENT PLUG GAUGE	Disadvantages of Bore gauge removed ◎ Measure while placing the bottom of the gauge head against the bottom of the hole → Stable measurement Disadvantages of Limit plug gauge/ Bore gauge/ 3-point micrometer removed ◎ Custom probe position → Enables measurement at precise points Disadvantages of Limit plug gauge/ 3-point micrometer removed ◎ Point contact by ball probe → Enables measurement at precise points	✕ Small measurement range due to dedicated design for the workpiece Major advantage of using for mass-produced workpieces - "smaller measurement ranges allows greater accuracy"	Just plug in and measure instantly

S-LINE PRECISION MEASUREMENT PLUG GAUGE HEAD

Overwhelmingly improves the efficiency of sites where requires frequent inspections of fixed sizes such as mass-production lines.
Complete custom order to be used with a holder and dial gauge.

- Head … Material: Tool steel (titanium nitride coated) / Hardness: approx. HV 2200
- Probe … Material: Carbide coating polished finish (diamond probe available at an option)

*Gauge head is complete custom order product. Please inquire with the inquiry sheet on the back.

SL-03 (φ20)
2-point measuring head<Bottom type>


NO-03-3P (φ20)
3-point measuring heads<Standard type>

2-point measuring head <Standard type>

Model No.	Size φZ (mm)	Mounting screw diameter	Measuring range (mm)		Dimensions of each part (mm)				Clearance groove	Dimensions
			Standard	Expansion	Overall*1 length L1	Gauge length L2	Tolerance of outer diameter	Measurement point X		
NO-02	φ6 ~ φ8	M6 × P0.75	0.15	0.6	35.5	27	-0.015 / -0.05	5	—	
	φ8 ~ φ20									
NO-03	φ15 ~ φ40	M10 × P1.0	0.2	0.8	41	29	-0.02 / -0.06	6	○	
	φ40 ~ φ50						-0.03 / -0.06			
	φ50 ~ φ100				42.5	33.5	-0.03 / -0.08	7.5		
	φ100 ~ φ280				45	36		10		

*1 : Excluding mounting area

2-point measuring head <Short type>

Model No.	Size ϕZ (mm)	Mounting screw diameter	Measuring range (mm)		Dimensions of each part (mm)				Clearance groove	Dimensions
			Standard	Expansion	Overall ^{*1} length L1	Gauge length L2	Tolerance of outer diameter	Measurement point X		
XK-02	$\phi 6 \sim \phi 8$	M6 \times P0.75	0.15	0.6	32	23.5	-0.015 / -0.05	1.6	—	
	$\phi 8 \sim \phi 20$									
XK-03	$\phi 15 \sim \phi 40$	M10 \times P1.0	0.2	0.8	37.5	25.5	-0.02 / -0.06	2.5	○	
	$\phi 40 \sim \phi 50$						-0.03 / -0.06			
	$\phi 50 \sim \phi 130$					28.5	-0.03 / -0.08			
	$\phi 130 \sim \phi 280$									

*1 : Excluding mounting area

2-point measuring head <Bottom type> *Diamond probe not applicable

Model No.	Size ϕZ (mm)	Mounting screw diameter	Measuring range (mm)		Dimensions of each part (mm)				Clearance groove	Dimensions
			Standard	Expansion	Overall ^{*1} length L1	Gauge length L2	Tolerance of outer diameter	Measurement point X		
SL-02	$\phi 10 \sim \phi 20$	M6 \times P0.75	0.15	—	32	23.5	-0.015 / -0.05	0.6		
SL-03	$\phi 15 \sim \phi 40$	M10 \times P1.0	0.2	0.3	37.5	25.5	-0.02 / -0.06	1.2		
	$\phi 40 \sim \phi 50$					-0.03 / -0.06				
	$\phi 50 \sim \phi 130$					28.5	-0.03 / -0.08			

*1 : Excluding mounting area

3-point measuring head <Standard type>

Model No.	Size φZ (mm)	Mounting screw diameter	Measuring range (mm)		Dimensions of each part (mm)				Clearance groove	Dimensions
			Standard	Expansion	Overall*1 length L1	Gauge length L2	Tolerance of outer diameter	Measurement point X		
NO-03-3P	φ15 ~ φ40	M10 × P1.0	0.2	0.6	41	29	-0.02 / -0.06	6	○	
	φ40 ~ φ50						-0.03 / -0.06			
	φ50 ~ φ100				42.5	33.5	-0.03 / -0.08	7.5		

*1 : Excluding mounting area

3-point measuring head <Short type>

Model No.	Size φZ (mm)	Mounting screw diameter	Measuring range (mm)		Dimensions of each part (mm)				Clearance groove	Dimensions
			Standard	Expansion	Overall*1 length L1	Gauge length L2	Tolerance of outer diameter	Measurement point X		
XS0-03-3P	φ15 ~ φ40	M10 × P1.0	0.2	0.6	38.5	26.5	-0.02 / -0.06	3.5	○	
	φ40 ~ φ50						-0.03 / -0.06			
	φ50 ~ φ100					29.5	-0.03 / -0.08			

*1 : Excluding mounting area

S-LINE PRECISION MEASUREMENT PLUG GAUGE HOLDER

Combined with the Gauge head, hole diameter measurement of mass-produced products becomes "easier", "more efficient" and "more accurate".

- Mountable dial gauge: Stem diameter φ8mm H7
Stem length 37mm or larger (including probe)

SKP-HM-02-32, SKP-HM-GS-02-50, SKP-HM-02-50, SKP-HM-02-100, SKP-HM-02-150, SKP-HM-GS-03-60, SKP-HM-03-60, SKP-HM-03-150

Model No.	Compatible head size (mm)	Mounting screw dia. of head	Weight
SKP-HM-02-32	φ6 ∩ φ20	M6 × P0.75	30g
SKP-HM-GS-02-50			20g
SKP-HM-02-50			40g
SKP-HM-02-100			80g
SKP-HM-02-150			85g
SKP-HM-GS-03-60	φ15 ∩ φ280	M10 × P1.0	50g
SKP-HM-03-60			75g
SKP-HM-03-150			130g

RING GAUGE

(Steel・Carbide・Ceramic)

With an indication of the actual measured value, suitable for use as a high precision measuring master. Production available in 0.001mm increments.

Steel Wide range of sizes in stock <Available in all sizes>

Carbide Excellent abrasion resistance and long-life <Up to φ50mm>

Ceramic Easy maintenance without risk of rust <Up to φ50mm>

DIAL GAUGE

(Digital indicator・Dial comparator)

Niigata Seiki recommended equipped model. We offer a wide variety of choices from digital built-in wireless types to a high-precision dial comparator.

- Measuring force: Less than 1.5N
- DEI-121MH, DEI-121MW …… Large LCD type
- DEI-122MH, DEI-122MW …… Digital + analog display type
- KMC-1001 …… Ultra-high precision dial comparator

DEI-121MH, DEI-121MW, DEI-122MH, DEI-122MW, KMC-1001

Model No.	Measuring range (mm)	Resolution (mm)	Reading display (mm)	Maximum error (μm)	Hysteresis error (μm)	Repeatability (μm)	Connection unit for data transmission
DEI-121MH	12.5	0.0001	0.01/0.005/0.002/0.001/0.0005/0.0001	1.8	0.6	0.5	DTC-M1 (wired)
DEI-121MW		0.0005	0.01/0.005/0.002/0.001/0.0005	4	2	1	WI-1M (wireless) / DTC-M1 (wired)
DEI-122MH		0.0001	0.01/0.005/0.002/0.001/0.0005/0.0001	1.8	0.6	0.5	DTC-M1 (wired)
DEI-122MW		0.0005	0.01/0.005/0.002/0.001/0.0005	4	2	1	WI-1M (wireless) / DTC-M1 (wired)
KMC-1001	0.1	0.001	0.001	1	0.5	0.5	—

DEPTH STOPPER

Depth stopper to ensure measurement at a constant depth. More stable measurement of mass-produced products leads to increased efficiency.

- TA-KR-V… Custom production based on gauge head size. Production available up to φ85mm gauge head.
- TA-02-45, TA-02-75, TA-03… Used in combination with optional joint rod (sold separately) or SKP-HM-GS-03-60. Deep and shallow holes can be measured. Please contact us for inquiry.

TA-KR-V, TA-KR-V Mounting example, TA-02-45, TA-02-75, TA-03