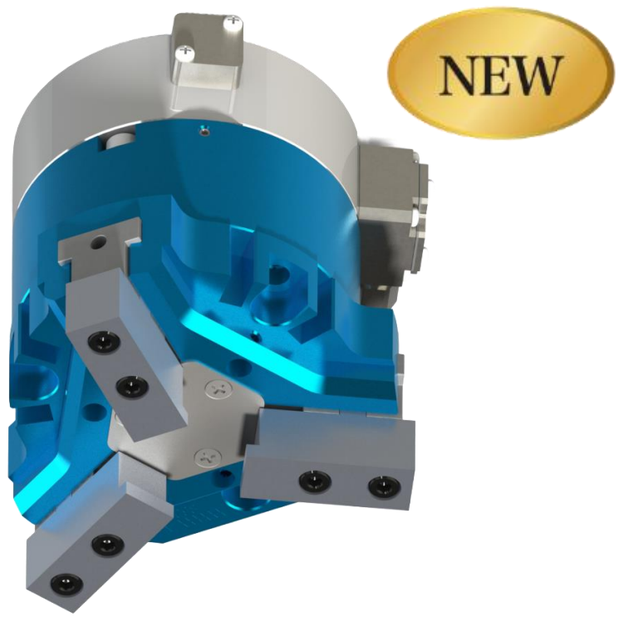
Measurement Gripper Series

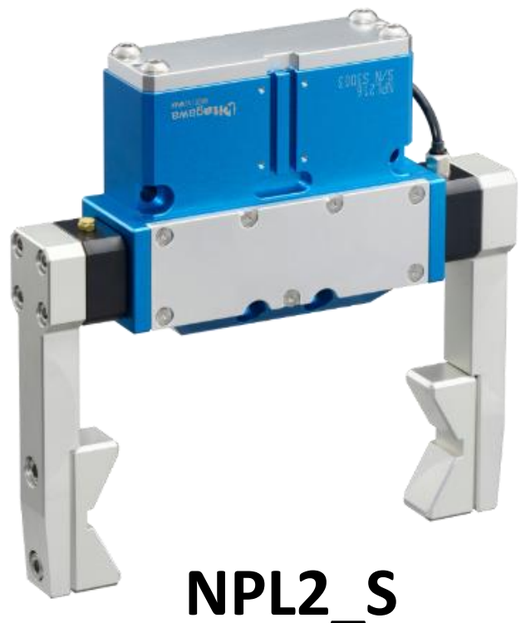
“Scale-integrated design enables measurement at the workholding point.”

Now available in a new 3-jaw type.

NPGT S



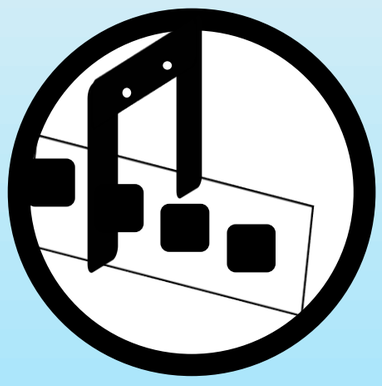
NTS3 S



NPL2 S

- **Detect defects through “precision measurement”**
  → **Repeatability: ±2 μm** (In-house test results)
- **Measure dimensions while transferring**
  → **100% in-process inspection with a single unit**
- **Numerical data output available**
  → **Manage measurement data on a PC**
- **Automation-ready**
  → **Combine with MET to automatically judge pass/fail and variation**

Defect detection



100% inspection

Data management

Cost reduction

【 Specifications】

2-jaw type

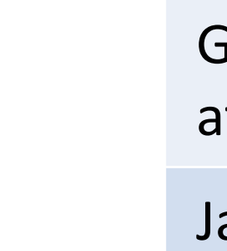
Model	NPGT08S	NPGT10S	NPGT12S	NPGT16S	NPL216S
Gripping force (OD) at 0.6 MPa	600 N	1000 N	2000 N	2800 N	1080 N
Gripping force (ID) at 0.6 MPa	500 N	860 N	1700 N	2650 N	2080 N
Jaw stroke (diameter)	16.6 mm	20.8 mm	26.4 mm	32.6 mm	37 mm
Operating pressure	0.2～0.8 MPa				0.2～0.6 MPa
Mass	0.79 kg	1.25 kg	2.45 kg	4.54 kg	2.9 kg

Note: NPL2_S is dustproof and waterproof. To use at IP67, connect an additional ventilation hose to the gripper.
If not connected, the protection rating becomes IP54.

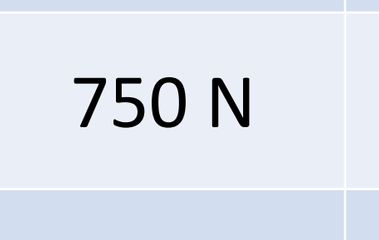
3-jaw type

Model	NTS307S	NTS309S	NTS311S
Gripping force (OD) at 0.6 MPa	660 N	1010 N	1810 N
Gripping force (ID) at 0.6 MPa	750 N	1010 N	1810 N
Jaw stroke (diameter)	12 mm	16 mm	20 mm
Operation pressure	0.2～0.6 MPa		
Mass	0.71 kg	1.20 kg	1.96 kg

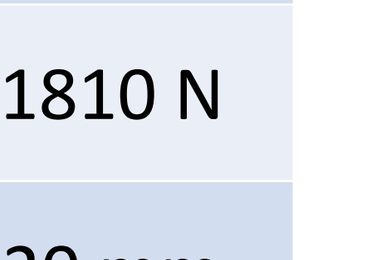
For details:
Robot Hand web page



Measurement introduction video

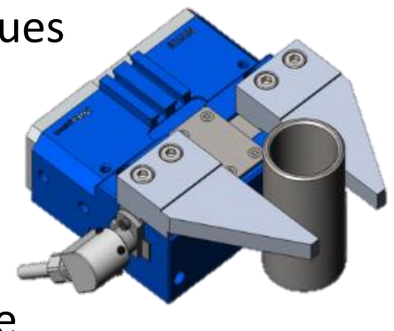


Demonstration video



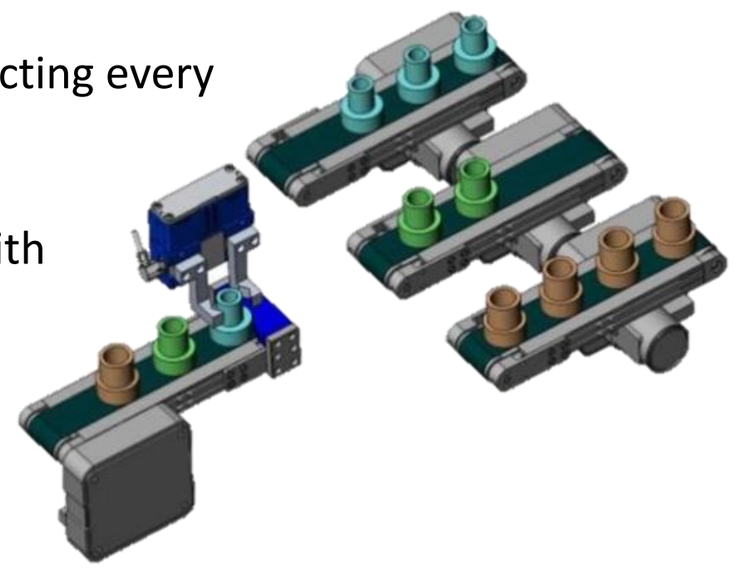
【 Features】

1 Identify defective parts through “precision measurement”



Grippers capable of measuring while gripping have existed for some time; however, because values were derived indirectly, precise measurement was not possible.
Kitagawa’s Measurement Grippers adopt a compact built-in scale, enabling direct measurement of jaw opening/closing travel. This delivers highly accurate measurement with repeatability of ±2 μm during external diameter gripping. *(In-house test results)*
This makes it possible to identify defective parts caused by machining errors and to check for the presence/absence of extremely small foreign matter.

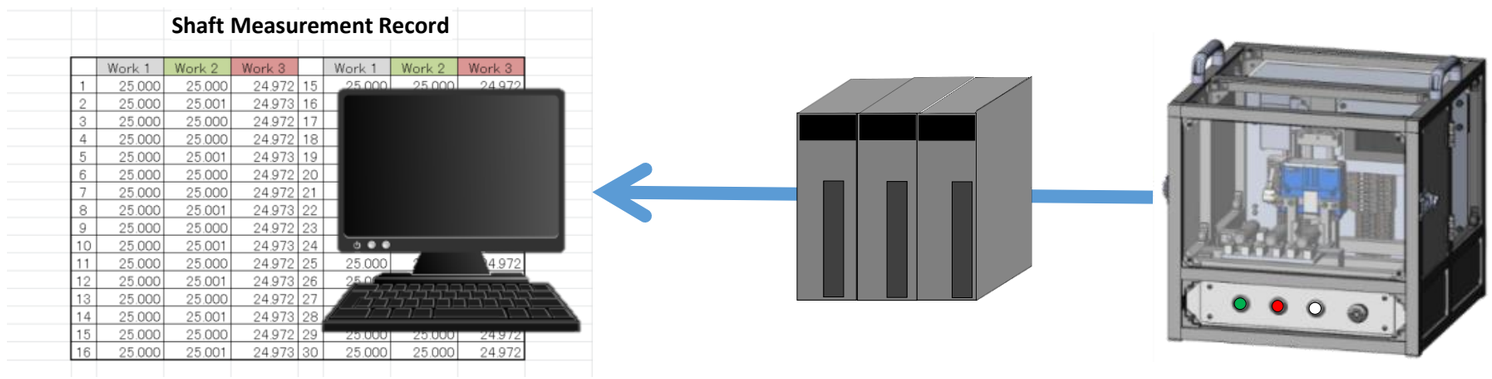
2 Enables 100% in-process inspection



Traditionally, transfer and inspection were handled as separate processes. Inspecting every product required significant cost and time, so quality assurance often relied on sampling inspection.
By using a Measurement Gripper, measurement is performed simultaneously with transfer, enabling inspection of all products and removal of defective/abnormal parts—helping to reduce the risk of defects escaping to the next process.

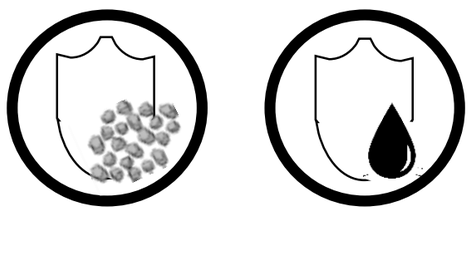
3 Manage all measurement data

Previously, inspection results were often recorded manually (handwritten records, manual data entry).
With the Measurement Gripper, numerical data is processed via a counter unit, and by importing measurement data into a PC, workpiece information and measurement records can be managed digitally.



4 Suitable for harsh environments (NPL2_S only)

The NPL2_S features dustproof and waterproof protection to IP67, enabling use in harsh environments where dust or cutting fluid is present.
In addition, its high internal diameter gripping force enables transfer of heavier workpieces. *(ID gripping force: 2080 N)*
To use at IP67, an additional ventilation hose must be connected. Please refer to the instruction manual for details.



5 Automation by combining with the Measuring & Judgement System

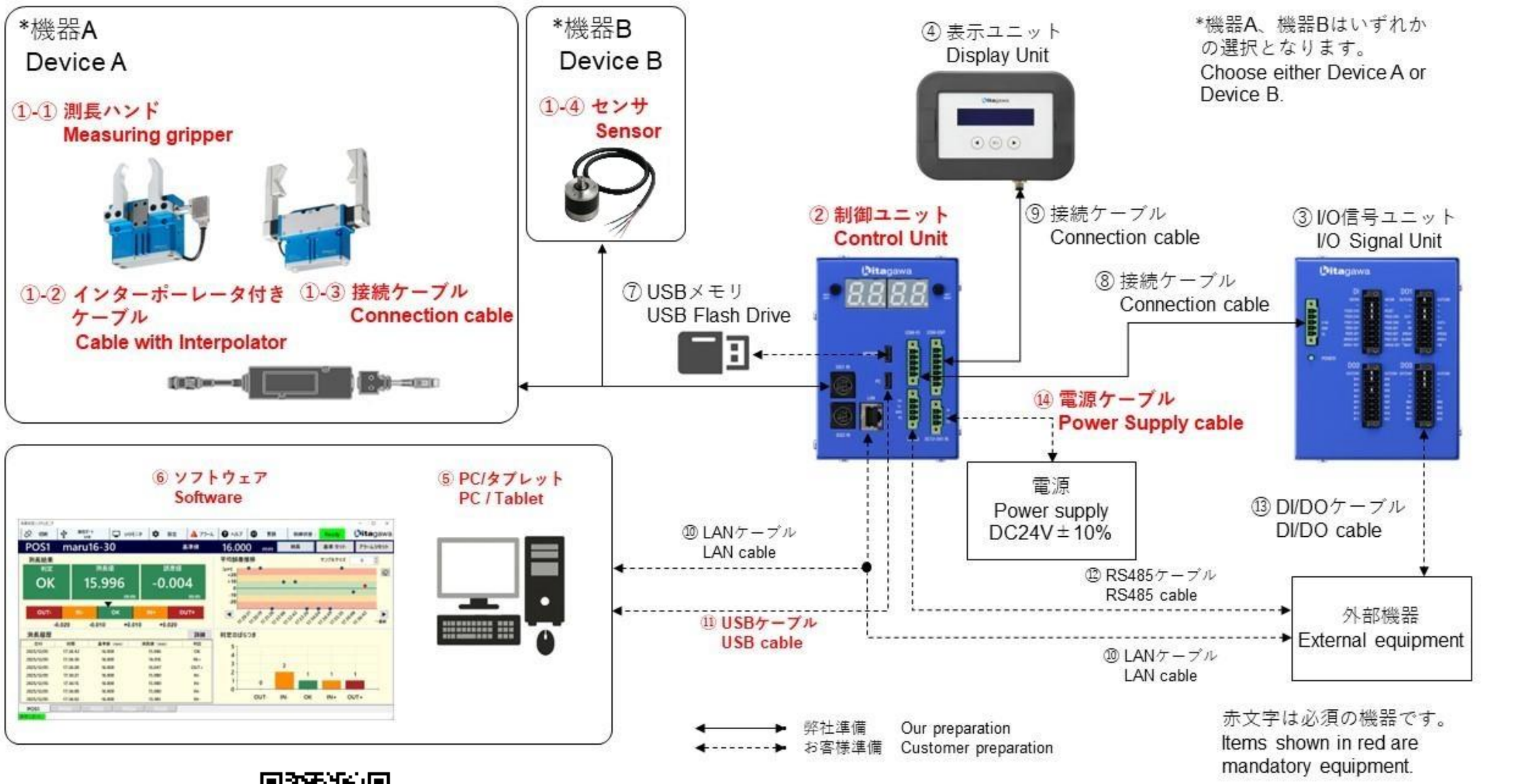
When used together with the optional MET Measuring & Judgement System, an inspection system can be built easily without programming expertise, enabling low-cost factory automation.

Introduction to the Measuring & Judgement System MET

【Key Features】

1. **Quick set-up without specialist knowledge**
   Build an inspection system easily and reduce start-up costs.
2. **Easy configuration using the dedicated app**
   Configure settings from a familiar PC environment.
3. **5-level judgement based on measurement data**
   Visualise trends such as tool wear and temperature-related variation.
4. **Up to 5 measurement points**
   Set up to five measurement points.
5. **Save and export data for traceability**
   Store/export measurement data and refer back to past records.

【System configuration】



Scan the QR code **for details.**

Kitagawa product technical information is available on the Kitagawa Web Showroom.
https://prod.kiw.co.jp/exhibition/mtools/en/

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