

<b>James Walker</b>		<b>Date:</b> May 9, 2022	<b>Rev:</b> 3	<b>Page:</b> Page 1 of 3	<b>Document No:</b> QPD129 <b>Approved by:</b> Quality Manager
Selection of Gauges					

**REASON FOR UPDATE:** Addition of Pi Tape Limitation - 5

**ASSOCIATED DOCUMENTS:** n/a

## 1. **PURPOSE**

1.1 To provide a procedure for the selection of gauges.

## 2. **SCOPE**

2.1 This document applies to all those involved with the selection of gauges.

## 3. **RESPONSIBILITY**

3.1 The Quality Manager is responsible for updating and communicating the details within this procedure.

## 4. **PROCEDURE**

General rules:

- Non-contacting methods are preferred when measuring flexible materials
- Digital gauges are preferred over Vernier scale instruments
- Calibrated gauges only to be used for Quality critical/significant features
- Measurement system error to be established for each gauge type
- If a gauge is only "OK" for a particular use, suitable regard should be made to sources and magnitude of errors in subsequent decision-making.

### **Key**



Preferred



Okay



Not Suitable

NB. Standard reference work for use of gauges is the "Mitutoyo Metrology Handbook" Copies are available from the Quality Department.

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	O ring internal diameter	O ring section	O ring depth	Gasket thickness	Gaskets other	Length	Depth (thickness)	Internal diameter (ID)	External Diameter (OD)	Section	Angles	Surface texture	Shore "A" hardness	IRHD Hardness	Recess Depth	Bore
MicroVu																
Digital Caliper																
Vernier Caliper																
Laser Micrometer																
Flat anvil micrometer																
Ball anvil micrometer																
Hybrid (fixed hemisphere, movable flat) micrometer																
Rule																
Digital thickness indicator (DTI)																
Wallace portable Hardness tester																
Portable Durometer																
Surface roughness sample set																
"American" protractor																
Precision protractor																
Bore micrometer																
Circrometer (Pi tape)																
Depth gauge																

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5. **Pi Tape Measurement below 80mm**

Where measurement of a part is required when below 80mm on outside diameter a calibrated vernier is to be used. The part is to be measured in 4 places and then the average calculated to give an outside diameter measurement which can be recorded as the outside diameter.