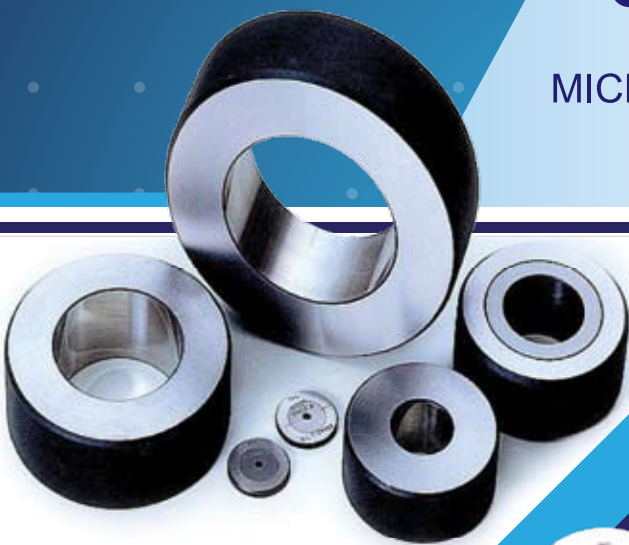


**TTG**  
Limit Gauges

## CALIBRATION SERVICES

Provided by  
MICROREP CALIBRATION LABORATORY



**MICROREP PRECISION (M) SDN. BHD.** (461590-T)

[www.microrep.info](http://www.microrep.info)

The Instruments For Your Industries Need

## EZH Series - Thread Plug Gauge



TTG

### DO YOU WISH TO .....

- Save cost and raise your level of quality ?
- Reduce paper work on your quality document control ?
- Cost saving in purchase new thread plug gauge ?

**YES ! Choose EZH Series-Thread Plug Gauge !**

### SPECIFICATION :

- Thread gauge member are hardened to >58HRC.
- Gauge member material: High Grade Tool Steel.
- As per general International Screw Thread Standard.



thread gauge member

### HOW DOES IT LOOK LIKE and HOW DOES IT SAVE COST ?

- EZH Series Of Thread Plug supply with GREEN & RED color handle with clamping collets.
- Easy Go & Nogo identification by color coating on handle (like traffic light).
- Gauging member can be removed from handle by loosening the clamping collets.
- Worn GO or NOGO gauge member can be quickly & easily replaced by NEW thread gauge member.
- Thread gauge member can be purchased separately. Therefore, not necessary to purchase the whole new GO/NOGO gauges.

## Screw Caliper Gauges



### USAGE OF SCREW CALIPER GAUGES:-

- Same as solid screw ring gauges.
- Provide an efficiency and quick method of checking Pitch Diameter of external threaded component.

### IN ONE SCREW CALIPER GAUGE SUITABLE FOR BOTH:

- Right hand thread
- Left hand thread

### IN ONE GAUGES CAN ADJUST FOR DIFFERENT CALSS:-

- Any class of fit (4h, 6e, 6g, 6h, 2A, 3A, & ..... Etc)
- Various sizes with same pitch within same frame capacity.
- Before plating use.
- After plating use.

### HOW MUCH YOU CAN SAVE ?

- Tool life up to 10 times longer than conventional solid thread ring.
- Because the anvils can be reground and re-setting.
- Shorter delivery time.
- Non standard gauges
- GO & NOT GO gauge in one screw caliper

Screw Caliper Gauges Were Found And Recognize  
By Major INTERNATIONAL STANDARDS like  
ISO 1502, British Standard BS 919 Part 1... etc.

*the Malaysian Precision Equipment company*

**MICROREP PRECISION (M) SDN BHD**

www.microrep.info

Tel (60) 03-8994 0678 Fax (60) 03-8994 0679

E-mail : sales@microrep.info / microrep@streamyx.com

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## RECOMMENDED MAINTENANCE

- It is recommended that all gauges be checked periodically. Gauges are the basic measurement instrument but are also subject to wear.
- Gauges which are out of specification due to wear or other reasons are potential problems. It is in the users interest to ensure that all gauges have been checked. This is true even if the frequency of use is low or if it is difficult to provide the proper measuring conditions or instruments.

**MICROREP offers a periodic calibration service for gauges. Please contact us for further information on the services.**

## PROPER CARE AND USAGE OF GAGES

- Part dimensions to be gaged should be cleaned and burr free to prevent gaging interference.
- Gages should be turned or pushed slowly and gently into or onto the dimension being checked. Forcing gages will result in faulty gaging and the possibility of damaging both the part and gage.
- The effects of thermal expansion should be taken into consideration on both the part and the gage. The temperature of the part and the gage should be the same. 20° C is the ideal temperature at which both part and gage should be at when inspected because gages are calibrated at 20° C. This effectively eliminates any error due to thermal expansion.
- Protecting gages from excessive heat, moisture and corrosive chemicals will extend the life of your gages. After use, gages should be cleaned and recoated with a thin-film rust preventative and stored properly.
- Gages should be periodically inspected and calibrated to assure accuracy. Go member gages tend to wear quicker with normal use. NOGO gages will wear on the ends that receive the greatest usage. Frequency of inspection and calibration should be dependent on such factors as the amount of usage, part and gage material, tolerance, and quality procedures.
- Gauges should always be stored in a secure place, protected from possible misuse or damage. When stored, use an oil-wax based dip seal to protect the gauges from rust or damage.
- Any alterations should be done by gauge making professionals due to material displacement and the need for re-calibrations after the alteration is complete.
- When shipping gauges, they should be packaged separately with sufficient packaging material to prevent rust or damage by freight carriers.

**Properly handled and stored gauges will result in longer gauge life and consistent product quality.**

\* Note: Non-common size, special order items are custom made, are non returnable for credit and can not be cancelled after order is processed. Down payment require when necessary.

STANDARD GAGEMAKER'S TOLERANCE CHART							
Plain Plug, Plain Ring & Master Gauge Tolerance							
ABOVE	TO & INCLD.	CL-XXX	CL-XX	CL-X	CL-Y	CL-Z	CL-ZZ
0.010"	0.825"	0.00001"	0.00002"	0.00004"	0.00007"	0.0001"	0.0002"
0.254 mm	20.95 mm	0.25 µm	0.51 µm	1.02 µm	1.78 µm	2.54 µm	5.08 µm
0.825"	1.510"	0.000015"	0.00003"	0.00006"	0.00009"	0.00012"	0.00024"
20.95 mm	38.35 mm	0.38 µm	0.76 µm	1.52 µm	2.29 µm	3.05 µm	6.10 µm
1.510"	2.510"	0.00002"	0.00004"	0.00008"	0.00012"	0.00016"	0.00032"
38.35 mm	63.75 mm	0.51 µm	1.02 µm	2.03 µm	3.05 µm	4.06 µm	8.13 µm
2.510"	4.510"	0.000025"	0.00005"	0.0001"	0.00015"	0.0002"	0.0004"
63.75 mm	114.55 mm	0.64 µm	1.27 µm	2.54 µm	3.81 µm	5.08 µm	10.16 µm
4.510"	6.510"	0.000033"	0.000065"	0.00013"	0.00019"	0.00025"	0.0005"
114.55 mm	165.35 mm	0.84 µm	1.65 µm	3.30 µm	4.83 µm	6.35 µm	12.70 µm
6.510"	9.010"	0.00004"	0.00008"	0.00016"	0.00024"	0.00032"	0.00064"
165.35 mm	228.85 mm	1.02 µm	2.03 µm	4.06 µm	6.10 µm	8.13 µm	16.26 µm
9.010"	12.010"	0.00005"	0.0001"	0.0002"	0.0003"	0.0004"	0.0008"
228.85 mm	305.05 mm	1.27 µm	2.54 µm	5.08 µm	7.62 µm	10.16 µm	20.32 µm
12.010"	15.010"	0.000075"	0.00015"	0.0003"	0.00045"	0.0006"	0.0012"
305.05 mm	381.25 mm	1.90 µm	3.81 µm	7.62 µm	11.43 µm	15.24 µm	30.48 µm
15.010"	18.010"	0.0001"	0.0002"	0.0004"	0.0006"	0.0008"	0.0016"
381.25 mm	457.45 mm	2.54 µm	5.08 µm	10.16 µm	15.24 µm	20.32 µm	40.64 µm
18.010"	21.010"	0.000125"	0.00025"	0.0005"	0.00075"	0.001"	0.002"
457.45 mm	533.65 mm	3.18 µm	6.35 µm	12.70 µm	19.05 µm	25.40 µm	50.8 µm



## Gauges for external threads of workpieces and their check plugs and setting plugs

The following types are recommended:

- Solid GO screw ring gauges;
- Adjustable GO screw ring gauges;
- Check plugs (GO and NOT GO) for new solid GO screw ring gauges;
- Setting plugs for adjustable GO screw ring gauges;
- Wear check plugs for solid or adjustable GO screw ring gauges;
- GO screw caliper gauges;
- Setting plugs for GO screw caliper gauges;
- NOT GO screw caliper gauges;
- Setting plugs for NOT GO screw caliper gauges;
- Solid NOT GO screw ring gauges;
- Adjustable NOT GO screw ring gauges;
- Check plugs (GO and NOT GO) for new solid NOT GO screw ring gauges;
- Setting plugs for adjustable NOT GO screw ring gauges;
- Wear check plugs for solid or adjustable NOT GO screw ring gauges;
- Plain GO ring gauges;
- Plain GO caliper gauges;
- Plain NOT GO caliper gauges;
- Plain NOT GO ring gauges;
- Check plugs for new plain GO caliper gauges;
- Check plugs for new plain NOT GO caliper gauges;
- Wear check plugs for plain GO caliper gauges.

## Gauges for internal threads of workpieces

The following types are recommended:

- GO screw plug gauges;
- NOT GO screw plug gauges;
- Plain GO plug gauges;
- Plain NOT GO plug gauges.

## Gauging of workpieces

It is not necessary to use all the gauges mentioned above. However, in gauging the limits (checking that the tolerances have been respected), it is essential that a GO and NOT GO gauging always be carried out with one of the GO screw gauges and one of the NOT GO screw gauges referred.

## Gauging of external threads

Preferably a solid or adjustable GO screw ring gauge should be used for gauging an external thread.

To save time, for convenience in checking, or in cases where a GO screw ring gauge is not applicable, a GO screw caliper gauge may be used.

It is, however, recommended that gauging with GO screw caliper gauges should be supplemented by random sampling with a GO screw ring gauge, so that when a large number of parts are checked with a GO screw caliper gauge, a certain percentage receives an additional check with a GO screw ring gauge, thus giving greater assurance of interchangeability between the workpiece threads.

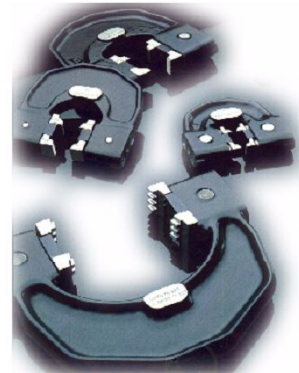


A GO screw caliper gauge should not be used if the manufacturing process is likely to cause deviations in the workpiece thread, which this gauge is not certain to detect, for example local pitch errors in milled threads or burrs at the start of the thread. Furthermore, a GO



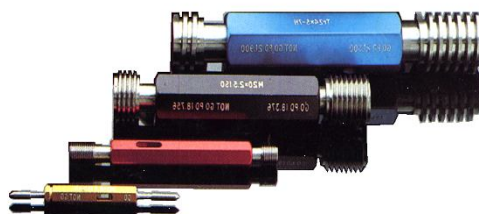
screw caliper gauge is not suitable for checking non-rigid parts, for example thin-walled parts which would be deformed by this gauge. In these cases, checking should be carried out with a GO screw ring gauge.

Similarly, only solid or adjustable NOT GO screw ring gauges should be used for non-rigid workpieces, for example thin-walled parts which would be deformed by checking with a NOT GO screw caliper gauge.



A NOT GO screw caliper gauge is used for checking the simple pitch diameter of an external thread.

GO and NOT GO gauges are used for gauging the major diameter of an external thread of a workpiece. Whether a caliper or ring gauge is used is determined by the form and rigidity of the workpiece. Plain ring gauges should be used on non-rigid parts (see ISO 1938-1).



## Gauging of internal threads

GO and NOT GO screw plug gauges are used for gauging internal threads of a workpiece;

GO and NOT GO plain plug gauges are used for gauging the minor diameter of a workpiece thread (see ISO 1938-1).

## INSPECTION GAUGING

### By the manufacturer

In general, the inspection department that checks the threads made in a workshop may use the same kind of gauges as are used in the workshop.



Disagreement between manufacturing and inspection can occur when products close to the limits of sizes are gauged.

When disputes do arise, it is recommended that the product be accepted if it is shown to be satisfactory by any gauge of the type concerned known to be within the requirements of this International Standard (taking into consideration the admissible wear).



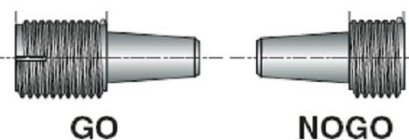
In cases of dispute, checking of the ring gauges by check plugs is decisive if there is no other agreement between the manufacturer and purchaser.

NOTE 1: The possibility of disputes can be reduced to a minimum by grading the gauges so that those used by manufacturers provide a more stringent check than those used on inspection. Generally, this can be achieved by issuing to the workshops new or only slightly worn GO gauges and slightly worn NOT GO gauges. Inspection should be made with GO gauges which are approaching the condition of maximum permissible wear and with new NOT GO gauges.

### By the purchaser

There are three possible procedures, as listed below, for inspection of workpiece threads on behalf of the purchaser by an inspector who does not belong to the manufacturing plant concerned.

a) The inspector gauges the workpiece threads with the manufacturer's gauges.



In this case, the accuracy of the gauges used may be checked by means of check plugs and setting plugs which belong either to the manufacturing plant (manufacturer) or to the inspector (purchaser) or, as far as screw plugs are concerned, by direct measurement.

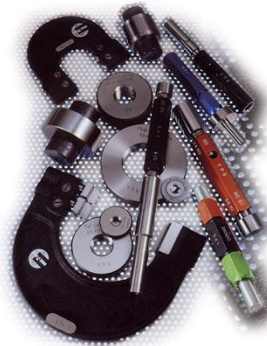
b) The inspector uses his own gauges for gauging the workpiece threads.

In cases of dispute it is recommended that the product be accepted if it is shown to be satisfactory by any gauge of the type concerned known to be within the requirements of this International Standard (taking into consideration the admissible wear).

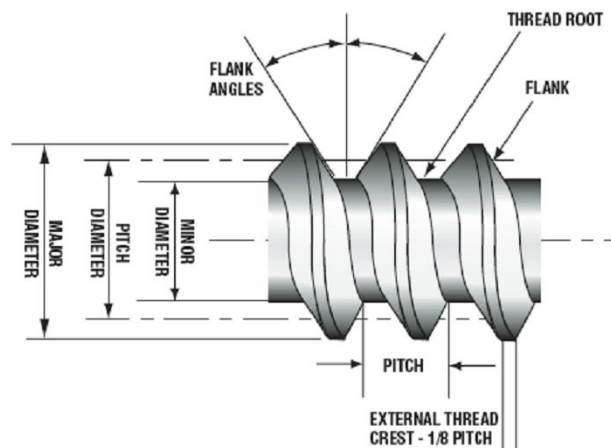


c) The inspector uses his own inspection gauges for gauging the workpiece threads.

The position of the tolerance zone for these gauges shall be such as to ensure that the purchaser does not reject threads whose actual size lies within the limits specified for the workpiece.



The Standard does not specify which gauges are to be used by the inspector; it only recommends that the purchaser inform the manufacturer when ordering what procedure will be employed for the inspection of the workpiece threads. Worn gauges shall not be used for sample inspection.



## BASIC SCREW THREAD DESIGNATIONS



## Highly precise measurements of gauges and measurement instruments

Calibration services to cater your needs:-

### PARALLEL THREAD PLUG GAUGE:

Metric (M), Unified (UNC, UNF, UNEF, UN, UNS), Whitworth (BSW, BSF, WHIT MED), BA, Parallel Pipe Thread (BSP-F, G, PF) & ...

### TAPER THREAD PLUG GAUGE:

National Pipe Thread (NPT, NPTF), Japanese Standard Taper Pipe Thread (PT), British Standard Taper Pipe Thread (BSP-T, Rc), ANPT & ....

**LET THE GAUGES SPECIALIST CALIBRATE YOUR GAUGES, CALL US NOW.....**

## CALIBRATION SERVICES

Provided by  
**MICROREP CALIBRATION  
LABORATORY**

**MCL**  
MICROREP CALIBRATION  
LABORATORY

To Provide the Best Value for Money Calibration Services



the **M**alaysian **P**recision **E**quipment company



## Why Calibrate?

**MICROREP** is always conscious that calibration is sometimes considered purely an overhead: We, believe that a correctly calibrated item should **save you money** and so, in time, pay for its calibration. You should be able to **rely** on the instrument and so **save wasted time and expense**.

Calibration is not a warranty or statement of how long an instrument will last or operate! Calibration is purely an indication that the instrument was found to be **performing within the specified specification** and to check whether the instrument is measured correctly. It **provides confidence** that the instrument has been calibrated, and is, operating to the manufacturers' specification. If it is not operating within specifications, the calibration house will adjust and inform the owner of the adjustment made. At MICROREP we do this as a matter of course - we do not charge extra for this service. Please remember:-

### CALIBRATION IS NOT:

- A guarantee that the item calibrated will work for any length of the time.
- A warranty of any kind.
- Meaning that the unit is now as good as new.
- It does not mean that just for quality management system paper requirement.
- The reason that just because the laboratory adjusted the unit that fault is now inserted in to the unit.
- It does not mean the calibration standard made the unit go faulty.



## MCL's History

In view of the global needs of the quality concerned and aware of its importance and the indispensable need to produce quality products. Therefore, MICROREP PRECISION (M) SDN. BHD. started MICROREP CALIBRATION LABORATORY in 2001 to cater/support the industries calibration needs.

MICROREP CALIBRATION LABORATORY is one of the divisions of MICROREP PRECISION (M) SDN. BHD., which offer calibration services. Over the years, our calibration services have been devolved to cater great demand from customers.



## MS ISO/IEC 17025

MICROREP CALIBRATION LABORATORY has gained ISO/IEC 17025 Accreditation in OCTOBER 2004. Thus company has made a move ahead in line with country's industrial growth.



## Qualified Personnel

Well trained & qualified personnel provide you're a good professional practice and to the promotion of continually improving the effectiveness of its Quality System. All our employees are trained to carry out, safely, the work activities required of them.



## Traceability

Traceability is the property of a result of a measurement whereby it is related to appropriate standard generally international or national standard.

Example:	NML-SIRIM	: National Metrology Laboratory (Malaysia)
	NPL-UK	: National Physical Laboratory (UK)
	NML-TAIWAN	: National Metrology Laboratory (Taiwan)
	SPRING	: National Laboratory (Singapore)
	PTB-GERMANY	: Physikalisch-Technische Bundesanstalt (Germany)

Refer to SAMM No. 282 for detail scope of calibration

**the Malaysian Precision Equipment company**

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## Technical Services

MICROREP PRECISION (M) S/B will provide the level of service that will best meet your calibration and quality requirements up to and including supplying a qualified and trained metrology personnel to manage your facility.



## Pick-Up & Return

### Quality door-to-door service

Our Pick-Up & Return Calibration Service offering provides quality door-to-door service (within Klang Valley area).



## Equipment Tracking System (ETS)

Use our Equipment Tracking System. This tool allows us to manage customer calibration needs. Search, view, check and print item status by customer or owner in our labs.



## Value-Added Redemption (VAR)

Our Value-Added Redemption program provides an easy way of money saving. Reduce your costs for faulty equipments.



## Conclusion! Why Calibrate?

We need calibration to provide us with the confidence that equipment that you are testing, manufacturing or servicing will meets its original specification or can meet it stated performance. It gives your clients the reassurance that you as a company take the quality of its final product seriously and that you strive to provide a product to the highest standard, no matter if new or a repaired unit.

- It gives your company credibility
- It gives your company image
- It gives your company the edge over its competitor
- It can reduce your costs
- In some instances it could give your company a legal edge especially with a SAMM issued certificate.

Can I add Customer reference numbers? Equipment owner's name?

- 1) Customer Reference Numbers. We can add your unique company identifier i.e. plant/asset number in a designated space on the certificate. Please ensure that it does not exceed 10 characters.
- 2) We can now also add an owner of the instrument, but this record will only stay updated whilst the information is correctly supplied.



## Contact us now

Contact a Microrep representative today to learn more about the quantifiable results we're delivering for customers in your marketplace.

Refer to SAMM No. 282 for detail scope of calibration

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## Calibration Capabilities

**Our Capabilities** (2012-Jan updated)

<http://www.microrep.info/calibration.html>

A leading national provider of calibration services, Microrep Calibration Laboratory offers the specialized breadth of capabilities that are essential to serving major corporations. (refer to SAMM No. 282 for detail).

### Dimensional calibration

#### - measuring instrument:

- angle meter
- 3-points internal micrometer
  - borematic
  - holtest
- bevel protractor
  - dial/digital/vernier
- bore gauge (cylinder gauge)
  - large bore type
  - split ball type (for small hole)
- caliper
  - blade type caliper
  - dial caliper
  - digital caliper
  - inside caliper
  - low force caliper
  - offset caliper
  - offset centerline caliper
  - neck caliper
  - point caliper
  - tube thickness caliper
  - vernier caliper
- caliper gauge
  - external measurement type
  - internal measurement type
- depth caliper
  - dial/digital/vernier
- depth gage
  - dial depth gage
  - digital depth gage
  - tire thread depth gage
- depth micrometer
  - interchangeable rod type
- dial comparator
- dial indicator
  - JIS standard
  - JMAS standard
  - ANSI/ASME standard
- dial test indicator
  - JIS standard
  - ANSI/ASME standard
- dial/digital thickness gauge
- digital indicator
  - for linear measurement
- electronic comparator
  - cartridge head type
  - lever head type
  - mu-checker

### Dimensional calibration

#### - measuring instrument:

- external micrometer
  - blade micrometer
  - can seam micrometer
  - disk micrometer
  - gear tooth micrometer
  - groove micrometer
  - hub micrometer
  - indicating micrometer
  - interchangeable anvils micrometer
  - point micrometer
  - screw thread micrometer
  - sheet metal micrometer
  - spline micrometer
  - tube micrometer
  - uni-mike
- height gauge
  - dial height gauge
  - digital height gauge
  - heightmatic
  - vernier height gauge
- inside micrometer
  - caliper type
  - interchangeable rod type
- linear height gauge
  - high precision height gauge
- loupe/magnifier with measuring scale
  - scale loupe
- measuring microscope
  - 2D measuring microscope
  - Toolmaker's microscope
- micrometer head
  - inch
  - mm
- protractor
- setting rod
  - micrometer standard
- standard bar
- steel ruler/metal ruler
- surface plate
  - granite surface plate
  - cast iron surface plate
- tubular inside micrometer
  - extension pipe type
  - extension rod type
  - solid rod type
- V-anvil micrometer

### Dimensional calibration

#### - precision limit gauges:

- angle gages - new
- angle blocks - new
- angle limit gages - new
- chamfer gages - new
- drill gages - new
- feeler gauges
  - leaf type
- film thickness standard
- gap gauge
- hex plug gauge
- master disc
  - setting disc
  - setting plug
- pin gauge
  - individual pin gauge
  - pin gauge set
- plain plug gauge
  - double ended type
  - progressive type
  - single ended type
- plain ring gauges
  - Go/Not Go ring
  - master ring
  - setting ring
- plain plug gauges – taper
  - 6-step taper
  - jacob taper
  - morse taper
- precision parallels
  - pair
  - set
- radius gages - new
  - 178 type
  - 272 type
  - L300 type
- screw caliper gauges – parallel
  - BA
  - BSP
  - BSP-F
  - BSW & BSF
  - G (ISO 228)
  - metric ANSI/ASME
  - metric ISO
  - metric JIS
  - unified (ANSI/ASME)
  - unified (BS)
  - unified (JIS)

\* Refer to SAMM No. 282 for detail scope of calibration

**the Malaysian Precision Equipment company**

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## Calibration Capabilities - *continues*

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### Dimensional calibration

#### – precision limit gauges:

- screw pitch gage - new
  - metric: 0.2 up to 7mm (60°)
  - unified: 3 to 80 TPI (60°)
  - BSW: 4 to 62 TPI (55°)
- screw/thread plug gauges – parallel
  - ACME
  - ACME stub
  - BA
  - BS wire insert
  - BSP
  - BSP-F
  - BSW & BSF
  - G (ISO 228)
  - helicoil
  - metric (ANSI/ASME)
  - metric (ISO)
  - metric (JIS)
  - PF (JIS)
  - S.T.I.
  - unified (ANSI/ASME)
  - unified (BS)
  - unified (JIS)
  - whitworth
- screw/thread plug gauges – taper
  - ANPT
  - BSPT
  - NPT
  - NPTF
  - PT
  - PTF
  - Rc
- screw/thread ring gauges – parallel
  - BA
  - BSP
  - BSP-F
  - BSW & BSF
  - G (ISO 228)
  - metric (ANSI/ASME)
  - metric (ISO)
  - metric (JIS)
  - PF (JIS)
  - unified (ANSI/ASME)
  - unified (BS)
  - unified (JIS)
  - whitworth

### Dimensional calibration

#### – precision limit gauges:

- snap gauge
- taper gage (ruler type)
- thickness foil
- thickness gauges
  - leaf type
- thread measuring wires
  - 3 wires set
  - 2 wire set
- universal horizontal metroscopes
- V-block
- Wet film thickness comb
- width gauge
- wire gages
- welding gages
  - bridge cam gages
  - hi-lo gage
  - dial height gage

### Dimensional calibration

#### – calibration master:

- caliper checker
- dial indicator calibrator
  - calibration tester
  - dial gage tester
- gauge block
  - mm (grade 0, 1, 2, workshop class)
- gauge block comparator
- measuring center
- micrometer standard
- universal horizontal metroscope
- universal length measuring machine

### Hardness calibration

- durometer/rubber hardness tester
  - JIS K 6253
    - type A, AM, D, E
  - JIS K 6301
    - type A & C
  - JIS K 7215
    - type A & D
  - ASTM D2240
    - type A, B, C, D, DO, E, M, O, OO, OOO, OOO-S and R

### Mass and related calibration

- force gauge
  - push-pull gauge (dial scale)
  - digital force gauge
- standard weight/dead weight
  - M class (OMIL)
- tension gauge
  - dial type
  - rod type
- weighing machine/balance
  - analytical balance
  - analogue scale
  - dial scale
  - digital scale

### Pressure calibration

- pressure gauge
  - hydraulic
  - pneumatic
  - vacuum
- pressure recorder
  - hydraulic
  - pneumatic
  - vacuum

### Time & frequency calibration

- stop watch
  - digital
  - mechanical
- timer
  - analog
  - digital

### Time & frequency calibration

- temperature indicating devices (electrical simulation)
  - Thermocouple simulation
    - type B, R, S, E, J, K, N, T, U, L, C, G, D
  - RTD simulation
    - PT50, 100, 200, 5000
    - PT1000, Ni100, Ni120, Cu10

*More to come.....*

\* Refer to SAMM No. 282 for detail scope of calibration

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## Our Facilities

### Our Facilities (2012-Jan updated)

A leading national provider of calibration services, Microrep Calibration Laboratory using the most reliable calibration facilities.



#### ← Universal Dial Gauge Checker (Made in Germany)

fully automatic measuring station for testing dial gauge, digital indicator, dial test indicator, dial comparators, mu-checker, incremental and inductive probes.



#### Gauge Block Comparator (Made in Germany) →

highly precise, efficient and test reliable and most accurate calibration of gauge blocks according to most international standard (ISO/JIS & etc) beginning with grade 2.



#### ← Universal Horizontal Metroscope (Made in Germany)

multiple use and highly precise metroscope for very accurate internal and external measurements.

#### Long series steel gauge blocks (Made in UK) →

are carefully manufactured to ISO 3650: 1998 from specially selected steel. They have a standard gauge block cross-section of 35mm x 9mm.



and many other facilities .....

- |  |                            |                         |
|--|----------------------------|-------------------------|
| → Angle Blocks                         | → Mu-checker               | → Standard weight sets  |
| → Caliper checker                      | → Multifunction calibrator | → Universal counters    |
| → Diameter measuring machines          | → Precision balances       | → Repeat Checking Gages |
| → Electronic length measuring machines | → Pressure test stations   | → & etc....             |
| → Gauge block sets (metric & inches)   | → Profile projector        |                         |
| → Indicator calibration tester         | → Setting discs            |                         |
| → Measuring tape calibrator            | → Setting ring gages       |                         |



\* Refer to SAMM No. 282 for detail scope of calibration

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## ISO Metric Coarse Pitch

- ISO Metric Screw Plugs to BS 3643, BS 919 Part 3 or ISO 1502.
- ISO Metric Screw Calipers to BS 3643, BS 919 Part 3 or ISO 1502.
- ISO Metric Screw Rings to BS 3643, BS 919 Part 3 or ISO 1502 (DIN 13).
- Screw Plug to Class 5H, 7H, 6G, Screw Rings & Calipers to Class 4h, 8g, etc & non standard gauges also available.
- Screw Plugs to class 6H (Except M1, M1.1 & M1.2 which are 5H)
- Screw Rings & Calipers to class 6g
- Screw Plugs & Ring - Right Hand only

ISO METRIC COARSE PITCH							
SIZES	SCREW PLUG			SCREW RING		SETTING PLUG	SCREW CALIPERS
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	Knife Edge ORDER NO.
							
M1 x 0.25 *	TFMC1	TFMC1-	---	TRMC1-G	TRMC1-NG	---	---
M1.1 x 0.25 *	TFMC1.1	TFMC1.1-	---	TRMC1.2-G	TRMC1.2-NG	---	---
M1.2 x 0.25 *	TFMC1.2	TFMC1.2-	---	TRMC1.4-G	TRMC1.4-NG	---	---
M1.4 x 0.3	TFMC1.4	TFMC1.4-	TFMC1.4-EZH	TRMC1.6-G	TRMC1.6-NG	---	---
M1.6 x 0.35	TFMC1.6	TFMC1.6-	TFMC1.6-EZH	TRMC1.7-G	TRMC1.7-NG	---	---
M1.7 x 0.35	TFMC1.7	TFMC1.7-	TFMC1.7-EZH	TRMC1.8-G	TRMC1.8-NG	---	---
M1.8 x 0.35	TFMC1.8	TFMC1.8-	TFMC1.8-EZH	TRMC2-G	TRMC2-NG	---	---
M2 x 0.4	TFMC2	TFMC2-	TFMC2-EZH	TRMC2.2-G	TRMC2.2-NG	---	---
M2.2 x 0.45	TFMC2.2	TFMC2.2-	TFMC2.2-EZH	TRMC2.3-G	TRMC2.3-NG	---	---
M2.5 x 0.45	TFMC2.5	TFMC2.5-	TFMC2.5-EZH	TRMC2.5-G	TRMC2.5-NG	---	---
M2.6 x 0.45	TFMC2.6	TFMC2.6-	TFMC2.6-EZH	TRMC2.6-G	TRMC2.6-NG	---	---
M3 x 0.5	TFMC3	TFMC3-	TFMC3-EZH	TRMC3-G	TRMC3-NG	TCSMC3	TCMC3
M3.5 x 0.6	TFMC3.5	TFMC3.5-	TFMC3.5-EZH	TRMC3.5-G	TRMC3.5-NG	TCSMC3.5	TCMC3.5
M4 x 0.7	TFMC4	TFMC4-	TFMC4-EZH	TRMC4-G	TRMC4-NG	TCSMC4	TCMC4
M4.5 x 0.75	TFMC4.5	TFMC4.5-	TFMC4.5-EZH	TRMC4.5-G	TRMC4.5-NG	TCSMC4.5	TCMC4.5
M5 x 0.8	TFMC5	TFMC5-	TFMC5-EZH	TRMC5-G	TRMC5-NG	TCSMC5	TCMC5
M6 x 1	TFMC6	TFMC6-	TFMC6-EZH	TRMC6-G	TRMC6-NG	TCSMC6	TCMC6
M7 x 1	TFMC7	TFMC7-	TFMC7-EZH	TRMC7-G	TRMC7-NG	TCSMC7	TCMC7
M8 x 1.25	TFMC8	TFMC8-	TFMC8-EZH	TRMC8-G	TRMC8-NG	TCSMC8	TCMC8
M9 x 1.25	TFMC9	TFMC9-	TFMC9-EZH	TRMC9-G	TRMC9-NG	TCSMC9	TCMC9
M10 x 1.5	TFMC10	TFMC10-	TFMC10-EZH	TRMC10-G	TRMC10-NG	TCSMC10	TCMC10
M11 x 1.5	TFMC11	TFMC11-	TFMC11-EZH	TRMC11-G	TRMC11-NG	TCSMC11	TCMC11
M12 x 1.75	TFMC12	TFMC12-	TFMC12-EZH	TRMC12-G	TRMC12-NG	TCSMC12	TCMC12
M14 x 2	TFMC14	TFMC14-	TFMC14-EZH	TRMC14-G	TRMC14-NG	TCSMC14	TCMC14
M16 x 2	TFMC16	TFMC16-	---	TRMC16-G	TRMC16-NG	TCSMC16	TCMC16
M18 x 2.5	TFMC18	TFMC18-	---	TRMC18-G	TRMC18-NG	TCSMC18	TCMC18
M20 x 2.5	TFMC20	TFMC20-	---	TRMC20-G	TRMC20-NG	TCSMC20	TCMC20
M22 x 2.5	TFMC22	TFMC22-	---	TRMC22-G	TRMC22-NG	TCSMC22	TCMC22
M24 x 3	TFMC24	TFMC24-	---	TRMC24-G	TRMC24-NG	TCSMC24	TCMC24
M27 x 3	TFMC27	TFMC27-	---	TRMC27-G	TRMC27-NG	TCSMC27	TCMC27
M30 x 3.5	TFMC30	TFMC30-	---	TRMC30-G	TRMC30-NG	TCSMC30	TCMC30
M33 x 3.5	TFMC33	TFMC33-	---	TRMC33-G	TRMC33-NG	TCSMC33	TCMC33
M36 x 4	TFMC36	TFMC36-	---	TRMC36-G	TRMC36-NG	TCSMC36	TCMC36
M39 x 4	TFMC39	TFMC39-	---	TRMC39-G	TRMC39-NG	TCSMC39	TCMC39
M42 x 4.5	TFMC42	TFMC42-	---	TRMC42-G	TRMC42-NG	TCSMC42	TCMC42

• for single end, please specify G (Go) or NG (Not Go)

• \* plug gauge to 5H, ring gauge to 6h

### SPECIAL GAUGES

Beside holding a comprehensive range of Screw Gauges of standard pitch/diameter combinations. Non standard size, pre-plating gauge, special pitch/diameter combinations & special screw gauge to customer's drawing can also be manufactured.

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- Screw Plug to Class 5H, 7H, 6G, Screw Rings & Calipers to Class 4h, 8g, etc & non standard gauges also available.
- Screw Plugs to class 6H (Except M1, M1.1 & M1.2 which are 5H)
- Screw Rings & Calipers to class 6g
- Right Hand only.

ISO METRIC FINE PITCH							
SIZES	SCREW PLUG			SCREW RING		SETTING PLUG	SCREW CALIPERS
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	Knife Edge ORDER NO.
							
M1 x 0.2 *	TFM1P0.2	TFM1P0.2-	---	---	---	---	---
M1.1 x 0.2 *	TFM1.1P0.2	TFM1.1P0.2-	---	---	---	---	---
M1.2 x 0.2 *	TFM1.2P0.2	TFM1.2P0.2-	---	---	---	---	---
M1.4 x 0.2 *	TFM1.4P0.2	TFM1.4P0.2-	TFM1.4P0.2-EZH	---	---	---	---
M1.6 x 0.2 *	TFM1.6P0.2	TFM1.6P0.2-	TFM1.6P0.2-EZH	---	---	---	---
M1.8 x 0.2 *	TFM1.8P0.2	TFM1.8P0.2-	TFM1.8P0.2-EZH	---	---	---	---
M2 x 0.25 *	TFM2P0.25	TFM2P0.25-	TFM2P0.25-EZH	---	---	---	---
M2.2 x 0.25 *	TFM2.2P0.25	TFM2.2P0.25-	TFM2.2P0.25-EZH	---	---	---	---
M2.5 x 0.35	TFM2.5P0.35	TFM2.5P0.35-	TFM2.5P0.35-EZH	TRM2.5P0.35-G	TRM2.5P0.35-NG	---	---
M3 x 0.35	TFM3P0.35	TFM3P0.35-	TFM3P0.35-EZH	TRM3P0.35-G	TRM3P0.35-NG	---	---
M3.5 x 0.35	TFM3.5P0.35	TFM3.5P0.35-	TFM3.5P0.35-EZH	TRM3.5P0.35-G	TRM3.5P0.35-NG	---	---
M4 x 0.5	TFM4P0.5	TFM4P0.5-	TFM4P0.5-EZH	TRM4P0.5-G	TRM4P0.5-NG	TCSM4P0.5	TCM4P0.5
M4.5 x 0.5	TFM4.5P0.5	TFM4.5P0.5-	TFM4.5P0.5-EZH	TRM4.5P0.5-G	TRM4.5P0.5-NG	TCSM4.5P0.5	TCM4.5P0.5
M5 x 0.5	TFM5P0.5	TFM5P0.5-	TFM5P0.5-EZH	TRM5P0.5-G	TRM5P0.5-NG	TCSM5P0.5	TCM5P0.5
M5.5 x 0.5	TFM5.5P0.5	TFM5.5P0.5-	TFM5.5P0.5-EZH	TRM5.5P0.5-G	TRM5.5P0.5-NG	TCSM5.5P0.5	TCM5.5P0.5
M6 x 0.75	TFM6P0.75	TFM6P0.75-	TFM6P0.75-EZH	TRM6P0.75-G	TRM6P0.75-NG	TCSM6P0.75	TCM6P0.75
M7 x 0.75	TFM7P0.75	TFM7P0.75-	TFM7P0.75-EZH	TRM7P0.75-G	TRM7P0.75-NG	TCSM7P0.75	TCM7P0.75
M8 x 0.75	TFM8P0.75	TFM8P0.75-	TFM8P0.75-EZH	TRM8P0.75-G	TRM8P0.75-NG	TCSM8P0.75	TCM8P0.75
M8 x 1	TFM8P1	TFM8P1-	TFM8P1-EZH	TRM8P1-G	TRM8P1-NG	TCSM8P1	TCM8P1
M9 x 0.75	TFM9P0.75	TFM9P0.75-	TFM9P0.75-EZH	TRM9P0.75-G	TRM9P0.75-NG	TCSM9P0.75	TCM9P0.75
M9 x 1	TFM9P1	TFM9P1-	TFM9P1-EZH	TRM9P1-G	TRM9P1-NG	TCSM9P1	TCM9P1
M10 x 0.75	TFM10P0.75	TFM10P0.75-	TFM10P0.75-EZH	TRM10P0.75-G	TRM10P0.75-NG	TCSM10P0.75	TCM10P0.75
M10 x 1	TFM10P1	TFM10P1-	TFM10P1-EZH	TRM10P1-G	TRM10P1-NG	TCSM10P1	TCM10P1
M10 x 1.25	TFM10P1.25	TFM10P1.25-	TFM10P1.25-EZH	TRM10P1.25-G	TRM10P1.25-NG	TCSM10P1.25	TCM10P1.25
M11 x 0.75	TFM11P0.75	TFM11P0.75-	TFM11P0.75-EZH	TRM11P0.75-G	TRM11P0.75-NG	TCSM11P0.75	TCM11P0.75
M11 x 1	TFM11P1	TFM11P1-	TFM11P1-EZH	TRM11P1-G	TRM11P1-NG	TCSM11P1	TCM11P1
M12 x 1	TFM12P1	TFM12P1-	TFM12P1-EZH	TRM12P1-G	TRM12P1-NG	TCSM12P1	TCM12P1
M12 x 1.25	TFM12P1.25	TFM12P1.25-	TFM12P1.25-EZH	TRM12P1.25-G	TRM12P1.25-NG	TCSM12P1.25	TCM12P1.25
M12 x 1.5	TFM12P1.5	TFM12P1.5-	TFM12P1.5-EZH	TRM12P1.5-G	TRM12P1.5-NG	TCSM12P1.5	TCM12P1.5
M14 x 1	TFM14P1	TFM14P1-	TFM14P1-EZH	TRM14P1-G	TRM14P1-NG	TCSM14P1	TCM14P1
M14 x 1.25	TFM14P1.25	TFM14P1.25-	TFM14P1.25-EZH	TRM14P1.25-G	TRM14P1.25-NG	TCSM14P1.25	TCM14P1.25
M14 x 1.5	TFM14P1.5	TFM14P1.5-	TFM14P1.5-EZH	TRM14P1.5-G	TRM14P1.5-NG	TCSM14P1.5	TCM14P1.5
M15 x 1	TFM15P1	TFM15P1-	---	TRM15P1-G	TRM15P1-NG	TCSM15P1	TCM15P1
M15 x 1.5	TFM15P1.5	TFM15P1.5-	---	TRM15P1.5-G	TRM15P1.5-NG	TCSM15P1.5	TCM15P1.5
M16 x 1	TFM16P1	TFM16P1-	---	TRM16P1-G	TRM16P1-NG	TCSM16P1	TCM16P1
M16 x 1.5	TFM16P1.5	TFM16P1.5-	---	TRM16P1.5-G	TRM16P1.5-NG	TCSM16P1.5	TCM16P1.5

\* for single end, please specify G (Go) or NG (Not Go)

\* plug gauge to 5H, ring gauge to 6h

### SPECIAL GAUGES

Beside holding a comprehensive range of Screw Gauges of standard pitch/diameter combinations. Non standard size, pre-plating gauge, special pitch/diameter combinations & special screw gauge to customer's drawing can also be manufactured.

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- Screw Plug to Class 5H, 7H, 6G, Screw Rings & Calipers to Class 4h, 8g, etc & non standard gauges also available.
- Screw Plugs to class 6H (Except M1, M1.1 & M1.2 which are 5H)
- Screw Rings & Calipers to class 6g
- Right Hand only.

ISO METRIC FINE PITCH (cont's)							
SIZES	SCREW PLUG			SCREW RING		SETTING PLUG	SCREW CALIPERS
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	Knife Edge ORDER NO.
							
M17 x 1	TFM17P1	TFM17P1-	---	TRM17P1-G	TRM17P1-NG	TCSM17P1	TCM17P1
M17 x 1.5	TFM17P1.5	TFM17P1.5-	---	TRM17P1.5-G	TRM17P1.5-NG	TCSM17P1.5	TCM17P1.5
M18 x 1	TFM18P1	TFM18P1-	---	TRM18P1-G	TRM18P1-NG	TCSM18P1	TCM18P1
M18 x 1.5	TFM18P1.5	TFM18P1.5-	---	TRM18P1.5-G	TRM18P1.5-NG	TCSM18P1.5	TCM18P1.5
M18 x 2	TFM18P2	TFM18P2-	---	TRM18P2-G	TRM18P2-NG	TCSM18P2	TCM18P2
M20 x 1	TFM20P1	TFM20P1-	---	TRM20P1-G	TRM20P1-NG	TCSM20P1	TCM20P1
M20 x 1.5	TFM20P1.5	TFM20P1.5-	---	TRM20P1.5-G	TRM20P1.5-NG	TCSM20P1.5	TCM20P1.5
M20 x 2	TFM20P2	TFM20P2-	---	TRM20P2-G	TRM20P2-NG	TCSM20P2	TCM20P2
M22 x 1	TFM22P1	TFM22P1-	---	TRM22P1-G	TRM22P1-NG	TCSM22P1	TCM22P1
M22 x 1.5	TFM22P1.5	TFM22P1.5-	---	TRM22P1.5-G	TRM22P1.5-NG	TCSM22P1.5	TCM22P1.5
M22 x 2	TFM22P2	TFM22P2-	---	TRM22P2-G	TRM22P2-NG	TCSM22P2	TCM22P2
M24 x 1	TFM24P1	TFM24P1-	---	TRM24P1-G	TRM24P1-NG	TCSM24P1	TCM24P1
M24 x 1.5	TFM24P1.5	TFM24P1.5-	---	TRM24P1.5-G	TRM24P1.5-NG	TCSM24P1.5	TCM24P1.5
M24 x 2	TFM24P2	TFM24P2-	---	TRM24P2-G	TRM24P2-NG	TCSM24P2	TCM24P2
M25 x 1	TFM25P1	TFM25P1-	---	TRM25P1-G	TRM25P1-NG	TCSM25P1	TCM25P1
M25 x 1.5	TFM25P1.5	TFM25P1.5-	---	TRM25P1.5-G	TRM25P1.5-NG	TCSM25P1.5	TCM25P1.5
M25 x 2	TFM25P2	TFM25P2-	---	TRM25P2-G	TRM25P2-NG	TCSM25P2	TCM25P2
M26 x 1.5	TFM26P1.5	TFM26P1.5-	---	TRM26P1.5-G	TRM26P1.5-NG	TCSM26P1.5	TCM26P1.5
M27 x 1	TFM27P1	TFM27P1-	---	TRM27P1-G	TRM27P1-NG	TCSM27P1	TCM27P1
M27 x 1.5	TFM27P1.5	TFM27P1.5-	---	TRM27P1.5-G	TRM27P1.5-NG	TCSM27P1.5	TCM27P1.5
M27 x 2	TFM27P2	TFM27P2-	---	TRM27P2-G	TRM27P2-NG	TCSM27P2	TCM27P2
M28 x 1	TFM28P1	TFM28P1-	---	TRM28P1-G	TRM28P1-NG	TCSM28P1	TCM28P1
M28 x 1.5	TFM28P1.5	TFM28P1.5-	---	TRM28P1.5-G	TRM28P1.5-NG	TCSM28P1.5	TCM28P1.5
M28 x 2	TFM28P2	TFM28P2-	---	TRM28P2-G	TRM28P2-NG	TCSM28P2	TCM28P2
M30 x 1	TFM30P1	TFM30P1-	---	TRM30P1-G	TRM30P1-NG	TCSM30P1	TCM30P1
M30 x 1.5	TFM30P1.5	TFM30P1.5-	---	TRM30P1.5-G	TRM30P1.5-NG	TCSM30P1.5	TCM30P1.5
M30 x 2	TFM30P2	TFM30P2-	---	TRM30P2-G	TRM30P2-NG	TCSM30P2	TCM30P2
M30 x 3	TFM30P3	TFM30P3-	---	TRM30P3-G	TRM30P3-NG	TCSM30P3	TCM30P3
M32 x 1.5	TFM32P1.5	TFM32P1.5-	---	TRM32P1.5-G	TRM32P1.5-NG	TCSM32P1.5	TCM32P1.5
M32 x 2	TFM32P2	TFM32P2-	---	TRM32P2-G	TRM32P2-NG	TCSM32P2	TCM32P2
M33 x 1.5	TFM33P1.5	TFM33P1.5-	---	TRM33P1.5-G	TRM33P1.5-NG	TCSM33P1.5	TCM33P1.5
M33 x 2	TFM33P2	TFM33P2-	---	TRM33P2-G	TRM33P2-NG	TCSM33P2	TCM33P2
M33 x 3	TFM33P3	TFM33P3-	---	TRM33P3-G	TRM33P3-NG	TCSM33P3	TCM33P3
M35 x 1.5	TFM35P1.5	TFM35P1.5-	---	TRM35P1.5-G	TRM35P1.5-NG	TCSM35P1.5	TCM35P1.5
M36 x 1.5	TFM36P1.5	TFM36P1.5-	---	TRM36P1.5-G	TRM36P1.5-NG	TCSM36P1.5	TCM36P1.5
M36 x 2	TFM36P2	TFM36P2-	---	TRM36P2-G	TRM36P2-NG	TCSM36P2	TCM36P2

\* for single end, please specify G (Go) or NG (Not Go)

### SPECIAL GAUGES

Beside holding a comprehensive range of Screw Gauges of standard pitch/diameter combinations. Non standard size, pre-plating gauge, special pitch/diameter combinations & special screw gauge to customer's drawing can also be manufactured.

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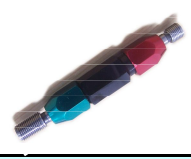




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- ISO Metric Screw Plugs to BS 3643, BS 919 Part 3.
- ISO Metric Screw Calipers to BS 3643, BS 919 Part 3.
- ISO Metric Screw Rings to BS 3643, BS 919 Part 3 or DIN 13.
- Screw Plug to Class 5H, 7H, 6G, Screw Rings & Calipers to Class 4h, 8g, etc & non standard gauges also available.
- Screw Plugs to class 6H (Except M1, M1.1 & M1.2 which are 5H)
- Screw Rings & Calipers to class 6g
- Right Hand only.

ISO METRIC FINE PITCH (cont's)							
SIZES	SCREW PLUG			SCREW RING		SETTING PLUG	SCREW CALIPERS
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	Knife Edge ORDER NO.
							
M36 x 3	TFM36P3	TFM36P3-	---	TRM36P3-G	TRM36P3-NG	TCSM36P3	TCM36P3
M38 x 1.5	TFM38P1.5	TFM38P1.5-	---	TRM38P1.5-G	TRM38P1.5-NG	TCSM38P1.5	TCM38P1.5
M39 x 1.5	TFM39P1.5	TFM39P1.5-	---	TRM39P1.5-G	TRM39P1.5-NG	TCSM39P1.5	TCM39P1.5
M39 x 2	TFM39P2	TFM39P2-	---	TRM39P2-G	TRM39P2-NG	TCSM39P2	TCM39P2
M39 x 3	TFM39P3	TFM39P3-	---	TRM39P3-G	TRM39P3-NG	TCSM39P3	TCM39P3
M40 x 1.5	TFM40P1.5	TFM40P1.5-	---	TRM40P1.5-G	TRM40P1.5-NG	TCSM40P1.5	TCM40P1.5
M40 x 2	TFM40P2	TFM40P2-	---	TRM40P2-G	TRM40P2-NG	TCSM40P2	TCM40P2
M40 x 3	TFM40P3	TFM40P3-	---	TRM40P3-G	TRM40P3-NG	TCSM40P3	TCM40P3
M42 x 1.5	TFM42P1.5	TFM42P1.5-	---	TRM42P1.5-G	TRM42P1.5-NG	TCSM42P1.5	TCM42P1.5
M42 x 2	TFM42P2	TFM42P2-	---	TRM42P2-G	TRM42P2-NG	TCSM42P2	TCM42P2
M42 x 3	TFM42P3	TFM42P3-	---	TRM42P3-G	TRM42P3-NG	TCSM42P3	TCM42P3
M42 x 4	TFM42P4	TFM42P4-	---	TRM42P4-G	TRM42P4-NG	TCSM42P4	TCM42P4

• for single end, please specify G (Go) or NG (Not Go)

### SPECIAL GAUGES

Beside holding a comprehensive range of Screw Gauges of standard pitch/diameter combinations. Non standard size, pre-plating gauge, special pitch/diameter combinations & special screw gauge to customer's drawing can also be manufactured.

### Gauges for testing ISO metric screw threads to BS 3643:1981, and BS 919:Pt 3:1968.

BS 3643 comprises two parts. Part 1 provides information and data on the basic principles, and is based on ISO 965/1 and ISO 965/3. Part 2 tabulates diameters of coarse, constant and fine pitch series threads, and is based on ISO 965/2.

BS 919: Pt3: 1968 contains the recommended gauging system for checking ISO metric threads in accordance with BS 3643. It is based on ISO 1502.

BS 3643 Pt1 and Pt2 specifies the fundamental deviations and tolerances for e.g. 5H, 6H, 6G and 7H for internal threads, and 4h, 6g, 6e, 8g for external threads.

Generally 6H/6g are regarded as "medium fit". The nut and bolt deviations and tolerance zones are illustrated here.

BS 919 Pt3: 1968 specifies the limits for gauges for testing the product thread. The basis for determining the gauge limit is the magnitude of the product tolerance. i.e.

the larger the product tolerance, the larger the gauge limit regardless of diameter. The gauges recommended to be used are as follows:- For testing internal product threads a double ended screw plug gauge (Style E) may be used.

This gauge comprises a Go element which tests that the Major and Effective diameters are not too small (maximum material limit). It also tests for pitch or flank errors in the product thread. The Not Go element tests only that the Effective diameter is not too large (minimum material limit). The Minor diameter of the internal thread can be checked separately using a double ended plain plug gauge.

For testing external product threads Go and Not Go ring gauges or caliper gauges having Go and Not Go anvils may be used.

The regular checking of gauges in constant use is important. Plug gauges should be checked by direct measurement of the Major and Effective diameters, using a Floating Carriage Measuring Machine or similar specialised equipment. Ring gauges may be checked by direct measurement, or preferably by using Go check and Not Go Wear check plug gauges, as specified in BS 919: Pt3: 1968.

*the Malaysian Precision Equipment company*

**MICROREP PRECISION (M) SDN BHD**

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## JIS Metric Coarse Pitch (Japanese Standard)

- JIS Metric Screw Plugs & Calipers to JIS B 0251
- JIS Metric Screw Plugs & Calipers to class 2

- Screw Plug - Right Hand only.
- Class 1, 3, etc & non standard gauges also available.

JIS METRIC COARSE PITCH						
SIZES	SCREW PLUGS				SCREW CALIPERS	
	GP 2 / IP 2 D/E (Style E) ORDER NO.	GP 2 / WP 2 D/E (Style E) ORDER NO.	GP 2 / IP 2 D/E (EZH Handle) ORDER NO.	GP 2 / WP 2 D/E (EZH Handle) ORDER NO.	GR / IR 2 Knife Edge ORDER NO.	GR / WR2 Knife Edge ORDER NO.
						
M1 x 0.25	TFMC1J	TFMC1W	---	---	---	---
M1.1 x 0.25	TFMC1.1J	TFMC1.1W	---	---	---	---
M1.2 x 0.25	TFMC1.2J	TFMC1.2W	---	---	---	---
M1.4 x 0.3	TFMC1.4J	TFMC1.4W	TFMC1.4J-EZH	TFMC1.4W-EZH	---	---
M1.6 x 0.35	TFMC1.6J	TFMC1.6W	TFMC1.6J-EZH	TFMC1.6W-EZH	---	---
M1.7 x 0.35	TFMC1.7J	TFMC1.7W	TFMC1.7J-EZH	TFMC1.7W-EZH	---	---
M1.8 x 0.35	TFMC1.8J	TFMC1.8W	TFMC1.8J-EZH	TFMC1.8W-EZH	---	---
M2 x 0.4	TFMC2J	TFMC2W	TFMC2J-EZH	TFMC2W-EZH	---	---
M2.2 x 0.45	TFMC2.2J	TFMC2.2W	TFMC2.2J-EZH	TFMC2.2W-EZH	---	---
M2.3 x 0.45	TFMC2.3J	TFMC2.3W	TFMC2.3J-EZH	TFMC2.3W-EZH	---	---
M2.5 x 0.45	TFMC2.5J	TFMC2.5W	TFMC2.5J-EZH	TFMC2.5W-EZH	---	---
M2.6 x 0.45	TFMC2.6J	TFMC2.6W	TFMC2.6J-EZH	TFMC2.6W-EZH	---	---
M3 x 0.5	TFMC3J	TFMC3W	TFMC3J-EZH	TFMC3W-EZH	TCMC3J	TCMC3W
M3 x 0.6	TFM3P0.6J	TFM3P0.6W	TFM3P0.6J-EZH	TFM3P0.6W-EZH	TCMC3P0.6J	TCMCCP0.6W
M3.5 x 0.6	TFMC3.5J	TFMC3.5W	TFMC3.5J-EZH	TFMC3.5W-EZH	TCMC3.5J	TCMC3.5W
M4 x 0.7	TFMC4J	TFMC4W	TFMC4J-EZH	TFMC4W-EZH	TCMC4J	TCMC4W
M4 x 0.75	TFM4P0.75J	TFM4P0.75W	TFM4P0.75J-EZH	TFM4P0.75W-EZH	TCMC4P0.75J	TCMC4P0.75W
M4.5 x 0.75	TFMC4.5J	TFMC4.5W	TFMC4.5J-EZH	TFMC4.5W-EZH	TCMC4.5J	TCMC4.5W
M5 x 0.8	TFMC5J	TFMC5W	TFMC5J-EZH	TFMC5W-EZH	TCMC5J	TCMC5W
M6 x 1	TFMC6J	TFMC6W	TFMC6J-EZH	TFMC6W-EZH	TCMC6J	TCMC6W
M7 x 1	TFMC7J	TFMC7W	TFMC7J-EZH	TFMC7W-EZH	TCMC7J	TCMC7W
M8 x 1.25	TFMC8J	TFMC8W	TFMC8J-EZH	TFMC8W-EZH	TCMC8J	TCMC8W
M9 x 1.25	TFMC9J	TFMC9W	TFMC9J-EZH	TFMC9W-EZH	TCMC9J	TCMC9W
M10 x 1.5	TFMC10J	TFMC10W	TFMC10J-EZH	TFMC10W-EZH	TCMC10J	TCMC10W
M11 x 1.5	TFMC11J	TFMC11W	TFMC11J-EZH	TFMC11W-EZH	TCMC11J	TCMC11W
M12 x 1.75	TFMC12J	TFMC12W	TFMC12J-EZH	TFMC12W-EZH	TCMC12J	TCMC12W
M14 x 2	TFMC14J	TFMC14W	TFMC14J-EZH	TFMC14W-EZH	TCMC14J	TCMC14W
M16 x 2	TFMC16J	TFMC16W	---	---	TCMC16J	TCMC16W
M18 x 2.5	TFMC18J	TFMC18W	---	---	TCMC18J	TCMC18W
M20 x 2.5	TFMC20J	TFMC20W	---	---	TCMC20J	TCMC20W
M22 x 2.5	TFMC22J	TFMC22W	---	---	TCMC22J	TCMC22W
M24 x 3	TFMC24J	TFMC24W	---	---	TCMC24J	TCMC24W
M27 x 3	TFMC27J	TFMC27W	---	---	TCMC27J	TCMC27W
M30 x 3.5	TFMC30J	TFMC30W	---	---	TCMC30J	TCMC30W
M33 x 3.5	TFMC33J	TFMC33W	---	---	TCMC33J	TCMC33W
M36 x 4	TFMC36J	TFMC36W	---	---	TCMC36J	TCMC36W
M39 x 4	TFMC39J	TFMC39W	---	---	TCMC39J	TCMC39W
M42 x 4.5	TFMC42J	TFMC42W	---	---	TCMC42J	TCMC42W

### SPECIAL GAUGES

Beside holding a comprehensive range of Screw Gauges of standard pitch/diameter combinations. Non standard size, pre-plating gauge, special pitch/diameter combinations & special screw gauge to customer's drawing can also be manufactured.

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## JIS Metric Fine Pitch (Japanese Standard)

- JIS Metric Screw Plugs & Calipers to JIS B 0252
- JIS Metric Screw Plugs & Calipers to class 2

- Screw Plug - Right Hand only.
- Class 1, 3, etc & non standard gauges also available.

JIS METRIC FINE PITCH						
SIZES	SCREW PLUGS				SCREW CALIPERS	
	GP 2 / IP 2 D/E (Style E) ORDER NO.	GP 2 / WP 2 D/E (Style E) ORDER NO.	GP 2 / IP 2 D/E (EZH Handle) ORDER NO.	GP 2 / WP 2 D/E (EZH Handle) ORDER NO.	GR / IR 2 Knife Edge ORDER NO.	GR / WR2 Knife Edge ORDER NO.
						
M1 x 0.2	TFM1P0.2J	TFM1P0.2W	---	---	---	---
M1.1 x 0.2	TFM1.1P0.2J	TFM1.1P0.2W	---	---	---	---
M1.2 x 0.2	TFM1.2P0.2J	TFM1.2P0.2W	---	---	---	---
M1.4 x 0.2	TFM1.4P0.2J	TFM1.4P0.2W	TFM1.4P0.2J-EZH	TFM1.4P0.2W-EZH	---	---
M1.6 x 0.2	TFM1.6P0.2J	TFM1.6P0.2W	TFM1.6P0.2J-EZH	TFM1.6P0.2W-EZH	---	---
M1.8 x 0.2	TFM1.8P0.2J	TFM1.8P0.2W	TFM1.8P0.2J-EZH	TFM1.8P0.2W-EZH	---	---
M2 x 0.25	TFM2P0.25J	TFM2P0.25W	TFM2P0.25J-EZH	TFM2P0.25W-EZH	---	---
M2.2 x 0.25	TFM2.2P0.25J	TFM2.2P0.25W	TFM2.2P0.25J-EZH	TFM2.2P0.25W-EZH	---	---
M2.5 x 0.35	TFM2.5P0.35J	TFM2.5P0.35W	TFM2.5P0.35J-EZH	TFM2.5P0.35W-EZH	---	---
M3 x 0.35	TFM3P0.35J	TFM3P0.35W	TFM3P0.35J-EZH	TFM3P0.35W-EZH	---	---
M3.5 x 0.35	TFM3.5P0.35J	TFM3.5P0.35W	TFM3.5P0.35J-EZH	TFM3.5P0.35W-EZH	---	---
M4 x 0.5	TFM4P0.5J	TFM4P0.5W	TFM4P0.5J-EZH	TFM4P0.5W-EZH	TCM4P0.5J	TCM4P0.5W
M4.5 x 0.5	TFM4.5P0.5J	TFM4.5P0.5W	TFM4.5P0.5J-EZH	TFM4.5P0.5W-EZH	TCM4.5P0.5J	TCM4.5P0.5W
M5 x 0.5	TFM5P0.5J	TFM5P0.5W	TFM5P0.5J-EZH	TFM5P0.5W-EZH	TCM5P0.5J	TCM5P0.5W
M5.5 x 0.5	TFM5.5P0.5J	TFM5.5P0.5W	TFM5.5P0.5J-EZH	TFM5.5P0.5W-EZH	TCM5.5P0.5J	TCM5.5P0.5W
M6 x 0.75	TFM6P0.75J	TFM6P0.75W	TFM6P0.75J-EZH	TFM6P0.75W-EZH	TCM6P0.75J	TCM6P0.75W
M7 x 0.75	TFM7P0.75J	TFM7P0.75W	TFM7P0.75J-EZH	TFM7P0.75W-EZH	TCM7P0.75J	TCM7P0.75W
M8 x 0.75	TFM8P0.75J	TFM8P0.75W	TFM8P0.75J-EZH	TFM8P0.75W-EZH	TCM8P0.75J	TCM8P0.75W
M8 x 1	TFM8P1J	TFM8P1W	TFM8P1J-EZH	TFM8P1W-EZH	TCM8P1J	TCM8P1W
M9 x 0.75	TFM9P0.75J	TFM9P0.75W	TFM9P0.75J-EZH	TFM9P0.75W-EZH	TCM9P0.75J	TCM9P0.75W
M9 x 1	TFM9P1J	TFM9P1W	TFM9P1J-EZH	TFM9P1W-EZH	TCM9P1J	TCM9P1W
M10 x 0.75	TFM10P0.75J	TFM10P0.75W	TFM10P0.75J-EZH	TFM10P0.75W-EZH	TCM10P0.75J	TCM10P0.75W
M10 x 1	TFM10P1J	TFM10P1W	TFM10P1J-EZH	TFM10P1W-EZH	TCM10P1J	TCM10P1W
M10 x 1.25	TFM10P1.25J	TFM10P1.25W	TFM10P1.25J-EZH	TFM10P1.25W-EZH	TCM10P1.25J	TCM10P1.25W
M11 x 0.75	TFM11P0.75J	TFM11P0.75W	TFM11P0.75J-EZH	TFM11P0.75W-EZH	TCM11P0.75J	TCM11P0.75W
M11 x 1	TFM11P1J	TFM11P1W	TFM11P1J-EZH	TFM11P1W-EZH	TCM11P1J	TCM11P1W
M12 x 1	TFM12P1J	TFM12P1W	TFM12P1J-EZH	TFM12P1W-EZH	TCM12P1J	TCM12P1W
M12 x 1.25	TFM12P1.25J	TFM12P1.25W	TFM12P1.25J-EZH	TFM12P1.25W-EZH	TCM12P1.25J	TCM12P1.25W
M12 x 1.5	TFM12P1.5J	TFM12P1.5W	TFM12P1.5J-EZH	TFM12P1.5W-EZH	TCM12P1.5J	TCM12P1.5W
M14 x 1	TFM14P1J	TFM14P1W	TFM14P1J-EZH	TFM14P1W-EZH	TCM14P1J	TCM14P1W
M14 x 1.25	TFM14P1.25J	TFM14P1.25W	TFM14P1.25J-EZH	TFM14P1.25W-EZH	TCM14P1.25J	TCM14P1.25W
M14 x 1.5	TFM14P1.5J	TFM14P1.5W	TFM14P1.5J-EZH	TFM14P1.5W-EZH	TCM14P1.5J	TCM14P1.5W
M15 x 1	TFM15P1J	TFM15P1W	---	---	TCM15P1J	TCM15P1W
M15 x 1.5	TFM15P1.5J	TFM15P1.5W	---	---	TCM15P1.5J	TCM15P1.5W
M16 x 1	TFM16P1J	TFM16P1W	---	---	TCM16P1J	TCM16P1W
M16 x 1.5	TFM16P1.5J	TFM16P1.5W	---	---	TCM16P1.5J	TCM16P1.5W
M17 x 1	TFM17P1J	TFM17P1W	---	---	TCM17P1J	TCM17P1W
M17 x 1.5	TFM17P1.5J	TFM17P1.5W	---	---	TCM17P1.5J	TCM17P1.5W
M18 x 1	TFM18P1J	TFM18P1W	---	---	TCM18P1J	TCM18P1W
M18 x 1.5	TFM18P1.5J	TFM18P1.5W	---	---	TCM18P1.5J	TCM18P1.5W
M18 x 2	TFM18P2J	TFM18P2W	---	---	TCM18P2J	TCM18P2W
M20 x 1	TFM20P1J	TFM20P1W	---	---	TCM20P1J	TCM20P1W

*the Malaysian Precision Equipment company*



## JIS Metric Fine Pitch (Japanese Standard)

- JIS Metric Screw Plugs & Calipers to JIS B 0252
- JIS Metric Screw Plugs & Calipers to class 2

- Screw Plug - Right Hand only.
- Class 1, 3, etc & non standard gauges also available.


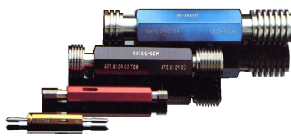





JIS METRIC FINE PITCH (cont's)						
SIZES	SCREW PLUGS				SCREW CALIPERS	
	GP 2 / IP 2 D/E (Style E) ORDER NO.	GP 2 / WP 2 D/E (Style E) ORDER NO.	GP 2 / IP 2 D/E (EZH Handle) ORDER NO.	GP 2 / WP 2 D/E (EZH Handle) ORDER NO.	GR / IR 2 Knife Edge ORDER NO.	GR / WR2 Knife Edge ORDER NO.
						
M20 x 1.5	TFM20P1.5J	TFM20P1.5W	---	---	TCM20P1.5J	TCM20P1.5W
M20 x 2	TFM20P2J	TFM20P2W	---	---	TCM20P2J	TCM20P2W
M22 x 1	TFM22P1J	TFM22P1W	---	---	TCM22P1J	TCM22P1W
M22 x 1.5	TFM22P1.5J	TFM22P1.5W	---	---	TCM22P1.5J	TCM22P1.5W
M22 x 2	TFM22P2J	TFM22P2W	---	---	TCM22P2J	TCM22P2W
M24 x 1	TFM24P1J	TFM24P1W	---	---	TCM24P1J	TCM24P1W
M24 x 1.5	TFM24P1.5J	TFM24P1.5W	---	---	TCM24P1.5J	TCM24P1.5W
M24 x 2	TFM24P2J	TFM24P2W	---	---	TCM24P2J	TCM24P2W
M25 x 1	TFM25P1J	TFM25P1W	---	---	TCM25P1J	TCM25P1W
M25 x 1.5	TFM25P1.5J	TFM25P1.5W	---	---	TCM25P1.5J	TCM25P1.5W
M25 x 2	TFM25P2J	TFM25P2W	---	---	TCM25P2J	TCM25P2W
M26 x 1.5	TFM26P1.5J	TFM26P1.5W	---	---	TCM26P1.5J	TCM26P1.5W
M27 x 1	TFM27P1J	TFM27P1W	---	---	TCM27P1J	TCM27P1W
M27 x 1.5	TFM27P1.5J	TFM27P1.5W	---	---	TCM27P1.5J	TCM27P1.5W
M27 x 2	TFM27P2J	TFM27P2W	---	---	TCM27P2J	TCM27P2W
M28 x 1	TFM28P1J	TFM28P1W	---	---	TCM28P1J	TCM28P1W
M28 x 1.5	TFM28P1.5J	TFM28P1.5W	---	---	TCM28P1.5J	TCM28P1.5W
M28 x 2	TFM28P2J	TFM28P2W	---	---	TCM28P2J	TCM28P2W
M30 x 1	TFM30P1J	TFM30P1W	---	---	TCM30P1J	TCM30P1W
M30 x 1.5	TFM30P1.5J	TFM30P1.5W	---	---	TCM30P1.5J	TCM30P1.5W
M30 x 2	TFM30P2J	TFM30P2W	---	---	TCM30P2J	TCM30P2W
M30 x 3	TFM30P3J	TFM30P3W	---	---	TCM30P3J	TCM30P3W
M32 x 1.5	TFM32P1.5J	TFM32P1.5W	---	---	TCM32P1.5J	TCM32P1.5W
M32 x 2	TFM32P2J	TFM32P2W	---	---	TCM32P2J	TCM32P2W
M33 x 1.5	TFM33P1.5J	TFM33P1.5W	---	---	TCM33P1.5J	TCM33P1.5W
M33 x 2	TFM33P2J	TFM33P2W	---	---	TCM33P2J	TCM33P2W
M33 x 3	TFM33P3J	TFM33P3W	---	---	TCM33P3J	TCM33P3W
M35 x 1.5	TFM35P1.5J	TFM35P1.5W	---	---	TCM35P1.5J	TCM35P1.5W
M36 x 1.5	TFM36P1.5J	TFM36P1.5W	---	---	TCM36P1.5J	TCM36P1.5W
M36 x 2	TFM36P2J	TFM36P2W	---	---	TCM36P2J	TCM36P2W
M36 x 3	TFM36P3J	TFM36P3W	---	---	TCM36P3J	TCM36P3W
M38 x 1.5	TFM38P1.5J	TFM38P1.5W	---	---	TCM38P1.5J	TCM38P1.5W
M39 x 1.5	TFM39P1.5J	TFM39P1.5W	---	---	TCM39P1.5J	TCM39P1.5W
M39 x 2	TFM39P2J	TFM39P2W	---	---	TCM39P2J	TCM39P2W
M39 x 3	TFM39P3J	TFM39P3W	---	---	TCM39P3J	TCM39P3W
M40 x 1.5	TFM40P1.5J	TFM40P1.5W	---	---	TCM40P1.5J	TCM40P1.5W
M40 x 2	TFM40P2J	TFM40P2W	---	---	TCM40P2J	TCM40P2W
M40 x 3	TFM40P3J	TFM40P3W	---	---	TCM40P3J	TCM40P3W
M42 x 1.5	TFM42P1.5J	TFM42P1.5W	---	---	TCM42P1.5J	TCM42P1.5W
M42 x 2	TFM42P2J	TFM42P2W	---	---	TCM42P2J	TCM42P2W
M42 x 3	TFM42P3J	TFM42P3W	---	---	TCM42P3J	TCM42P3W
M42 x 4	TFM42P4J	TFM42P4W	---	---	TCM42P4J	TCM42P4W

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## Unified Coarse Pitch (UNC)

- Unified to ANSI/ASME B1.2
- Screw Plugs to class 2B
- Screw Rings & Calipers to class 2A

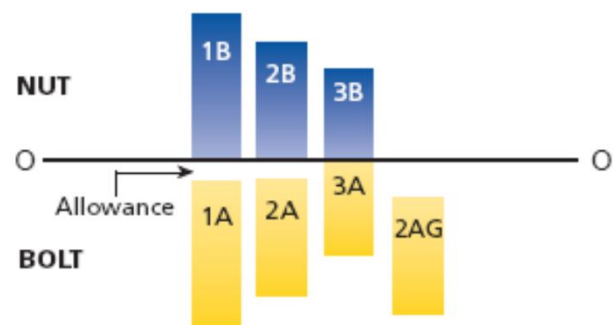
- BS 1580: Part 1, 2 & 3; and BS919 Part 1 available on request
- Screw Plugs & Ring - Right Hand only
- Class 1B, 3B, 1A, 3A, UNS & non standard gauges also available.

UNIFIED COARSE PITCH (UNC)							
SIZES	SCREW PLUGS			SCREW RINGS		SETTING PLUG	SCREW
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	CALIPERS Knife Edge ORDER NO.
							
1 - 64 UNC	TF1UNC	TF1UNC-	---	TR1UNC-G	TR1UNC-NG	---	---
2 - 56 UNC	TF2UNC	TF2UNC-	TF2UNC-EZH	TR2UNC-G	TR2UNC-NG	---	---
3 - 48 UNC	TF3UNC	TF3UNC-	TF3UNC-EZH	TR3UNC-G	TR3UNC-NG	---	---
4 - 40 UNC	TF4UNC	TF4UNC-	TF4UNC-EZH	TR4UNC-G	TR4UNC-NG	---	---
5 - 40 UNC	TF5UNC	TF5UNC-	TF5UNC-EZH	TR5UNC-G	TR5UNC-NG	---	---
6 - 32 UNC	TF6UNC	TF6UNC-	TF6UNC-EZH	TR6UNC-G	TR6UNC-NG	TCS6UNC	TC6UNC
8 - 32 UNC	TF8UNC	TF8UNC-	TF8UNC-EZH	TR8UNC-G	TR8UNC-NG	TCS8UNC	TC8UNC
10 - 24 UNC	TF10UNC	TF10UNC-	TF10UNC-EZH	TR10UNC-G	TR10UNC-NG	TCS10UNC	TC10UNC
12 - 24 UNC	TF12UNC	TF12UNC-	TF12UNC-EZH	TR12UNC-G	TR12UNC-NG	TCS12UNC	TC12UNC
1/4 - 20 UNC	TF1/4UNC	TF1/4UNC-	TF1/4UNC-EZH	TR1/4UNC-G	TR1/4UNC-NG	TCS1/4UNC	TC1/4UNC
5/16 - 18 UNC	TF5/16UNC	TF5/16UNC-	TF5/16UNC-EZH	TR5/16UNC-G	TR5/16UNC-NG	TCS5/16UNC	TC5/16UNC
3/8 - 16 UNC	TF3/8UNC	TF3/8UNC-	TF3/8UNC-EZ	TR3/8UNC-G	TR3/8UNC-NG	TCS3/8UNC	TC3/8UNC
7/16 - 14 UNC	TF7/16UNC	TF7/16UNC-	TF7/16UNC-EZ	TR7/16UNC-G	TR7/16UNC-NG	TCS7/16UNC	TC7/16UNC
1/2 - 13 UNC	TF1/2UNC	TF1/2UNC-	TF1/2UNC-EZ	TR1/2UNC-G	TR1/2UNC-NG	TCS1/2UNC	TC1/2UNC
9/16 - 12 UNC	TF9/16UNC	TF9/16UNC-	---	TR9/16UNC-G	TR9/16UNC-NG	TCS9/16UNC	TC9/16UNC
5/8 - 11 UNC	TF5/8UNC	TF5/8UNC-	---	TR5/8UNC-G	TR5/8UNC-NG	TCS5/8UNC	TC5/8UNC
3/4 - 10 UNC	TF3/4UNC	TF3/4UNC-	---	TR3/4UNC-G	TR3/4UNC-NG	TCS3/4UNC	TC3/4UNC
7/8 - 9 UNC	TF7/8UNC	TF7/8UNC-	---	TR7/8UNC-G	TR7/8UNC-NG	TCS7/8UNC	TC7/8UNC
1" - 8 UNC	TF1"UNC	TF1"UNC-	---	TR1"UNC-G	TR1"UNC-NG	TCS1"UNC	TC1"UNC
1.1/8 - 7 UNC	TF1.1/8UNC	TF1.1/8UNC-	---	TR1.1/8UNC-G	TR1.1/8UNC-NG	TCS1.1/8UNC	TC1.1/8UNC
1.1/4 - 7 UNC	TF1.1/4UNC	TF1.1/4UNC-	---	TR1.1/4UNC-G	TR1.1/4UNC-NG	TCS1.1/4UNC	TC1.1/4UNC
1.3/8 - 6 UNC	TF1.3/8UNC	TF1.3/8UNC-	---	TR1.3/8UNC-G	TR1.3/8UNC-NG	TCS1.3/8UNC	TC1.3/8UNC
1.1/2 - 6 UNC	TF1.1/2UNC	TF1.1/2UNC-	---	TR1.1/2UNC-G	TR1.1/2UNC-NG	TCS1.1/2UNC	TC1.1/2UNC

• for single end, please specify G (Go) or NG (Not Go)

### SPECIAL GAUGES

Beside holding a comprehensive range of Screw Gauges of standard pitch/diameter combinations. Non standard size, pre-plating gauge, special pitch/diameter combinations & special screw gauge to customer's drawing can also be manufactured.






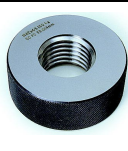



Allowances for 1A and 2A are the same  
Product tolerance: 1 > 2 > 3

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## Unified Fine Pitch (UNF)

- Unified to ANSI/ASME B1.2
- Screw Plugs to class 2B
- Screw Rings & Calipers to class 2A

- BS 1580: Part 1, 2 & 3; and BS919 Part 1 available on request
- Screw Plugs & Ring - Right Hand only
- Class 1B, 3B, 1A, 3A, UNS & non standard gauges also available.

UNIFIED FINE PITCH (UNF)							
SIZES	SCREW PLUGS			SCREW RINGS		SETTING PLUG	SCREW
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	CALIPERS Knife Edge ORDER NO.
							
0 - 80 UNF	TF0UNF	TF0UNF-	---	TR0UNF-G	TR0UNF-NG	---	---
1 - 72 UNF	TF1UNF	TF1UNF-	---	TR1UNF-G	TR1UNF-NG	---	---
2 - 64 UNF	TF2UNF	TF2UNF-	TF2UNF-EZH	TR2UNF-G	TR2UNF-NG	---	---
3 - 56 UNF	TF3UNF	TF3UNF-	TF3UNF-EZH	TR3UNF-G	TR3UNF-NG	---	---
4 - 48 UNF	TF4UNF	TF4UNF-	TF4UNF-EZH	TR4UNF-G	TR4UNF-NG	---	---
5 - 44 UNF	TF5UNF	TF5UNF-	TF5UNF-EZH	TR5UNF-G	TR5UNF-NG	---	---
6 - 40 UNF	TF6UNF	TF6UNF-	TF6UNF-EZH	TR6UNF-G	TR6UNF-NG	---	---
8 - 36 UNF	TF8UNF	TF8UNF-	TF8UNF-EZH	TR8UNF-G	TR8UNF-NG	---	---
10 - 32 UNF	TF10UNF	TF10UNF-	TF10UNF-EZH	TR10UNF-G	TR10UNF-NG	TCS10UNF	TC10UNF
12 - 28 UNF	TF12UNF	TF12UNF-	TF12UNF-EZH	TR12UNF-G	TR12UNF-NG	TCS12UNF	TC12UNF
1/4 - 28 UNF	TF1/4UNF	TF1/4UNF-	TF1/4UNF-EZH	TR1/4UNF-G	TR1/4UNF-NG	TCS1/4UNF	TC1/4UNF
5/16 - 24 UNF	TF5/16UNF	TF5/16UNF-	TF5/16UNF-EZH	TR5/16UNF-G	TR5/16UNF-NG	TCS5/16UNF	TC5/16UNF
3/8 - 24 UNF	TF3/8UNF	TF3/8UNF-	TF3/8UNF-EZH	TR3/8UNF-G	TR3/8UNF-NG	TCS3/8UNF	TC3/8UNF
7/16 - 20 UNF	TF7/16UNF	TF7/16UNF-	TF7/16UNF-EZH	TR7/16UNF-G	TR7/16UNF-NG	TCS7/16UNF	TC7/16UNF
1/2 - 20 UNF	TF1/2UNF	TF1/2UNF-	TF1/2UNF-EZH	TR1/2UNF-G	TR1/2UNF-NG	TCS1/2UNF	TC1/2UNF
9/16 - 18 UNF	TF9/16UNF	TF9/16UNF-	---	TR9/16UNF-G	TR9/16UNF-NG	TCS9/16UNF	TC9/16UNF
5/8 - 18 UNF	TF5/8UNF	TF5/8UNF-	---	TR5/8UNF-G	TR5/8UNF-NG	TCS5/8UNF	TC5/8UNF
3/4 - 16 UNF	TF3/4UNF	TF3/4UNF-	---	TR3/4UNF-G	TR3/4UNF-NG	TCS3/4UNF	TC3/4UNF
7/8 - 14 UNF	TF7/8UNF	TF7/8UNF-	---	TR7/8UNF-G	TR7/8UNF-NG	TCS7/8UNF	TC7/8UNF
1" - 12 UNF	TF1"UNF	TF1"UNF-	---	TR1"UNF-G	TR1"UNF-NG	TCS1"UNF	TC1"UNF
1.1/8 - 12 UNF	TF1.1/8UNF	TF1.1/8UNF-	---	TR1.1/8UNF-G	TR1.1/8UNF-NG	TCS1.1/8UNF	TC1.1/8UNF
1.1/4 - 12 UNF	TF1.1/4UNF	TF1.1/4UNF-	---	TR1.1/4UNF-G	TR1.1/4UNF-NG	TCS1.1/4UNF	TC1.1/4UNF
1.3/8 - 12 UNF	TF1.3/8UNF	TF1.3/8UNF-	---	TR1.3/8UNF-G	TR1.3/8UNF-NG	TCS1.3/8UNF	TC1.3/8UNF
1.1/2 - 12 UNF	TF1.1/2UNF	TF1.1/2UNF-	---	TR1.1/2UNF-G	TR1.1/2UNF-NG	TCS1.1/2UNF	TC1.1/2UNF

• for single end, please specify G (Go) or NG (Not Go)

**UNC** = Unified Coarse Pitch  
**UNF** = Unified Fine Pitch  
**UNEF** = Unified Extra Pitch  
**UN** = Unified Constant Pitch (4, 6, 8, 12, 16, 20, 28, 32UN)  
**UNS** = Unified Special Pitch (Normally the size and TPI not below to UNC, UNF UNEF & UN)

Tolerance Class of Fit for plug gauge: 1B, 2B & 3B

Screw Plug Gauge (for nut thread) 1/4 - 20 (or 0.250 - 20) UNC - 2B

Thread of 1/4" nominal diameter  
in the coarse thread series  
having a threads/in of 20 TPI

Tolerance class of fit

Screw Plug Gauge (for nut thread) 4 - 48 (or 0.112 - 48) UNF - 3B

Thread of 0.112" nominal diameter  
in the fine thread series having  
a threads/in of 48 TPI

Tolerance class of fit

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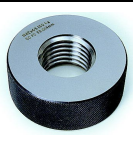



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## Unified Extra Fine Pitch (UNEF)

- Unified to ANSI/ASME B1.2
- Screw Plugs to class 2B
- Screw Rings & Calipers to class 2A

- BS 1580: Part 1, 2 & 3; and BS919 Part 1 available on request
- Screw Plugs & Ring - Right Hand only
- Class 1B, 3B, 1A, 3A, UNS & non standard gauges also available.

UNIFIED EXTRA FINE PITCH (UNEF)							
SIZES	SCREW PLUGS			SCREW RINGS		SETTING PLUG	SCREW CALIPERS
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	Knife Edge ORDER NO.
							
12 - 32 UNEF	TF12UNEF	TF12UNEF-	TF12UNEF-EZH	TR12EF-G	TR12EF-NG	TCS12UNEF	TC12UNEF
1/4 - 32 UNEF	TF1/4UNEF	TF1/4UNEF-	TF1/4UNEF-EZH	TR1/4EF-G	TR1/4EF-NG	TCS1/4UNEF	TC1/4UNEF
5/16 - 32 UNEF	TF5/16UNEF	TF5/16UNEF-	TF5/16UNEF-EZH	TR5/16EF-G	TR5/16EF-NG	TCS5/16UNEF	TC5/16UNEF
3/8 - 32 UNEF	TF3/8UNEF	TF3/8UNEF-	TF3/8UNEF-EZH	TR3/8EF-G	TR3/8EF-NG	TCS3/8UNEF	TC3/8UNEF
7/16 - 28 UNEF	TF7/16UNEF	TF7/16UNEF-	TF7/16UNEF-EZH	TR7/16EF-G	TR7/16EF-NG	TCS7/16UNEF	TC7/16UNEF
1/2 - 28 UNEF	TF1/2UNEF	TF1/2UNEF-	TF1/2UNEF-EZH	TR1/2EF-G	TR1/2EF-NG	TCS1/2UNEF	TC1/2UNEF
9/16 - 24 UNEF	TF9/16UNEF	TF9/16UNEF-	---	TR9/16EF-G	TR9/16EF-NG	TCS9/16UNEF	TC9/16UNEF
5/8 - 24 UNEF	TF5/8UNEF	TF5/8UNEF-	---	TR5/8EF-G	TR5/8EF-NG	TCS5/8UNEF	TC5/8UNEF
11/16 - 24 UNEF	TF11/16UNEF	TF11/16UNEF-	---	TR11/16EF-G	TR11/16EF-NG	TCS11/16UNEF	TC11/16UNEF
3/4 - 20 UNEF	TF3/4UNEF	TF3/4UNEF-	---	TR3/4EF-G	TR3/4EF-NG	TCS3/4UNEF	TC3/4UNEF
13/16 - 20 UNEF	TF13/16UNEF	TF13/16UNEF-	---	TR13/16EF-G	TR13/16EF-NG	TCS13/16UNEF	TC13/16UNEF
7/8 - 20 UNEF	TF7/8UNEF	TF7/8UNEF-	---	TR7/8EF-G	TR7/8EF-NG	TCS7/8UNEF	TC7/8UNEF
15/16 - 20 UNEF	TF15/16UNEF	TF15/16UNEF-	---	TR15/16EF-G	TR15/16EF-NG	TCS15/16UNEF	TC15/16UNEF
1" - 20 UNEF	TF1"UNEF	TF1"UNEF-	---	TR1"EF-G	TR1"EF-NG	TCS1"UNEF	TC1"UNEF
1.1/16 - 18 UNEF	TF1.1/16UNEF	TF1.1/16UNEF-	---	TR1.1/16EF-G	TR1.1/16EF-NG	TCS1.1/16UNEF	TC1.1/16UNEF
1.1/8 - 18 UNEF	TF1.1/8UNEF	TF1.1/8UNEF-	---	TR1.1/8EF-G	TR1.1/8EF-NG	TCS1.1/8UNEF	TC1.1/8UNEF
1.3/16 - 18 UNEF	TF1.3/16UNEF	TF1.3/16UNEF-	---	TR1.3/16EF-G	TR1.3/16EF-NG	TCS1.3/16UNEF	TC1.3/16UNEF
1.1/4 - 18 UNEF	TF1.1/4UNEF	TF1.1/4UNEF-	---	TR1.1/4EF-G	TR1.1/4EF-NG	TCS1.1/4UNEF	TC1.1/4UNEF
1.5/16 - 18 UNEF	TF1.5/16UNEF	TF1.5/16UNEF-	---	TR1.5/16EF-G	TR1.5/16EF-NG	TCS1.5/16UNEF	TC1.5/16UNEF
1.3/8 - 18 UNEF	TF1.3/8UNEF	TF1.3/8UNEF-	---	TR1.3/8EF-G	TR1.3/8EF-NG	TCS1.3/8UNEF	TC1.3/8UNEF
1.7/16 - 18 UNEF	TF1.7/16UNEF	TF1.7/16UNEF-	---	TR1.7/16EF-G	TR1.7/16EF-NG	TCS1.7/16UNEF	TC1.7/16UNEF
1.1/2 - 18 UNEF	TF1.1/2UNEF	TF1.1/2UNEF-	---	TR1.1/2EF-G	TR1.1/2EF-NG	TCS1.1/2UNEF	TC1.1/2UNEF

**ANSI/ASME B1.2** details of gauge threads. (The basic profile is the same as that for ISO threads). The standard includes nominal sizes and limits of size for standard threads for 1A, 2A and 3A for external threads, and 1B, 2B, and 3B for internal threads in the following sizes:-

- UNC - (coarse pitch) from 1/4" to 4" dia.
- UNF - (fine pitch) from 1/4" to 11/2" dia.
- UNEF - (extra fine pitch) from 1/4" to 111/16" dia.
- UN - (constant pitch) for 4,6,8,12,16,20,28, and 32 tpi for various diameters as specified.

### Allowances (deviation from basic size)

1A and 2A provide allowances of 30% of the effective diameter tolerances of 2A external threads. 3A is basic (no allowance). 2AG is 0.001" smaller on diameter to provide for plating to finish at 2A. (0.001" on diameter will allow for an average deposit of 0.00025"). 1B, 2B and 3B for internal threads are all basic. Before plating threads are not designated. They are referred to as before plating, and are 0.001" larger on diameter than basic size.

### Classes of fit

1A/1B are used where easy assembly is required. 2A/2B are the classes used for the majority of general engineering purposes. 3A/3B apply to threads requiring a closer fit, and are only used when a close accuracy of form and pitch are required.

### SPECIAL GAUGES

Beside holding a comprehensive range of Screw Gauges of standard pitch/diameter combinations.  
Non standard size, pre-plating gauge, special pitch/diameter combinations & special screw gauge to customer's drawing can also be manufactured.

*the Malaysian Precision Equipment company*

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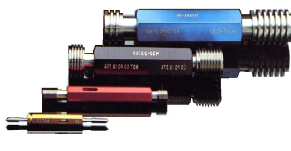





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## Unified Coarse Pitch (UNJC)

- Unified to ANSI/ASME B1.2
- Screw Plugs to class 3B
- Screw Rings & Calipers to class 3A
- British Standard available on request
- Screw Plugs & Ring - Right Hand only

UNIFIED COARSE PITCH (UNJC)							
SIZES	SCREW PLUGS			SCREW RINGS		SETTING PLUG	SCREW
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	CALIPERS Knife Edge ORDER NO.
							
2 - 56 UNJC	TF2UNJC	TF2UNJC-	---	TR2UNJC-G	TR2UNJC-NG	---	---
4 - 40 UNJC	TF4UNJC	TF4UNJC-	---	TR4UNJC-G	TR4UNJC-NG	---	---
6 - 32 UNJC	TF6UNJC	TF6UNJC-	---	TR6UNJC-G	TR6UNJC-NG	---	---
8 - 32 UNJC	TF8UNJC	TF8UNJC-	---	TR8UNJC-G	TR8UNJC-NG	---	---
10 - 24 UNJC	TF10UNJC	TF10UNJC-	---	TR10UNJC-G	TR10UNJC-NG	---	---
1/4 - 20 UNJC	TF1/4UNJC	TF1/4UNJC-	---	TR1/4UNJC-G	TR1/4UNJC-NG	TCS1/4UNJC	TC1/4UNJC
5/16 - 18 UNJC	TF5/16UNJC	TF5/16UNJC-	---	TR5/16UNJC-G	TR5/16UNJC-NG	TCS5/16UNJC	TC5/16UNJC
3/8 - 16 UNJC	TF3/8UNJC	TF3/8UNJC-	---	TR3/8UNJC-G	TR3/8UNJC-NG	TCS3/8UNJC	TC3/8UNJC
12 - 24 UNJC	TF12UNJC	TF12UNJC-	---	TR12UNJC-G	TR12UNJC-NG	TCS12UNJC	TC12UNJC

UNIFIED FINE PITCH (UNJF)							
SIZES	SCREW PLUGS			SCREW RINGS		SETTING PLUG	SCREW
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	GO & NOT GO D/E (EZH Handle) ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	CALIPERS Knife Edge ORDER NO.
							
4 - 48 UNJF	TF4UNJF	TF4UNJF-	TF4UNJF-EZH	TR4UNJF-G	TR4UNJF-NG	---	---
6 - 40 UNJF	TF6UNJF	TF6UNJF-	TF6UNJF-EZH	TR6UNJF-G	TR6UNJF-NG	---	---
8 - 36 UNJF	TF8UNJF	TF8UNJF-	TF8UNJF-EZH	TR8UNJF-G	TR8UNJF-NG	---	---
10 - 32 UNJF	TF10UNJF	TF10UNJF-	TF10UNJF-EZH	TR10UNJF-G	TR10UNJF-NG	---	---
12 - 28 UNJF	TF12UNJF	TF12UNJF-	TF12UNJF-EZH	TR12UNJF-G	TR12UNJF-NG	---	---
1/4 - 28 UNJF	TF1/4UNJF	TF1/4UNJF-	TF1/4UNJF-EZH	TR1/4UNJF-G	TR1/4UNJF-NG	TCS1/4UNJF	TC1/4UNJF
5/16 - 24 UNJF	TF5/16UNJF	TF5/16UNJF-	TF5/16UNJF-EZH	TR5/16UNJF-G	TR5/16UNJF-NG	TCS5/16UNJF	TC5/16UNJF
3/8 - 24 UNJF	TF3/8UNJF	TF3/8UNJF-	TF3/8UNJF-EZH	TR3/8UNJF-G	TR3/8UNJF-NG	TCS3/8UNJF	TC3/8UNJF
7/16 - 20 UNJF	TF7/16UNJF	TF7/16UNJF-	TF7/16UNJF-EZH	TR7/16UNJF-G	TR7/16UNJF-NG	TCS7/16UNJF	TC7/16UNJF
1/2 - 20 UNJF	TF1/2UNJF	TF1/2UNJF-	TF1/2UNJF-EZH	TR1/2UNJF-G	TR1/2UNJF-NG	TCS1/2UNJF	TC1/2UNJF
9/16 - 18 UNJF	TF9/16UNJF	TF9/16UNJF-	---	TR9/16UNJF-G	TR9/16UNJF-NG	TCS9/16UNJF	TC9/16UNJF
5/8 - 18 UNJF	TF5/8UNJF	TF5/8UNJF-	---	TR5/8UNJF-G	TR5/8UNJF-NG	TCS5/8UNJF	TC5/8UNJF
3/4 - 16 UNJF	TF3/4UNJF	TF3/4UNJF-	---	TR3/4UNJF-G	TR3/4UNJF-NG	TCS3/4UNJF	TC3/4UNJF

• for single end, please specify G (Go) or NG (Not Go)

*the Malaysian Precision Equipment company*

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## BSW & BSF

- To BS 84 (Medium fit)
- General Tolerance to BS 919

- Screw Plugs & Ring - Right Hand only

BSW & BSF						
SIZES	SCREW PLUGS		SCREW RINGS		SETTING PLUG	SCREW
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	CALIPERS Knife Edge ORDER NO.
						
BSW 1/8 x 40	TFBSW1/8	TFBSW1/8-	TRBSW1/8-G	TRBSW1/8-NG	TCSBSW1/8	TCBSW1/8
BSW 3/16 x 24	TFBSW3/16	TFBSW3/16-	TRBSW3/16-G	TRBSW3/16-NG	TCSBSW3/16	TCBSW3/16
BSW 1/4 x 20	TFBSW1/4	TFBSW1/4-	TRBSW1/4-G	TRBSW1/4-NG	TCSBSW1/4	TCBSW1/4
BSW 5/16 x 18	TFBSW5/16	TFBSW5/16-	TRBSW5/16-G	TRBSW5/16-NG	TCSBSW5/16	TCBSW5/16
BSW 3/8 x 16	TFBSW3/8	TFBSW3/8-	TRBSW3/8-G	TRBSW3/8-NG	TCSBSW3/8	TCBSW3/8
BSW 7/16 x 14	TFBSW7/16	TFBSW7/16-	TRBSW7/16-G	TRBSW7/16-NG	TCSBSW7/16	TCBSW7/16
BSW 1/2 x 12	TFBSW1/2	TFBSW1/2-	TRBSW1/2-G	TRBSW1/2-NG	TCSBSW1/2	TCBSW1/2
BSW 9/16 x 12	TFBSW9/16	TFBSW9/16-	TRBSW9/16-G	TRBSW9/16-NG	TCSBSW9/16	TCBSW9/16
BSW 5/8 x 11	TFBSW5/8	TFBSW5/8-	TRBSW5/8-G	TRBSW5/8-NG	TCSBSW5/8	TCBSW5/8
BSW 3/4 x 10	TFBSW3/4	TFBSW3/4-	TRBSW3/4-G	TRBSW3/4-NG	TCSBSW3/4	TCBSW3/4
BSW 7/8 x 9	TFBSW7/8	TFBSW7/8-	TRBSW7/8-G	TRBSW7/8-NG	TCSBSW7/8	TCBSW7/8
BSW 1 x 8	TFBSW1"	TFBSW1"-	TRBSW1"-G	TRBSW1"-NG	TCSBSW1"	TCBSW1"
BSW 1.1/8 x 7	TFBSW1.1/8	TFBSW1.1/8-	TRBSW1.1/8-G	TRBSW1.1/8-NG	TCSBSW1.1/8	TCBSW1.1/8
BSW 1.1/4 x 7	TFBSW1.1/4	TFBSW1.1/4-	TRBSW1.1/4-G	TRBSW1.1/4-NG	TCSBSW1.1/4	TCBSW1.1/4
BSW 1.3/8 x 6	TFBSW1.3/8	TFBSW1.3/8-	TRBSW1.3/8-G	TRBSW1.3/8-NG	TCSBSW1.3/8	TCBSW1.3/8
BSW 1.1/2 x 6	TFBSW1.1/2	TFBSW1.1/2-	TRBSW1.1/2-G	TRBSW1.1/2-NG	TCSBSW1.1/2	TCBSW1.1/2
BSF 3/16 x 32	TFBSF3/16	TFBSF3/16-	TRBSF3/16-G	TRBSF3/16-NG	TCSBSF3/16	TCBSF3/16
BSF 1/4 x 26	TFBSF1/4	TFBSF1/4-	TRBSF1/4-G	TRBSF1/4-NG	TCSBSF1/4	TCBSF1/4
BSF 5/16 x 22	TFBSF5/16	TFBSF5/16-	TRBSF5/16-G	TRBSF5/16-NG	TCSBSF5/16	TCBSF5/16
BSF 3/8 x 20	TFBSF3/8	TFBSF3/8-	TRBSF3/8-G	TRBSF3/8-NG	TCSBSF3/8	TCBSF3/8
BSF 7/16 x 18	TFBSF7/16	TFBSF7/16-	TRBSF7/16-G	TRBSF7/16-NG	TCSBSF7/16	TCBSF7/16
BSF 1/2 x 16	TFBSF1/2	TFBSF1/2-	TRBSF1/2-G	TRBSF1/2-NG	TCSBSF1/2	TCBSF1/2
BSF 9/16 x 16	TFBSF9/16	TFBSF9/16-	TRBSF9/16-G	TRBSF9/16-NG	TCSBSF9/16	TCBSF9/16
BSF 5/8 x 14	TFBSF5/8	TFBSF5/8-	TRBSF5/8-G	TRBSF5/8-NG	TCSBSF5/8	TCBSF5/8
BSF 3/4 x 12	TFBSF3/4	TFBSF3/4-	TRBSF3/4-G	TRBSF3/4-NG	TCSBSF3/4	TCBSF3/4
BSF 7/8 x 11	TFBSF7/8	TFBSF7/8-	TRBSF7/8-G	TRBSF7/8-NG	TCSBSF7/8	TCBSF7/8
BSF 1 x 10	TFBSF1"	TFBSF1"-	TRBSF1"-G	TRBSF1"-NG	TCSBSF1"	TCBSF1"
BSF 1.1/8 x 9	TFBSF1.1/8	TFBSF1.1/8-	TRBSF1.1/8-G	TRBSF1.1/8-N	TCSBSF1.1/8	TCBSF1.1/8
BSF 1.1/4 x 9	TFBSF1.1/4	TFBSF1.1/4-	TRBSF1.1/4-G	TRBSF1.1/4-N	TCSBSF1.1/4	TCBSF1.1/4
BSF 1.3/8 x 8	TFBSF1.3/8	TFBSF1.3/8-	TRBSF1.3/8-G	TRBSF1.3/8-N	TCSBSF1.3/8	TCBSF1.3/8
BSF 1.1/2 x 8	TFBSF1.1/2	TFBSF1.1/2-	TRBSF1.1/2-G	TRBSF1.1/2-N	TCSBSF1.1/2	TCBSF1.1/2

Gauges for testing parallel threads having a full form Whitworth profile are manufactured to BS 84:1956, and BS 919: Part 2: 1971.

BS 84 specifies basic information for the Whitworth form, and tabulates diameters for threads designated BSW and BSF.

BSW is a coarse thread series from 1/8" to 6" diameter.

BSF is a fine thread series from 3/16" to 3" diameter.

BS 919: Pt 2: 1971 specifies the limits for gauges with threads having a full form profile.

Provision is made for three classes of fit for external threads. Close, Medium and Free, and two classes for internal threads. Medium and Normal.

Close class applies to threads requiring a snug fit, and is only used where there is a controlled accuracy of form and pitch. Medium class applies to better class interchangeable threads. Free and Normal classes apply to the majority of commercial quality threads.

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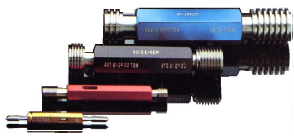




## BA SERIES

\* To BS 93 / BS 919 part 2

\* Screw Plugs & Rings to Normal Fit.

• Screw Plugs & Ring - Right Hand only

• Screw Calipers to all class

BA SERIES						
SIZES	SCREW PLUGS		SCREW RINGS		SETTING PLUG	SCREW
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	CALIPERS Knife Edge ORDER NO.
						
10 BA	TF10BA	TF10BA-	TR10BA-G	TR10BA-NG	TCS10BA	TC10BA
9 BA	TF9BA	TF9BA-	TR9BA-G	TR9BA-NG	TCS9BA	TC9BA
8 BA	TF8BA	TF8BA-	TR8BA-G	TR8BA-NG	TCS8BA	TC8BA
7 BA	TF7BA	TF7BA-	TR7BA-G	TR7BA-NG	TCS7BA	TC7BA
6 BA	TF6BA	TF6BA-	TR6BA-G	TR6BA-NG	TCS6BA	TC6BA
5 BA	TF5BA	TF5BA-	TR5BA-G	TR5BA-NG	TCS5BA	TC5BA
4 BA	TF4BA	TF4BA-	TR4BA-G	TR4BA-NG	TCS4BA	TC4BA
3 BA	TF3BA	TF3BA-	TR3BA-G	TR3BA-NG	TCS3BA	TC3BA
2 BA	TF2BA	TF2BA-	TR2BA-G	TR2BA-NG	TCS2BA	TC2BA
1 BA	TF1BA	TF1BA-	TR1BA-G	TR1BA-NG	TCS1BA	TC1BA
0 BA	TF0BA	TF0BA-	TR0BA-G	TR0BA-NG	TCS0BA	TC0BA

## G SERIES (BSP, G)

\* To BS 2779 / ISO 228

\* Screw Plugs, Rings and Calipers to Class A

• Screw Plugs & Ring - Right Hand only

• Formerly BSPF

G SERIES						
SIZES	SCREW PLUGS		SCREW RINGS		SETTING PLUG	SCREW
	GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.	Solid GO Ring ORDER NO.	Solid NOT GO Ring ORDER NO.	For Calipers D/E (Style A) ORDER NO.	CALIPERS Knife Edge ORDER NO.
						
G 1/8 x 28	TFG1/8	TFG1/8-	TRG1/8-G	TRG1/8-NG	TCSG1/8	TCG1/8
G 1/4 x 19	TFG1/4	TFG1/4-	TRG1/4-G	TRG1/4-NG	TCSG1/4	TCG1/4
G 3/8 x 19	TFG3/8	TFG3/8-	TRG3/8-G	TRG3/8-NG	TCSG3/8	TCG3/8
G 1/2 x 14	TFG1/2	TFG1/2-	TRG1/2-G	TRG1/2-NG	TCSG1/2	TCG1/2
G 5/8 x 14	TFG5/8	TFG5/8-	TRG5/8-G	TRG5/8-NG	TCSG5/8	TCG5/8
G 3/4 x 14	TFG3/4	TFG3/4-	TRG3/4-G	TRG3/4-NG	TCSG3/4	TCG3/4
G 7/8 x 14	TFG7/8	TFG7/8-	TRG7/8-G	TRG7/8-NG	TCSG7/8	TCG7/8
G 1 x 11	TFG1	TFG1-	TRG1-G	TRG1-NG	TCSG1	TCG1
G 1.1/8 x 11	TFG1.1/8	TFG1.1/8-	TRG1.1/8-G	TRG1.1/8-NG	TCSG1.1/8	TCG1.1/8
G 1.1/4 x 11	TFG1.1/4	TFG1.1/4-	TRG1.1/4-G	TRG1.1/4-NG	TCSG1.1/4	TCG1.1/4
G 1.1/2 x 11	TFG1.1/2	TFG1.1/2-	TRG1.1/2-G	TRG1.1/2-NG	TCSG1.1/2	TCG1.1/2
G 1.3/4 x 11	TFG1.3/4	TFG1.3/4-	TRG1.3/4-G	TRG1.-3/4-NG	TCSG1.3/4	TCG1.3/4
G 2 x 11	TFG2	TFG2-	TRG2-G	TRG2-NG	TCSG2	TCG2

• BS 2779 is technically equivalent to ISO 228/1 - 1982 for the designation, dimensions and tolerances of the product thread, and to ISO 228/2 - 1980, for verification by means of limit gauges. Screw Calipers to all class.

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## S.T.I. (HELICOIL) or WIRE INSERTS

### British Standard Wire Insert Thread Plug Gauge

For checking pre-insertion tapped holes for wire thread inserts. Imperial threaded INSERTS to BS 3409 Part 1 & 2 Class 2B. Metric INSERTS to BS 4377/80 Class 6H. BA BSP, BSW and other classes of fit accepted standard.


### S.T.I. Thread Plug Gauges

"Helical Coil", tolerance to ANSI/ASME B1.2 CLASS X, taperlock design.

**Please note: British Standard (BS) INSERTS and equivalent HELICOIL Standard as follow :-**

British Standard	S.T.I. (HELICOIL)
Metric 6H	Metric 5H
Metric 5H	Metric 4H
Unified 2B	Unified 3B
Unified 1B	Unified 2B

**HELICOIL is the Trademark of Armstrong Fastenings**

S.T.I. (HELICOIL) or INSERT's SIZE & THREAD FORM					SCREW PLUGS	
SIZES					GO & NOT GO D/E (Style E) ORDER NO.	GO or NOT GO S/E* ORDER NO.
UNC/UNF	ISO METRIC	BA SERIES *	BSW / BSF *	G SERIES *		
No. 2	M2 x 0.4	6 BA	1/4	1/8	on request	on request
No. 3	M2.5 x 0.45	5 BA	5/16	1/4		
No. 4	M3 x 0.5	4 BA	3/8	3/8		
No. 5	M3.5 x 0.6	3 BA	7/16	1/2		
No. 6	M4 x 0.7	2 BA	1/2			
No. 8	M5 x 0.8	1 BA	9/16			
No. 10	M6 x 1	0 BA	5/8			
No. 12	M8 x 1.25		3/4			
1/4	M10 x 1.5		7/8			
5/16	M12 x 1.75		1"			
3/8	M14 x 2					
7/16	M16 x 2					
1/2	M20 x 2.5					
9/16	M24 x 3					
5/8						
3/4						
7/8						
1"						

Note: Thread form with \*, not available for S.T.I. thread plug gauge

### SPECIAL GAUGES

Beside holding a comprehensive range of Screw Gauges of standard pitch/diameter combinations. Non standard size, pre-plating gauge, special pitch/diameter combinations & special screw gauge to customer's drawing can also be manufactured.

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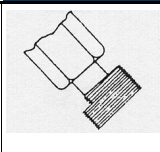
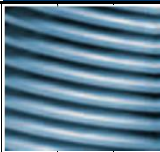
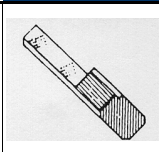
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## Plug Rc and Ring R to BS 21

BS 21			
PLUG, Rc		RING, R	
DESIGNATION SIZE	ORDER NO.	DESIGNATION SIZE	ORDER NO.
			
Rc 1/16 - 28	TFRC1/16	R 1/16 - 28	TRR1/16
Rc 1/8 - 28	TFRC1/8	R 1/8 - 28	TRR1/8
Rc 1/4 - 19	TFRC1/4	R 1/4 - 19	TRR1/4
Rc 3/8 - 19	TFRC3/8	R 3/8 - 19	TRR3/8
Rc 1/2 - 14	TFRC1/2	R 1/2 - 14	TRR1/2
Rc 3/4 - 14	TFRC3/4	R 3/4 - 14	TRR3/4
Rc 1 - 11	TFRC1	R 1 - 11	TRR1
Rc 1.1/4 - 11	TFRC1.1/4	R 1.1/4 - 11	TRR1.1/4
Rc 1.1/2 - 11	TFRC1.1/2	R 1.1/2 - 11	TRR1.1/2
Rc 2 - 11	TFRC2	R 2 - 11	TRR2
Rc 2.1/2 - 11	TFRC2.1/2	R 2.1/2 - 11	TRR2.1/2
Rc 3 - 11	TFRC3	R 3 - 11	TRR3

- Standard supply to System B
- Formerly BSP, T

BS 21 specifies requirements of pipe threads for joints made pressure tight by the mating of threads, and are taper external, taper internal, parallel external and parallel internal threads.


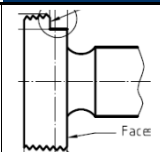
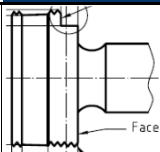

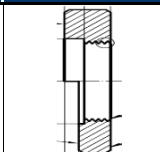
There are two systems for gauging pipe threads specified in BS 21 standard.

System A gauges are intended for use where there are additional production control methods to ensure accuracy of the threads.

System B gauges are intended for use where there may be no other adequate method of production control.

**Plug Rc and Ring R to ISO 7/2:1982, available on request.**

## Plug Rc and Ring R to ISO 7/2:2000

ISO 7/2 (2000)				
PLUG, Rc			RING, R	
DESIGNATION SIZE	gauge No. 1 ORDER NO.	gauge No. 2 ORDER NO.	DESIGNATION SIZE	gauge No. 3 ORDER NO.
				
Rc 1/16 - 28	TFISO7RC1/16-1	TFISO7RC1/16-2	R 1/16 - 28	TRISO7R1/16-3
Rc 1/8 - 28	TFISO7RC1/8-1	TFISO7RC1/8-2	R 1/8 - 28	TRISO7R1/8-3
Rc 1/4 - 19	TFISO7RC1/4-1	TFISO7RC1/4-2	R 1/4 - 19	TRISO7R1/4-3
Rc 3/8 - 19	TFISO7RC3/8-1	TFISO7RC3/8-2	R 3/8 - 19	TRISO7R3/8-3
Rc 1/2 - 14	TFISO7RC1/2-1	TFISO7RC1/2-2	R 1/2 - 14	TRISO7R1/2-3
Rc 3/4 - 14	TFISO7RC3/4-1	TFISO7RC3/4-2	R 3/4 - 14	TRISO7R3/4-3
Rc 1 - 11	TFISO7RC1-1	TFISO7RC1-2	R 1 - 11	TRISO7R1-3
Rc 1.1/4 - 11	TFISO7RC1.1/4-1	TFISO7RC1.1/4-2	R 1.1/4 - 11	TRISO7R1.1/4-3
Rc 1.1/2 - 11	TFISO7RC1.1/2-1	TFISO7RC1.1/2-2	R 1.1/2 - 11	TRISO7R1.1/2-3
Rc 2 - 11	TFISO7RC2-1	TFISO7RC2-2	R 2 - 11	TRISO7R2-3
Rc 2.1/2 - 11	TFISO7RC2.1/2-1	TFISO7RC2.1/2-2	R 2.1/2 - 11	TRISO7R2.1/2-3
Rc 3 - 11	TFISO7RC3-1	TFISO7RC3-2	R 3 - 11	TRISO7R3-3

- Standard supply: Plugs to Gauge No. 1
- Standard supply: Rings to Gauge No. 3

This part of ISO 7/2 (2000) specifies a process using limit gauges, for the validation of taper internal and external threads and parallel internal threads on piping systems components and other products, the dimensions and tolerances of which are detailed in ISO 7-1.

5.2.1 Taper full form threaded plug gauge (gauge No. 1)

Gauge No. 1 - taper full form threaded plug gauge and is suitable for checking the major diameter and pitch diameter at the gauge plane of internal parallel (Rp) threads and internal taper (Rc) threads.

Gauge No. 2 - taper full form threaded plug gauge with relief of threads and is suitable for checking the major diameter and pitch diameter at the gauge plane, and the accommodation length of internal parallel (Rp) threads and internal taper (Rc) threads.

Gauge No. 3 - parallel full form threaded ring gauge and is suitable for checking the minor diameter and pitch diameter at the gauge plane of taper external (R) threads.

- Taper ring gauges are manufactured to master check plugs.
- Results when using check plugs are not compatible with direct measurements.

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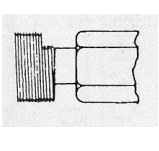
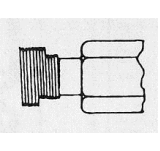
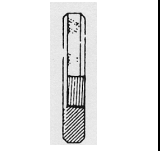
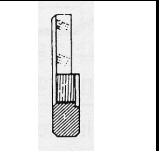
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## Gauges to American National Standard ANSI/ASME B1.20.1



NPT TAPER				
DESIGNATION SIZE	PLUGS		RINGS	
	Basic Notch	L1 step limit (Min/Max)	Basic Notch	L1 step limit (Min/Max)
	ORDER NO.	ORDER NO.	ORDER NO.	ORDER NO.
				
NPT 1/16 - 27	TFNPT1/16-B	TFNPT1/16	TRNPT1/16-B	TRNPT1/16
NPT 1/8 - 27	TFNPT1/8-B	TFNPT1/8	TRNPT1/8-B	TRNPT1/8
NPT 1/4 - 18	TFNPT1/4-B	TFNPT1/4	TRNPT1/4-B	TRNPT1/4
NPT 3/8 - 18	TFNPT3/8-B	TFNPT3/8	TRNPT3/8-B	TRNPT3/8
NPT 1/2 - 14	TFNPT1/2-B	TFNPT1/2	TRNPT1/2-B	TRNPT1/2
NPT 3/4 - 14	TFNPT3/4-B	TFNPT3/4	TRNPT3/4-B	TRNPT3/4
NPT 1 - 11.5	TFNPT1-B	TFNPT1	TRNPT1-B	TRNPT1
NPT 1.1/4 - 11.5	TFNPT1.1/4-B	TFNPT1.1/4	TRNPT1.1/4-B	TRNPT1.1/4
NPT 1.1/2 - 11.5	TFNPT1.1/2-B	TFNPT1.1/2	TRNPT1.1/2-B	TRNPT1.1/2
NPT 2 - 11.5	TFNPT2-B	TFNPT2	TRNPT2-B	TRNPT2
NPT 2.1/2 - 8	TFNPT2.1/2-B	TFNPT2.1/2	TRNPT2.1/2-B	TRNPT2.1/2
NPT 3 - 8	TFNPT3-B	TFNPT3	TRNPT3-B	TRNPT3



- Taper ring gauges are manufactured to master check plugs.
- Results when using check plugs are not compatible with direct measurements.

This standard covers dimensions and gauging of pipe threads for general purpose applications. The main types of threads designated are NPT, NPSC and NPSM.

The significance of each letter is as follows:

N = National (American) Standard

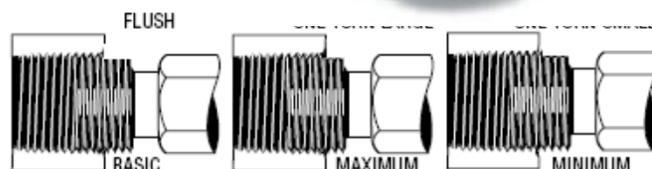
P = Pipe

T = Taper

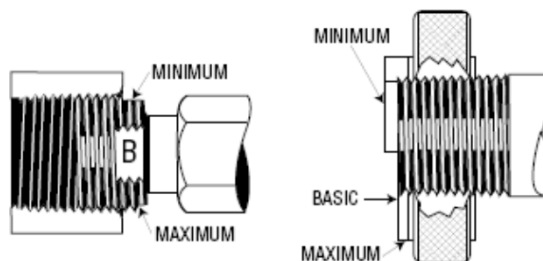
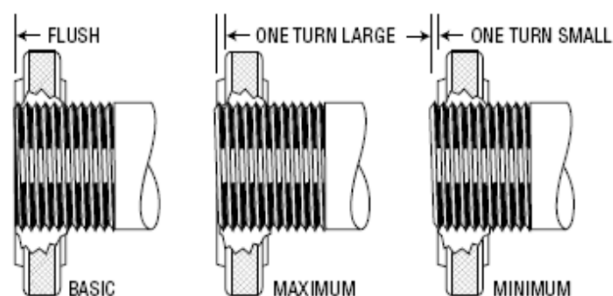
C = Coupling

S = Straight

M = Mechanical



basic notch



min/max notch

A set of working gauges consists of a taper plug gauge having a basic step at L1 distance from the small end, and a taper ring having an overall length equal to the L1 dimension. Plug and ring gauges can be supplied with limit steps to indicate the minimum and maximum diametral condition of the product. These gauges are known as MIN/MAX. The basic steps can be included or omitted as requested.

The L1 dimension is the axial distance from the small end of the pipe to the plane of handtight engagement.

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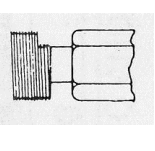
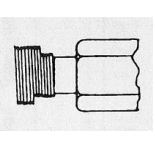
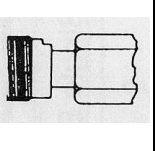
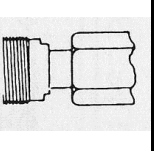
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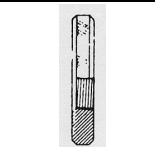
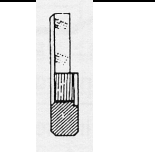
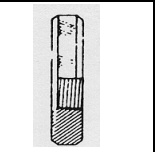
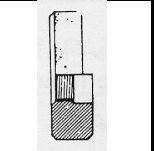
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## Gauges to American National Standard ANSI/ASME B1.20.5: NPTF

NPTF TAPER PLUGS				
DESIGNATION SIZE	PLUGS			
	L1 Basic Notch	L1 step limit (Min/Max)	L3 Basic Notch	L3 step limit (Min/Max)
	ORDER NO.	ORDER NO.	ORDER NO.	ORDER NO.
				
NPTF 1/16 - 27	TFNPTF1/16-B	TFNPTF1/16	TFNPTF1/16L3-B	TFNPTF1/16L3
NPTF 1/8 - 27	TFNPTF1/8-B	TFNPTF1/8	TFNPTF1/8L3-B	TFNPTF1/8L3
NPTF 1/4 - 18	TFNPTF1/4-B	TFNPTF1/4	TFNPTF1/4L3-B	TFNPTF1/4L3
NPTF 3/8 - 18	TFNPTF3/8-B	TFNPTF3/8	TFNPTF3/8L3-B	TFNPTF3/8L3
NPTF 1/2 - 14	TFNPTF1/2-B	TFNPTF1/2	TFNPTF1/2L3-B	TFNPTF1/2L3
NPTF 3/4 - 14	TF1NPTF3/4-B	TF1NPTF3/4	TFNPTF3/4L3-B	TFNPTF3/4L3
NPTF 1 - 11.5	TFNPTF1-B	TFNPTF1	TFNPTF1L3-B	TFNPTF1L3
NPTF 1.1/4 - 11.5	TFNPTF1.1/4-B	TFNPTF1.1/4	TFNPTF1.1/4L3-B	TFNPTF1.1/4L3
NPTF 1.1/2 - 11.5	TFNPTF1.1/2-B	TFNPTF1.1/2	TFNPTF1.1/2L3-B	TFNPTF1.1/2L3
NPTF 2 - 11.5	TFNPTF2-B	TFNPTF2	TFNPTF2L3-B	TFNPTF2L3
NPTF 2.1/2 - 8	TFNPTF2.1/2-B	TFNPTF2.1/2	TFNPTF2.1/2L3-B	TFNPTF2.1/2L3
NPTF 3 - 8	TFNPTF3-B	TFNPTF3	TFNPTF3L3-B	TFNPTF3L3

NPTF TAPER RINGS				
DESIGNATION SIZE	RINGS			
	L1 Basic Notch	L1 step limit (Min/Max)	L2 Basic Notch	L2 step limit (Min/Max)
	ORDER NO.	ORDER NO.	ORDER NO.	ORDER NO.
				
NPTF 1/16 - 27	TRNPTF1/16-B	TRNPTF1/16	TRNPTF1/16L3-B	TRNPTF1/16L3
NPTF 1/8 - 27	TRNPTF1/8-B	TRNPTF1/8	TRNPTF1/8L3-B	TRNPTF1/8L3
NPTF 1/4 - 18	TRNPTF1/4-B	TRNPTF1/4	TRNPTF1/4L3-B	TRNPTF1/4L3
NPTF 3/8 - 18	TRNPTF3/8-B	TRNPTF3/8	TRNPTF3/8L3-B	TRNPTF3/8L3
NPTF 1/2 - 14	TRNPTF1/2-B	TRNPTF1/2	TRNPTF1/2L3-B	TRNPTF1/2L3
NPTF 3/4 - 14	TR1NPTF3/4-B	TR1NPTF3/4	TRNPTF3/4L3-B	TRNPTF3/4L3
NPTF 1 - 11.5	TRNPTF1-B	TRNPTF1	TRNPTF1L3-B	TRNPTF1L3
NPTF 1.1/4 - 11.5	TRNPTF1.1/4-B	TRNPTF1.1/4	TRNPTF1.1/4L3-B	TRNPTF1.1/4L3
NPTF 1.1/2 - 11.5	TRNPTF1.1/2-B	TRNPTF1.1/2	TRNPTF1.1/2L3-B	TRNPTF1.1/2L3
NPTF 2 - 11.5	TRNPTF2-B	TRNPTF2	TRNPTF2L3-B	TRNPTF2L3
NPTF 2.1/2 - 8	TRNPTF2.1/2-B	TRNPTF2.1/2	TRNPTF2.1/2L3-B	TRNPTF2.1/2L3
NPTF 3 - 8	TRNPTF3-B	TRNPTF3	TRNPTF3L3-B	TRNPTF3L3

This standard covers dimensions and gauging of dryseal pipe threads for general purpose applications. The main types of threads designated are NPT, NPSC and NPSM. The significance of each letter is as follows:  
 N = National (American) Standard  
 P = Pipe  
 T = Taper  
 S = Straight  
 F = Fuel and Oil  
 I = Intermediate



- Taper ring gauges are manufactured to master check plugs.
- Results when using check plugs are not compatible with direct measurements.

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## Double Ended Plain Plug Gauge - Reversible Type



**Reversible Double End Plain Plug Gauge** provide reversible wire type can have up to twice the useful life compared to non reversible types because most of the in wear use occurs as the gauge is presented to a hole. With reversible gauges, the gauging element can simply be removed from its handle, reversed and refitted presenting a fresh, unworn gauge end.

### Reversible Wire Type

- Green & Red color nut with handle for easy Go / Nogo identification.
- GO/NO GO identification
- Sizes in increments of 0.01 mm / 0.001"
- Assembly in Malaysia
- Material : High Grade Tool Steel

Specifications - English (inch) Plug Gauges		
English (inch) size above & included	Tolerance (inch)	
	GO	NOGO
0.008" to 0.236"	+ 0.0001" / + 0	- 0 / - 0.0001"
0.236" to 0.394"	+ 0.0001" / + 0	- 0 / - 0.0001"
0.394" to 0.760"	+ 0.0001" / + 0	- 0 / - 0.0001"

Specifications - Metric (mm) Plug Gauges		
Metric (mm) size above & included	Tolerance (mm)	
	GO	NOGO
0.20 to 6.00 mm	± 0.001	± 0.001
6.00 to 10.00 mm	+ 0.0025 / + 0	- 0 / - 0.0025
10.00 to 19.30 mm	+ 0.0025 / + 0	- 0 / - 0.0025

### Certification of Conformance (free of charge)

- Please indicate when order

### Certificate of Calibration (on request, POA)

- Please indicate when order

### Class-X or Class-XX Plain Plug Gauge

- Sizes in increments of 0.001 mm / 0.0001"
- Assembly in Malaysia
- Material : High Grade Tool Steel
- Price on request

To measure parts of this quality with an acceptable level of assurance, **MICROREP CALIBRATION LABORATORY** maintain wide range of precision dimensional measuring equipment with a laboratory temperature and humidity controlled.

All inspection equipment and master standards have precision traceable to National Standard or International Standard.

Reversible Wire Type Double Ended Plug Gauge				
Metric (mm) size		English (inch) size		ORDER NO.
above	included	above	included	
0.20 mm	0.50 mm	0.008 "	0.020 "	TTG-DP-1
0.50 mm	1.00 mm	0.020 "	0.039 "	TTG-DP-2
1.00 mm	1.50 mm	0.039 "	0.059 "	TTG-DP-3
1.50 mm	2.00 mm	0.059 "	0.079 "	TTG-DP-4
2.00 mm	2.50 mm	0.079 "	0.098 "	TTG-DP-5
2.50 mm	3.00 mm	0.098 "	0.118 "	TTG-DP-6
3.00 mm	3.50 mm	0.118 "	0.138 "	TTG-DP-7
3.50 mm	4.00 mm	0.138 "	0.157 "	TTG-DP-8
4.00 mm	4.50 mm	0.157 "	0.177 "	TTG-DP-9
4.50 mm	5.00 mm	0.177 "	0.197 "	TTG-DP-10
5.00 mm	5.50 mm	0.197 "	0.217 "	TTG-DP-11
5.50 mm	6.00 mm	0.217 "	0.236 "	TTG-DP-12
6.00 mm	6.50 mm	0.236 "	0.256 "	TTG-DP-13
6.50 mm	7.00 mm	0.256 "	0.276 "	TTG-DP-14
7.00 mm	7.50 mm	0.276 "	0.295 "	TTG-DP-15
7.50 mm	8.00 mm	0.295 "	0.315 "	TTG-DP-16
8.00 mm	8.50 mm	0.315 "	0.335 "	TTG-DP-17
8.50 mm	9.00 mm	0.335 "	0.354 "	TTG-DP-18
9.00 mm	9.50 mm	0.354 "	0.374 "	TTG-DP-19
9.50 mm	10.00 mm	0.374 "	0.394 "	TTG-DP-20
10.00 mm	10.50 mm	0.394 "	0.413 "	TTG-DP-21
10.50 mm	11.00 mm	0.413 "	0.433 "	TTG-DP-22
11.00 mm	11.50 mm	0.433 "	0.453 "	TTG-DP-23
11.50 mm	12.00 mm	0.453 "	0.472 "	TTG-DP-24
12.00 mm	12.50 mm	0.472 "	0.492 "	TTG-DP-25
12.50 mm	13.00 mm	0.492 "	0.512 "	TTG-DP-26
13.00 mm	13.50 mm	0.512 "	0.531 "	TTG-DP-27
13.50 mm	14.00 mm	0.531 "	0.551 "	TTG-DP-28
14.00 mm	14.50 mm	0.551 "	0.571 "	TTG-DP-29
14.50 mm	15.00 mm	0.571 "	0.591 "	TTG-DP-30
15.00 mm	15.50 mm	0.591 "	0.610 "	TTG-DP-31
15.50 mm	16.00 mm	0.610 "	0.630 "	TTG-DP-32
16.00 mm	16.50 mm	0.630 "	0.650 "	TTG-DP-33
16.50 mm	17.00 mm	0.650 "	0.669 "	TTG-DP-34
17.00 mm	17.50 mm	0.669 "	0.689 "	TTG-DP-35
17.50 mm	18.00 mm	0.689 "	0.709 "	TTG-DP-36
18.00 mm	18.50 mm	0.709 "	0.728 "	TTG-DP-37
18.50 mm	19.00 mm	0.728 "	0.748 "	TTG-DP-38
19.00 mm	19.30 mm	0.748 "	0.760 "	TTG-DP-39

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## Double Ended Plain Plug Gauges - Taperlock & Trilock (19.30-65.00mm)

### Taperlock Type

- Quick changeover.
- The members pop out for quick replacement.
- Excellent choice for larger diameter inspection.
- Assembly in Malaysia
- Material : High Grade Tool Steel



Taperlock Type Double Ended Plug Gauge				
Metric (mm) size		English (inch) size		ORDER NO.
above	included	above	included	
19.30 mm	20.00 mm	0.760 "	0.787 "	TTG-TDP-1
20.00 mm	25.00 mm	0.787 "	0.984 "	TTG-TDP-2
25.00 mm	30.00 mm	0.984 "	1.181 "	TTG-TDP-3
30.00 mm	35.00 mm	1.181 "	1.378 "	TTG-TDP-4
35.00 mm	40.00 mm	1.378 "	1.575 "	TTG-TDP-5

### Trilock Type

- Idea for big inspection jobs.
- The members are lock by screw.
- Best choice for larger diameter inspection.
- Assembly in Malaysia
- Material : High Grade Tool Steel



Trilock Type Double Ended Plug Gauge				
Metric (mm) size		English (inch) size		ORDER NO.
above	included	above	included	
40.00 mm	50.00 mm	1.575 "	1.969 "	TTG-TLP-1
50.00 mm	60.00 mm	1.969 "	2.362 "	TTG-TLP-2
60.00 mm	70.00 mm	2.362 "	2.756 "	TTG-TLP-3
70.00 mm	80.00 mm	2.756 "	3.150 "	TTG-TLP-4
80.00 mm	90.00 mm	3.150 "	3.543 "	TTG-TLP-5
90.00 mm	100.00 mm	3.543 "	3.937 "	TTG-TLP-6

Specifications - English (inch) Plug Gauges		
English (inch) size above & included	Tolerance (inch)	
	GO	NOGO
0.760" to 1.510"	+ 0.00012" / + 0	- 0 / - 0.00012"
1.510" to 2.510"	+ 0.00016" / + 0	- 0 / - 0.00016"
2.510" to 4.000"	+ 0.0002" / + 1	- 0 / - 0.0002"

Specifications - Metric (mm) Plug Gauges		
Metric (mm) size above & included	Tolerance (mm)	
	GO	NOGO
19.30 to 38.00 mm	+ 0.003 / + 0	- 0 / - 0.003
38.00 to 64.00 mm	+ 0.004 / + 0	- 0 / - 0.004
64.00 to 100.00 mm	+ 0.005 / + 1	- 0 / - 0.005

### Certification of Conformance (free of charge)

- Please indicate when order

### Certificate of Calibration (on request, POA)

- Please indicate when order

### The ABC's of Plug Gages

**Plug Gage Measuring** - the art of using pre-sized precision metal plugs to determine the acceptability of diameters of drilled or machined holes.

**GO/NOGO Measurement** - A GO gage is used to check the lower limit of a hole. A NOGO gage is used to check the upper limit of a hole. If the GO gage enters the hole and the NOGO gage is unable to enter, the design specifications of the hole have been met.

**Uses** - for precision GO/NOGO measuring of hole sizes and depths, checking hole location and distance, and setting micrometers. All gages are uniformly ground ends, allowing you to use both ends for increased gage life and heat treated to a 60-62 Rockwell C hardness.

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## GO & NOT GO Ring Gauges

Plain Ring Gauges are provided as either GO or NOT GO ring gauges the latter being identified by a circumferential groove. The GO and NO GO Ring Gauges are used to check the OD of shafts.

- GO/NOT GO Ring Gauge Tolerance:-
- *standard supply, see table below*
- *to Class X, Y & Z, on request*
- *to custom request tolerances*

**Inches** size Ring Gauges  
available on request.

## Master (Setting) Ring Gauges

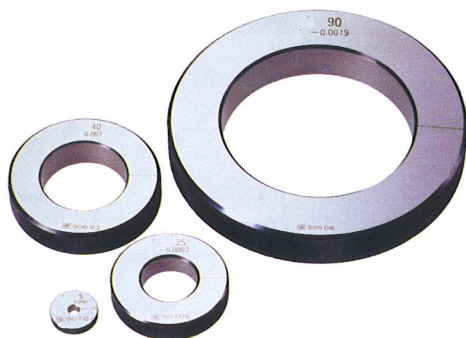
Use Ring Gauges as master gauge for Zero (0) adjustment or setting of measuring tools like Hole test, Bore Gauges, Inside Micrometer, Inside Dial Caliper Gauge. Internal measuring tools, Internal Dial Comparator and etc.

- *standard supply, see table below*
- *to Class X, Y & Z, on request*
- *to custom request tolerances*

**Inches** size Ring Gauges  
available on request.

All unit in mm (Size up to 100 mm)

Steel Ring Gauge						
mm size		Outside Diameter	Thickness	Chamfer for O.D.	Chamfer for I.D.	Tolerance
Above	Included					
1	2.5	22	4	0.4	0.3	± 0.001
2.5	5		5			
5	10	32	8	0.8	0.5	
10	15	38	10	1.2		
15	20	45	12			
20	25	53	14			
25	30	63	16	1.5	1	± 0.0015
30	32		24	2		
32	40	71			18	
40	50	85			20	
50	60	100			30	
60	70	112				
70	80	125				
80	90	140				
90	100	160				
100	110	180	35	2.4	1.5	± 0.002
110	120	190				
120	130	200				
130	140	210	38			
140	160	230	40			
160	180	260				
180	200	280				
200	220	300	45	2	2	± 0.005
220	230	320				



the **M**alaysian **P**recision **E**quipment company



## English (inch) Pin Gauge Sets

### Class Z Pin Sets

We now have offer the extra step for the better pin gage, **Class Z**. Introducing the **Class Z** pin gauge where provide a closer tolerance of 0.0001", more accurate and better for your needs. (Most other supplier are offer Class ZZ where the tolerance is 0.0002")

- Boxes and gauges both marked
- Size and serial number laser etched on each piece (M-O not etched)
- Material: 52100 Bearing Steel
- No sharp edges
- 50mm overall length
- All sets in .001" increments
- Centerless lapped
- Each gage is inspected and has a 8 microfinish or better
- Heat treated to a hardness of 60-62 Rockwell C
- All English gages with 0.0001" tolerance limit  
Plus tolerance (+): 0 ~ +0.0001"  
Minus tolerance (-): 0 ~ -0.0001"

ENGLISH (inch) PIN GAUGE SETS			
Set Range 0.001" increment	Tolerance	No of pin	ORDER NO.
.011 to .060"	(-)	50	TTG-M0M
.011 to .060"	(+)	50	TTG-M0P
.0115 to .0605"	(-)	50	TTG-M05M
.0115 to .0605"	(+)	50	TTG-M05P
.061 to .250"	(-)	190	TTG-M1M
.061 to .250"	(+)	190	TTG-M1P
.0615 to .2505"	(-)	190	TTG-M15M
.0615 to .2505"	(+)	190	TTG-M15P
.011 to .250"	(-)	240	TTG-C10M
.011 to .250"	(+)	240	TTG-C10P
.0115 to .2505"	(-)	240	TTG-C105M
.0115 to .2505"	(+)	240	TTG-C105P
.251 to .500"	(-)	250	TTG-M2M
.251 to .500"	(+)	250	TTG-M2P
.2515 to .5005"	(-)	250	TTG-M25M
.2515 to .5005"	(+)	250	TTG-M25P
.501 to .625"	(-)	125	TTG-M3M
.501 to .625"	(+)	125	TTG-M3P
.5015 to .6255"	(-)	125	TTG-M35M
.5015 to .6255"	(+)	125	TTG-M35P
.626 to .750"	(-)	125	TTG-M4M
.626 to .750"	(+)	125	TTG-M4P
.6265 to .7505"	(-)	125	TTG-M45M
.6265 to .7505"	(+)	125	TTG-M45P
.751 to .832"	(-)	82	TTG-M5M
.751 to .832"	(+)	82	TTG-M5P
.7515 to .8325"	(-)	82	TTG-M55M
.7515 to .8325"	(+)	82	TTG-M55P
.833 to .916"	(-)	84	TTG-M6M
.833 to .916"	(+)	84	TTG-M6P
.8335 to .9165"	(-)	84	TTG-M65M
.8335 to .9165"	(+)	84	TTG-M65P
.917 to 1.000"	(-)	84	TTG-M7M
.917 to 1.000"	(+)	84	TTG-M7P
.9175 to 1.0005"	(-)	84	TTG-M75M
.9175 to 1.0005"	(+)	84	TTG-M75P



ENGLISH (inch) LIBRARY PIN GAUGE SETS			
Set Range 0.001" increment	Tolerance	No of pin	ORDER NO.
.011" to .750"	(-)	740	TTG-LCM
.011" to .750"	(+)	740	TTG-LCP
.061" to .750"	(-)	690	TTG-L1M
.061" to .750"	(+)	690	TTG-L1P
.061" to 1.000"	(-)	940	TTG-L2M
.061" to 1.000"	(+)	940	TTG-L2P
.011" to 1.000"	(-)	990	TTG-L2CM
.011" to 1.000"	(+)	990	TTG-L2CP
.751" to 1.000"	(-)	250	TTG-L3M **
.751" to 1.000"	(+)	250	TTG-L3P **
.061" to .5005"	*(-)	880	TTG-L4M **
.061" to .5005"	*(+)	880	TTG-L4P **
.011" to .5005"	*(-)	980	TTG-L5M
.011" to .5005"	*(+)	980	TTG-L5P

\* in .0005" increments

\*\* Consists of 2 four drawer cabinets



### CLASS-X Pin Gauge Set:

Offer the same "feature" as Class-Z pin gauge but with 0.00004" tolerance limit and 0.00002" roundness limit. (Price on request)

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## Metric (mm) Pin Gauge Sets

### Class Z Pin Sets

We now have offer the extra step for the better pin gage, Class Z. Introducing the Class Z pin gauge where provide a closer tolerance of 0.0025mm, more accurate and better for your needs. (Most other supplier are offer Class ZZ where the tolerance is 0.005mm)

- Boxes and gauges both marked
- Size and serial number laser etched on each piece (M-O not etched)
- Material: 52100 Bearing Steel
- No sharp edges
- 50mm overall length
- All sets in .02mm increments
- Centerless lapped
- Each gage is inspected and has a 8 microfinish or better
- Heat treated to a hardness of 60-62 Rockwell C
- All metric gages with 0.0025mm tolerance limit  
Plus tolerance (+): 0 ~ +0.0025mm  
Minus tolerance (-): 0 ~ -0.0025mm

METRIC PIN GAUGE SETS			
SET RANGE 0.02mm increment	Tolerance	No of pin	ORDER NO.
0.22 to 1.50	(-)	65	TTG-M0MMM
0.22 to 1.50	(+)	65	TTG-M0MMP
0.23 to 1.51	(-)	65	TTG-M01MMM
0.23 to 1.51	(+)	65	TTG-M01MMP
1.52 to 7.70	(-)	310	TTG-M1MMM
1.52 to 7.70	(+)	310	TTG-M1MMP
1.53 to 7.71	(-)	310	TTG-M11MMM
1.53 to 7.71	(+)	310	TTG-M11MMP
7.72 to 12.70	(-)	250	TTG-M2MMM
7.72 to 12.70	(+)	250	TTG-M2MMP
7.73 to 12.71	(-)	250	TTG-M21MMM
7.73 to 12.71	(+)	250	TTG-M21MMP
12.72 to 15.30	(-)	130	TTG-M3MMM
12.72 to 15.30	(+)	130	TTG-M3MMP
12.73 to 15.31	(-)	130	TTG-M31MMM
12.73 to 15.31	(+)	130	TTG-M31MMP
15.32 to 17.80	(-)	125	TTG-M4MMM
15.32 to 17.80	(+)	125	TTG-M4MMP
15.33 to 17.81	(-)	125	TTG-M41MMM
15.33 to 17.81	(+)	125	TTG-M41MMP
17.82 to 20.36	(-)	128	TTG-M5MMM
17.82 to 20.36	(+)	128	TTG-M5MMP
17.83 to 20.37	(-)	128	TTG-M51MMM
17.83 to 20.37	(+)	128	TTG-M51MMP
20.38 to 22.04	(-)	84	TTG-M6MMM
20.38 to 22.04	(+)	84	TTG-M6MMP
20.39 to 22.05	(-)	84	TTG-M61MMM
20.39 to 22.05	(+)	84	TTG-M61MMP
22.06 to 23.72	(-)	84	TTG-M7MMM
22.06 to 23.72	(+)	84	TTG-M7MMP
22.07 to 23.73	(-)	84	TTG-M71MMM
22.07 to 23.73	(+)	84	TTG-M71MMP
23.74 to 25.40	(-)	84	TTG-M8MMM
23.74 to 25.40	(+)	84	TTG-M8MMP
23.75 to 25.41	(-)	84	TTG-M81MMM
23.75 to 25.41	(+)	84	TTG-M81MMP



METRIC LIBRARY PIN GAUGE SETS			
SET RANGE 0.02 mm increment	Tolerance	No of pin	ORDER NO.
1.52 to 17.80	(-)	815	TTG-L10MMM
1.52 to 17.80	(+)	815	TTG-L10MMP
1.53 to 17.81	(-)	815	TTG-L11MMM
1.53 to 17.81	(+)	815	TTG-L11MMP
17.82 to 25.40	(-)	380	TTG-L20MMM
17.82 to 25.40	(+)	380	TTG-L20MMP
17.83 to 25.41	(-)	380	TTG-L21MMM
17.83 to 25.41	(+)	380	TTG-L21MMP
1.52 to 25.40	(-)	1195	TTG-L30MMM **
1.52 to 25.40	(+)	1195	TTG-L30MMP **
1.53 to 25.41	(-)	1195	TTG-L31MMM **
1.53 to 25.41	(+)	1195	TTG-L31MMP **

\*\* Consists of 2 four drawer cabinets



the *Malaysian Precision Equipment company*

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## Metric (mm) Pin Gauge Sets

### Pin Gauge Set with +0.002 to +0.005mm (or -0.005 to -0.002mm) tolerance

- Boxes and gauges both marked
- Size laser etched on each piece (1mm above)
- Material: Steel
- No sharp edges
- Pin vise not included

METRIC PIN GAUGE SETS			
Set Range 0.025mm increment	Tolerance	No of pin	ORDER NO.
0.100 - 0.290*	(-)	20	TTG-PG00M *
0.100 - 0.290*	(+)	20	TTG-PG00P *
0.300 - 1.525	(-)	50	TTG-PG0M
0.300 - 1.525	(+)	50	TTG-PG0P
1.550 - 6,275	(-)	190	TTG-PG1M
1.550 - 6,275	(+)	190	TTG-PG1P
6.300 - 9.775	(-)	140	TTG-PG2AM
6.300 - 9.775	(+)	140	TTG-PG2AP
9.800 - 12.525	(-)	110	TTG-PG2BM
9.800 - 12.525	(+)	110	TTG-PG2BP
12.550 - 12.975	(-)	18	TTG-PG2CM
12.550 - 12.975	(+)	18	TTG-PG2CP
13.000 - 19.000 **	(-)	61	TTG-PG3M **
13.000 - 19.000 **	(+)	61	TTG-PG3P **
* 0.01 mm increment			
** 0.1mm increment			
Plus tolerance (+): +0.002 ~ +0.005mm			
Minus tolerance (-): -0.005 ~ -0.002mm			
The tolerance of PG-3 are Plug (or Minus) 0.001 ~ 0.005mm			
Specification			
Size	Length	Cylindricity	Hardness
0.100 ~ 0.190	20mm	within 0.0015mm	> 480 HV
0.200 ~ 0.290	40mm		> 650 HV
0.300 ~ 0.975			
1.000 ~ 12.975	50mm		
12.975 ~ 19.000			



### Others Pin Gauge Set and Composition

- [1] 0.005mm increment step
- [2] 0.05mm increment step
- [3] 0.1mm increment step
- [4] 0.01mm increment step with center pin size (0.505 ~ 10.005mm)
- [5] 0.01mm increment step with Plus (or Minus) 0~0.002mm tolerance
- [6] 0.01mm increment step and Pin Gauge with plastic shank
- [7] Carbide Pin Set with 0.01mm increment step (0.5 ~ 10mm)
- [8] Ceramic Pin Set with 0.01mm increment step (0.5 ~ 10mm)

### Pin Gauge Set with +/- 0.001mm tolerance

- Boxes and gauges both marked
- Size laser etched on each piece (1mm above)
- 0.01mm increment step

METRIC PIN GAUGE SETS			
Set Range 0.01mm increment	Pin Vise	No of pin	ORDER NO.
0.06 - 0.29	---	24	TTG-AA00
0.20 - 0.50	PV-0A	31	TTG-AA0A
0.50 - 1.00	PV-0B	51	TTG-AA0B
1.00 - 1.50	PV-1A	51	TTG-AA1A
1.50 - 2.00	PV-1B	51	TTG-AA1B
2.00 - 2.50	PV-2A	51	TTG-AA2A
2.50 - 3.00	PV-2B	51	TTG-AA2B
3.00 - 3.50	PV-3A	51	TTG-AA3A
3.50 - 4.00	PV-3B	51	TTG-AA3B
4.00 - 4.50	PV-4A	51	TTG-AA4A
4.50 - 5.00	PV-4B	51	TTG-AA4B
5.00 - 5.50	PV-5A	51	TTG-AA5A
5.50 - 6.00	PV-5B	51	TTG-AA5B
6.00 - 6.50	PV-6A	51	TTG-AA6A
6.50 - 7.00	PV-6B	51	TTG-AA6B
7.00 - 7.50	---	51	TTG-AA7A
7.50 - 8.00	---	51	TTG-AA7B
8.00 - 8.50	---	51	TTG-AA8A
8.50 - 9.00	---	51	TTG-AA8B
9.00 - 9.50	---	51	TTG-AA9A
9.50 - 10.00	---	51	TTG-AA9B
10.00 - 10.50	---	51	TTG-AA10A
10.50 - 11.00	---	51	TTG-AA10B
11.00 - 11.50	---	51	TTG-AA11A
11.50 - 12.00	---	51	TTG-AA11B
12.00 - 12.50	---	51	TTG-AA12A
12.50 - 13.00	---	51	TTG-AA12B
13.00 - 13.50	---	51	TTG-AA13A
13.50 - 14.00	---	51	TTG-AA13B
14.00 - 14.50	---	51	TTG-AA14A
14.50 - 15.00	---	51	TTG-AA14B
15.00 - 15.50	---	51	TTG-AA15A
15.50 - 16.00	---	51	TTG-AA15B
16.00 - 16.50	---	51	TTG-AA16A
16.50 - 17.00	---	51	TTG-AA16B
17.00 - 17.50	---	51	TTG-AA17A
17.50 - 18.00	---	51	TTG-AA17B
18.00 - 18.50	---	51	TTG-AA18A
18.50 - 19.00	---	51	TTG-AA18B
19.00 - 19.50	---	51	TTG-AA19A
19.50 - 20.00	---	51	TTG-AA19B

TOLERANCE: +/- 0.001mm

Specification			
Size	Length	Cylindricity	Hardness
0.05 ~ 0.09	5~10mm	within 0.5μm	> 480 HV
0.10 ~ 0.19	20mm		
0.20 ~ 0.99	40mm	within 0.8μm	> 650 HV
1.00 ~ 10.00	50mm		
10.01 ~ 20.00		within 1.3μm	

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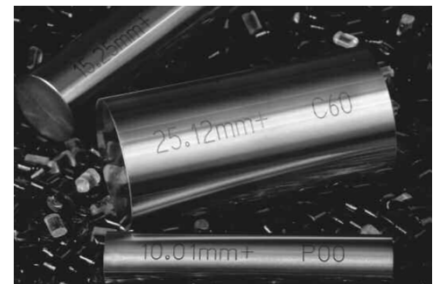
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## Individual Pin Gauge

Replace missing pins! Don't live with broken sets. We stock these replacement pins in even half thousand sizes for immediate shipment. All pins over 1.50mm/0.060" are laser marked with size.

English (inch) Individual Pin Gauge	
inch size 0.0005" increment	ORDER NO.
0.0110 to 0.0155"	TTG-EPGX.XXXX
0.0160 to 0.0195"	
0.0200 to 0.0310"	
0.0315 to 0.0390"	
0.0395 to 0.1175"	
0.1180 to 0.2360"	
0.2365 to 0.3935"	
0.3940 to 0.4725"	
0.4730 to 0.5905"	
0.5910 to 0.6690"	
0.6695 to 0.7875"	
0.7880 to 0.8265"	
0.8270 to 0.8660"	
0.8665 to 0.9055"	
0.9060 to 0.9450"	
0.9455 to 1.0000"	
Specification	
about & Included	Tolerance
0.0110" to 0.2365"	+ 0.0001" / 0
0.2365" to 0.3935"	
0.3940" to 1.0000"	
Minus tolerance available on request	

Metric (mm) Individual Pin Gauge	
mm size 0.01mm increment	ORDER NO.
0.20 to 0.29 mm	TTG-PGX.XX
0.30 to 0.39 mm	
0.40 to 0.49 mm	
0.50 to 0.79 mm	
0.80 to 0.99 mm	
1.00 to 2.99 mm	
3.00 to 6.00 mm	
6.01 to 10.00 mm	
10.01 to 12.00 mm	
12.01 to 15.00 mm	
15.01 to 17.00 mm	
17.01 to 20.00 mm	
20.01 to 21.00 mm	
21.01 to 22.00 mm	
22.01 to 23.00 mm	
23.01 to 24.00 mm	
24.01 to 25.00 mm	
Specification	
about & Included	Tolerance
0.20mm to 6.00mm	± 0.001mm
6.00mm to 10.00mm	+ 0.0025mm / 0
10.00mm to 25.00mm	+ 0.0025mm / 0
Minus tolerance available on request	



We also supply the following:

### Class-X Individual Pin Gauges

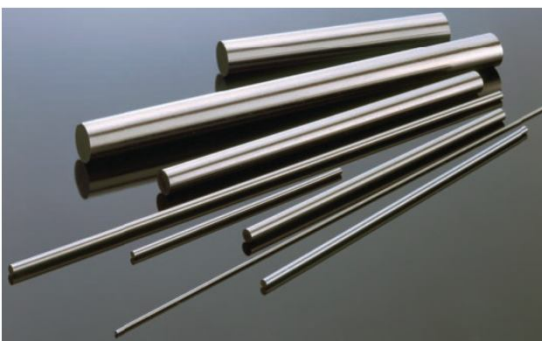
With a 0.001mm/0.00004" tolerance limit. They are great for your inspection needs or when you want to maximize your GO/NOGO tolerance limit. They're also a great way to calibrate measuring equipment, micrometers and calipers.

### Class-XX Individual Pin Gauges

When an even tighter tolerance is needed, CL-XX pin gages. With a tolerance of 0.0005mm / 0.00002" limit, it's tightest tolerance yet for your most critical inspection needs. They're best gages to calibrate your measuring equipment, micrometers and calipers.

- When order Class-X or Class-XX pin gauge, please specify PLUS or MINUS tolerance where require.

## Custom Length Pin Gauge



### Class ZZ Pin Gauge -

Centerless ground to a 10 microfinish or better, made from HSS steel (hardness 62-64 HRC). Plus, minus or bilateral tolerance. (Size: 0.011"/0.279mm up to 1"/25.4mm, Length available: 2.5", 3", 4", 5" 6" 9" & 12").

### Class X Pin Gauge -

Centerless ground to a 5 microfinish, stabilized and heat treated to 62-64 HRC. Plus, minus or bilateral tolerance. (Size: 0.01"/0.254mm up to 1"/25.4mm, Length available: 3", 4", 5" & 6").

*No guarantee of the straightness due to Centerless Grinding process on Custom Length Pin Gauges.*

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#### **WARRANTY:**

MICROREP warrants all gages for 30 days from the date of shipment, except in cases of customer error or mishandling. This 30 day period allows ample time for all gages to be inspected for any manufacturing inaccuracies.

#### **ORDERING INFORMATION:**

Visit our website [www.microrep.info](http://www.microrep.info) or call us direct for a sales assistance.

#### **RETURNS AND EXCHANGES:**

An RMA is required for all exchanges and returns. Please contact our sales office for assistance.

#### **CERTIFICATIONS:**

For details see page 6.

#### **MINIMUM ORDER CHARGE:**

There is a one hundred RM minimum charge.

*Distributed by:*

No. 59, Jalan 16/155C, Bandar Bukit Jalil, 57000 Kuala Lumpur, Malaysia  
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