BEARNG \& TOOL CENTRE

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## Our Sister Concern : RELIEF SERVICE CENTRE

Repairs, Removal of Jaw Error, Bore Gauge Extension, Instrument Modifications \& Spares

## Quotation

| 1 | Outside Micrometer | Least count $\mathbf{0 . 0 1} \mathrm{mm}$ |
| :--- | :--- | :--- |


| Range-mm | W | C | D \% | 0-25 | 25-50 | 50-75 | 75-100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Insize Rs. | 12 | Y |  | 1347 | 1527 | 1771 | 1970 |
| Code |  |  |  | 3203-25A | 3203-50A | 3203-75A | 3203-100A |
| Catalog |  |  |  | Page No. - 3 | Page No. - 3 | Page No. - 3 | Page No. - 3 |
| Aerospace Rs. |  | N | 10 | 350 | 500 | 650 | 730 |
| Advance Rs. |  | N | 10 | 700 | 800 | 850 | 950 |
| M \& W Rs. | 6 | N |  | 1000 | 1150 | 1300 | 1400 |
| Code |  |  |  | OM 25 | OM 50 | OM 75 | OM 100 |
| Catalog |  |  |  | Page No. - 8 | Page No. - 8 | Page No. - 8 | Page No. - 8 |
| Mahr Rs. | 12 | N |  | 1560 | 2030 | 2360 | 2630 |
| Baker Rs. | 12 | Y | 15 | 1500 | 1990 | 2140 | 2380 |
| Code |  |  |  | MMC 25 | MMC 50 | MMC 75 | MMC 100 |
| Catalog |  |  |  | Page No. - 5 | Page No. - 5 | Page No. - 5 | Page No. - 5 |
| Precision Rs. | 12 | Y | 20 | 1150 | 1375 | 1600 | 1750 |
| Mitutoyo Rs. | 12 | N | 5 | 2071 | 2698 | 3138 | 3451 |
| Code |  |  |  | 103-137 | 103-138 | 103-139 | 103-140 |
| Catalog |  |  |  | Page No. - 6 | Page No. -6 | Page No. -6 | Page No. - 6 |


| $1-1$ | Outside Micrometer | Least count 0.001 mm |
| :--- | :--- | :--- |


| Range-mm | W | C | D \% | 0-25 | 25-50 | 50-75 | 75-100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Insize Rs. | 12 | Y |  | 1704 | 1869 | 2071 | 2289 |
| Code |  |  |  | 3210-25A | 3210-50A | 3210-75A | 3210-100A |
| Catalog |  |  |  | Page No. - 3 | Page No. - 3 | Page No. - 3 | Page No. - 3 |
| Mitutoyo Rs. | 12 | N | 5 | 2472 | 3012 |  |  |
| Code |  |  |  | 103-129 | 103-130 |  |  |
| Catalog |  |  |  | Page No. - 6 | Page No. - 6 |  |  |
| Baker Rs. | 12 | Y | 15 | 1610 | 2180 | 2420 | 2800 |
| Code |  |  |  | MMC 25-1 | MMC 50-1 | MMC 75-1 | MMC 100-1 |
| Catalog |  |  |  | Page No. - 5 | Page No. - 5 | Page No. - 5 | Page No. - 5 |

Note:- Aerospace item once sold will not be taken back even if it is Faulty.
*** W - Warranty, C - Certificate, D- Discount

## Terms \& Conditions -

- Goods offered - Subject to Prior Sale
- Price Validity: "15 Days from Date of Quotation"
- C.S.T 2\% extra against form C. Otherwise 5\% without form C For Out of Gujarat Sales only.
- VAT 5\% extra for Sales within Gujarat. Prices Ex-Godown Ahmedabad.
- Payment against Proforma Invoice, Packing, Forwarding \& Freight extra.
- Bank Detail - Kotak Mahindra Bank Ltd.
- Branch - Shivranjini
- Bank IFSC Code - KKBK 0000810
- Bank Account No. 08102000002689
- Note - While making payment online do mention your Company's name.
- TIN NO 24070901229 , CST No. 24570901229
- We are looking forward to your valued Orders
- Graduation: 0.01 mm
- Carbide measuring faces
- Meet DIN863
- Supplied with setting standards (except 0-25mm)

| Ratchet stop type |  |  |  |  | (mm) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Code | Range | Accuracy | L | a | b |
| 3203-25A* | $0-25 \mathrm{~mm}$ | $4 \mu \mathrm{~m}$ | 32 | 9 | 28 |
| 3203-50A* | $25-50 \mathrm{~mm}$ | $4 \mu \mathrm{~m}$ | 57 | 14 | 38 |
| 3203-75A* | $50-75 \mathrm{~mm}$ | $5 \mu \mathrm{~m}$ | 82 | 15 | 49 |
| 3203-100A* | $75-100 \mathrm{~mm}$ | $5 \mu \mathrm{~m}$ | 107 | 15 | 60 |
| 3203-125A | $100-125 \mathrm{~mm}$ | $6 \mu \mathrm{~m}$ | 133 | 16.5 | 73 |
| 3203-150A | 125-150mm | $6 \mu \mathrm{~m}$ | 158 | 16.5 | 85 |
| 3203-175A | 150-175mm | $7 \mu \mathrm{~m}$ | 183 | 19.4 | 104 |
| 3203-200A | 175-200mm | $7 \mu \mathrm{~m}$ | 209 | 19.4 | 117 |
| 3203-225A | 200-225mm | $8 \mu \mathrm{~m}$ | 234 | 19.4 | 130 |
| 3203-250A | $225-250 \mathrm{~mm}$ | $8 \mu \mathrm{~m}$ | 260 | 19.4 | 142 |
| 3203-275A | 250-275mm | $9 \mu \mathrm{~m}$ | 285 | 19.4 | 155 |
| 3203-300A | $275-300 \mathrm{~mm}$ | $9 \mu \mathrm{~m}$ | 310 | 19.4 | 168 |

## OUTSIDE MICROMETER

Micrometer set (ratchet stop type)

| Code | Range | Micrometers included |
| :--- | :--- | :--- |
| 3203-753A* | $0-75 \mathrm{~mm}$ | $3203-25 A, 3203-50 \mathrm{~A}, 3203-75 \mathrm{~A}$ |
| 3203-1004A* | $0-100 \mathrm{~mm}$ | $3203-25 A, 3203-50 \mathrm{~A}, 3203-75 \mathrm{~A}$, <br> $3203-100 \mathrm{~A}$ |
| 3203-1506A | $0-150 \mathrm{~mm}$ | $3203-25 \mathrm{~A}, 3203-50 \mathrm{~A}, 3203-75 \mathrm{~A}$, <br> $3203-100 \mathrm{~A}, 3203-125 \mathrm{~A}, 3203-150 \mathrm{~A}$ |
| 3203-3006A | $150-300 \mathrm{~mm}$ | $3203-175 \mathrm{~A}, 3203-200 \mathrm{~A}, 3203-225 \mathrm{~A}$, <br> $3203-250 \mathrm{~A}, 3203-275 \mathrm{~A}, 3203-300 \mathrm{~A}$ |
|  |  | $3203-25 \mathrm{~A}, 3203-50 \mathrm{~A}, 3203-75 \mathrm{~A}$, <br> $3203-100 \mathrm{~A}, 3203-125 \mathrm{~A}, 3203-150 \mathrm{~A}$, <br> 3203-3012A |
|  | $0-300 \mathrm{~mm}$ | $3203-175 \mathrm{~A}, 3203-200 \mathrm{~A}, 3203-225 \mathrm{~A}$, <br> $3203-250 \mathrm{~A}, 3203-275 \mathrm{~A}, 3203-300 \mathrm{~A}$ |


*Supplied with manufacturer inspection certificate traceable to DKD Germany


- Graduation 0.001 mm
- Carbide measuring faces
- Meet DIN863
- Supplied with setting standards (except $0-25 \mathrm{~mm}$ )


## Ratchet stop type

| Code | Range | Accuracy | L | a | b |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3210-25A* | 0-25mm | $4 \mu \mathrm{~m}$ | 32 | 9 | 28 |
| 3210-50A* | $25-50 \mathrm{~mm}$ | $4 \mu \mathrm{~m}$ | 57 | 14 | 38 |
| 3210-75A* | $50-75 \mathrm{~mm}$ | $5 \mu \mathrm{~m}$ | 82 | 15 | 49 |
| 3210-100A* | $75-100 \mathrm{~mm}$ | $5 \mu \mathrm{~m}$ | 107 | 15 | 60 |
| 3210-125A | $100-125 \mathrm{~mm}$ | $6 \mu \mathrm{~m}$ | 133 | 16.5 | 73 |
| 3210-150A | $125-150 \mathrm{~mm}$ | $6 \mu \mathrm{~m}$ | 158 | 16.5 | 85 |
| 3210-175A | $150-175 \mathrm{~mm}$ | $7 \mu \mathrm{~m}$ | 183 | 19.4 | 104 |
| 3210-200A | $175-200 \mathrm{~mm}$ | $7 \mu \mathrm{~m}$ | 209 | 19.4 | 117 |

Friction thimble type (mm)

| Code | Range | Accuracy |  | L |  |
| :--- | :--- | :---: | :---: | :---: | :---: |
| a | a | b |  |  |  |
| $3210-25 F A^{*}$ | $0-25 \mathrm{~mm}$ | $4 \mu \mathrm{~m}$ | 32 | 9 | 28 |
| $3210-50$ FA $^{*}$ | $25-50 \mathrm{~mm}$ | $4 \mu \mathrm{~m}$ | 57 | 14 | 38 |

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## MAHIR MAKE

Micrometer Micromar 40 A


## Features

- Hand lacquered steel trame
- Spinde and arwil made of hardened steet carbide tipped
- Scales with satn-chrome firish
- Heat insulators
- Rapid drive with integrated ratchet
- Lodong device
- Supplied with: Case, setting standard (from measuring range 25.50 mm ( $1-2 \%$, operating instructions


## Technical Data



Micrometer Sets Micromar 40 SA


## BAKER MAKE

## EXTERNAL MICROMETERS

BAKER

METRIC MICROMETERS

|  | RIN:863-1999: IS 2967-1983 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TYPE | RANGE | READING | ₹ |  |  |  |
| MMC25 | $0-25 \mathrm{~mm}$ | 0.01 mm | 1500 |  |  |  |
| MMC50 | $25-50 \mathrm{~mm}$ | 0.01 mm | 1990 |  |  |  |
| MMC75 | $50-75 \mathrm{~mm}$ | 0.01 mm | 2140 |  |  |  |
| MMC100 | $75-100 \mathrm{~mm}$ | 0.01 mm | 2360 |  |  |  |
| MMC125 | $100-125 \mathrm{~mm}$ | 0.01 mm | 2860 |  |  |  |
| MMC150 | $125-150 \mathrm{~mm}$ | 0.01 mm | 3210 |  |  |  |
| MMC175 | $150-175 \mathrm{~mm}$ | 0.01 mm | 3920 |  |  |  |
| MMC200 | $175-200 \mathrm{~mm}$ | 0.01 mm | 4720 |  |  |  |
| MM300 | $200-300 \mathrm{~mm}$ | 0.01 mm | 14280 |  |  |  |
| MM1400 | $300-400 \mathrm{~mm}$ | 0.01 mm | 22200 |  |  |  |
| MM1500 | $400-500 \mathrm{~mm}$ | 0.01 mm | 24770 |  |  |  |
| MME600 | $500-600 \mathrm{~mm}$ | 0.01 mm | 32060 |  |  |  |
| MME700 | $600-700 \mathrm{~mm}$ | 0.01 mm | 35630 |  |  |  |
| MME800 | $700-800 \mathrm{~mm}$ | 0.01 mm | 42280 |  |  |  |
| MME900 | $800-900 \mathrm{~mm}$ | 0.01 mm | 47950 |  |  |  |
| MME1000 | $900-1000 \mathrm{~mm}$ | 0.01 mm | 56750 |  |  |  |


| TYPE | RANGE | READING | ₹ |
| :---: | :---: | :---: | :---: |
| MMC25-1 | $0-25 \mathrm{~mm}$ | 0.001 mm | 1660 |
| MMC50-1 | $25-50 \mathrm{~mm}$ | 0.001 mm | 2250 |
| MMC75-1 | $50-75 \mathrm{~mm}$ | 0.001 mm | 2490 |
| MMC100-1 | $75-100 \mathrm{~mm}$ | 0.001 mm | 2880 |
| MMC125-1 | $100-125 \mathrm{~mm}$ | 0.001 mm | 3620 |
| MMC150-1 | $125-150 \mathrm{~mm}$ | 0.001 mm | 3850 |

METRIC MICROMETER WITH INTERCHANGEABLE MEASURING ANVILS

| TYPE | RANGE | READING |
| :---: | :---: | :---: |
| MMI 0-100 | $0-100 \mathrm{~mm}$ | 0.01 mm |
| MMI 0-150 | $0-150 \mathrm{~mm}$ | 0.01 mm |
| MMI $150-300$ | $150-300 \mathrm{~mm}$ | 0.01 mm |

METRIC MICROMETER HEAD

| TYPE | RANGE | READING | र |
| :---: | :---: | :---: | :---: |
| MM25 - HP | $0-25 \mathrm{~mm}$ PLAIN | 0.01 mm | 1290 |
| MM25-HT | $0-25 \mathrm{~mm}$ THREADED | 0.01 mm | 1340 |
| MM25-1 HP | $0-25 \mathrm{~mm}$ PLAIN | 0.001 mm | 1430 |
| MM25-1 HT | $0-25 \mathrm{~mm}$ THREADED | 0.001 mm | 1480 |

NOTE: PRICE FOR SPECIAL MICROMETER HEADS AS PER CUSTOMER REQUIREMENTS ON REQUEST.
METRIC DEPTH MICROMETER

| TYPE | RANGE | READING | ₹ |
| :---: | :---: | :---: | :---: |
| MMA25-DM | $0-25 \mathrm{~mm}$ | 0.01 mm | 4380 |
| MMA25-1 DM | $0-25 \mathrm{~mm}$ | 0.001 mm | 4380 |

METRIC DEPTH MICROMETER WITH INTERCHANGEABLE MEASURING INSERTS

| TYPE | RANGE | READING | ₹ |
| :---: | :---: | :---: | :---: |
| NMA100-DM | $0-100 \mathrm{~mm}$ | 0.01 mm | 5360 |
| MMA100-1DM | $0-100 \mathrm{~mm}$ | 0.001 mm | 5920 |

NOTE: CALIBRATION CERTIFICATE IS SUPPLIED WITH EACH MICROMETER TRACEABLE TO NATIONAL LENGTH STANDARDS.

## MITUTOYO MAKE

## Outside Micrometers

## SERIES 103

## FEATURES

- Hammertone-green, baked-enamelfinished frame.
- Ratchet Stop or Friction Thimble for exact repetitive readings.
- With a standard except for 25 mm model.


SPECIFICATIONS

| Range | Order No. | Accuracy |
| :---: | :---: | :---: |
| 0.25 mm | 103-137 | $\pm 2 \mathrm{ym}$ |
|  | 103-129* | $\pm 2 \mu \mathrm{~m}$ |
| 25-50mm | 103-138 | $\pm 2 \mu \mathrm{~m}$ |
|  | 103-130* | $\pm 2 \mu \mathrm{~m}$ |
| $50-75 \mathrm{~mm}$ | 103-139-10 | $\pm 2 \mu \mathrm{~m}$ |
| $75-100 \mathrm{~mm}$ | 103-140-10 | $\pm 3 \mathrm{~mm}$ |
| $100-125 \mathrm{~mm}$ | 103-141-10 | $\pm 3 \mu \mathrm{~m}$ |
| $125-150 \mathrm{~mm}$ | 103-142-10 | $\pm 3 \mathrm{~m}$ |
| $150-175 \mathrm{~mm}$ | 103-143-10 | $\pm 4 \mu \mathrm{~m}$ |
| $175-200 \mathrm{~mm}$ | 103-144-10 | $\pm 4 . \mathrm{m}$ |
| $200-225 \mathrm{~mm}$ | 103-145-10 | $\pm 4 \mathrm{~mm}$ |
| $225-250 \mathrm{~mm}$ | 103-146-10 | $\pm 5 \mathrm{~mm}$ |
| $250-275 \mathrm{~mm}$ | 103-147-10 | $\pm 5 \mu \mathrm{~m}$ |
| $275-300 \mathrm{~mm}$ | 103-148-10 | $\pm 5 \mu \mathrm{~m}$ |
| $300-325 \mathrm{~mm}$ | 103-149 | $\pm 6 \mu \mathrm{~m}$ |
| $325-350 \mathrm{~mm}$ | 103-150 | $\pm 6 \mathrm{~m}$ |
| $350-375 \mathrm{~mm}$ | 103-151 | $\pm 6 \mathrm{~m}$ |
| $375-400 \mathrm{~mm}$ | 103-152 | $\pm 7 \mathrm{~m}$ |
| $400-425 \mathrm{~mm}$ | 103-153 | $\pm 7 \mathrm{~m}$ |
| $425-450 \mathrm{~mm}$ | 103-154 | $\pm 7 \mathrm{~m}$ |
| $450-475 \mathrm{~mm}$ | 103-155 | $\pm 8 \mathrm{~m}$ |
| $475-500 \mathrm{~mm}$ | 103-156 | $\pm 8 / m$ |
| (Models with a range up to 1000 mm are available.) |  |  |

* 0.001 mm reading is obtained wth vernier.

| Metric |  |  |
| :--- | :--- | :--- |
| Range | Order No. | Accuracy |
| $0-25 \mathrm{~mm}$ | $103-125$ | $\pm 2 \mu \mathrm{~m}$ |
|  | $103-133^{\star}$ | $\pm 2 \mu \mathrm{~m}$ |
| $25-50 \mathrm{~mm}$ | $103-126$ | $\pm 2 \mu \mathrm{~m}$ |

*0.001 mm reading is obtained with vernier.

| Range | Order No. | Accuracy |
| :---: | :---: | :---: |
| 0-1" | 103-177 | $\pm 0001^{\circ}$ |
|  | 103-131* | $\pm 0001{ }^{*}$ |
| $1^{*}-2^{*}$ | 103-178 | $\pm 0001{ }^{*}$ |
|  | 103-132* | $\pm 0001^{\circ}$ |
| $2^{*}-3^{\prime}$ | 103-179 | $\pm 0001^{\circ}$ |
| $3^{*}-4^{\prime \prime}$ | 103-180 | $\pm 00015^{\prime \prime}$ |
| $4^{\prime \prime}-5^{\prime \prime}$ | 103-181 | $\pm 00015^{\circ}$ |
| $5^{\prime \prime}-6^{\prime \prime}$ | 103-182 | $\pm 00015^{\circ}$ |
| $6^{*}-7^{*}$ | 103-183 | $\pm 0002^{\circ}$ |
| $7^{*}-8^{*}$ | 103-184 | $\pm 0002^{*}$ |
| $8^{*}-9^{*}$ | 103-185 | $\pm 0002^{*}$ |
| $9^{*}-10^{\prime \prime}$ | 103-186 | $\pm 00025^{\circ}$ |
| $10^{*}-11^{\prime \prime}$ | 103-187 | $\pm 00025^{\circ}$ |
| $11^{*}-12^{\prime \prime}$ | 103-188 | $\pm 00025^{\circ}$ |
| $12^{*}-13^{\prime \prime}$ | 103-189 | $\pm 0003^{\circ}$ |
| $13^{*}-14^{\prime \prime}$ | 103-190 | $\pm 0003^{\circ}$ |
| $14^{*}-15^{\prime \prime}$ | 103-191 | $\pm 0003^{*}$ |
| $15^{*}-16^{\prime \prime}$ | 103-192 | $\pm 00035^{\prime}$ |
| $16^{*}-17^{\prime \prime}$ | 103-193 | $\pm 00035^{\prime}$ |
| $17^{*}-18^{\prime \prime}$ | 103-194 | $\pm 00035^{\circ}$ |
| $18^{*}-19^{\prime \prime}$ | 103-195 | $\pm 0004^{\prime}$ |
| $19^{*}-20^{\prime \prime}$ | 103-196 | $\pm 0004^{\prime}$ |

(Modek with a range up to $40^{\circ}$ are avalable.)
*.0001* reading is obtained with vernier.
Inch With friction thimble

| Range | Order No. | Accuracy |
| :--- | :--- | :--- |
| $0-1^{*}$ | $103-127$ | $\pm 0001^{*}$ |
|  | $103-135$ | $\pm 0001^{*}$ |
| $1^{*}-2^{*}$ | $103-128$ | $\pm 0001^{*}$ |
|  | $103-136$ | $\pm 0001^{*}$ |

*.0001* reading is obtained with vernier.

| Metric $\quad$ Micrometer set |  |  |
| :--- | :--- | :--- |
|  | Order No. | Assortment of micrometers |
| Range | $103-927-10$ | $103-137,103-138,103-139-10,2$ micrometer <br> standards |
| $0-75 \mathrm{~mm}(3 \mathrm{pcs} / \mathrm{set})$ |  |  |
| $0-150 \mathrm{~mm}$ <br> $(6 \mathrm{pcs} / \mathrm{set})$ | $103-913-31$ | $102-701^{*}, 103-138,103-139-10,103-140-10$, <br> $103-141-10,103-142-10,5$ micrometer standards |
| $150-300 \mathrm{~mm}$ <br> $(6 \mathrm{pss} / \mathrm{set})$ | $103-915-10$ | $103-143-10,103-144-10,103-145-10,103-146-10$, <br> $103-147-10,103-148-10,6$ micrometer standards |
| $0-300 \mathrm{~mm}$ <br> $(12 \mathrm{pcs} / \mathrm{set})$ | $103-914-31$ | All micrometers of 103-913-31 and 103-915-10 in <br> one set, 11 micrometer standards |

*Ratchet thimble micrometer


The micrometer is a precision measuring instrument, used by engineers. Each revolution of the rachet moves the spindle face 0.5 mm towards the anvil face. The object to be measured is placed between the anvil face and the spindle face. The rachet is turned clockwise until the object is 'trapped' between these two surfaces and the rachet makes a 'clicking' noise. This means that the rachet cannot be tightened any more and the measurement can be read.


Using the first example seen below:

1. Read the scale on the sleeve. The example clearly shows 12 mm divisions.
2. Still reading the scale on the sleeve, a further $1 / 2 \mathrm{~mm}(0.5)$ measurement can be seen on the bottom half of the scale. measurement now reads 12.5 mm .
3. Finally, the thimble scale shows 16 full divisions (these are hundredths of a mm).

The final measurement is $12.5 \mathrm{~mm}+0.16 \mathrm{~mm}=12.66$


SLEEVE READS FULL $\mathrm{mm}=12.00$
SLEEVEREADS $1 / 2 \mathrm{~mm}=0.50$
THIMBLE READS $=0.16$
TOTAL MEASUREMENT $=12.66 \mathrm{~mm}$


```
SLEEVE READS FULL mm= 16.00
SLEEVEREADS 1%mm = 0
THIMBLE READS = 0.355
TOTALMEASUREMENT = 16.355mm
```


SLEEVE READS FULL mm $=7.00$
SLEEVEREADS $1 / 2 \mathrm{~mm}=0.50$
THIMBLE READS $=0.26$
TOTALMEASUREMENT $=7.76 \mathrm{~mm}$

## M\&W MAKE

## Outside Micrometer

|  | ¢ D.01 min |  |
| :---: | :---: | :---: |
| manme | BYa micle | Primer |
| OM 25 | 0-25 mmm | 1. Dap/- |
| OM150 | 25-50 mmm | 1. $150 /-$ |
| DNT 75 | $50-75$ mmm | 1.300\% |
| ITM $10 \square$ | 75-100 mmm | 1.400\% |


[^0]:    *Supplied with manufacturer inspection certificate traceable to DKD Germany

