

# Angle Scales / Scale Tapes

CAD Data

\* Use as measuring tools for slide adjustment of machines and equipment.

**Angle Scales Plate Type** RoHS

**MEAA (180 Degree Type)**

**MEAB (90 Degree Type)**

\* Zero at Right (R)  
\* Zero at Left (L)  
\* Zero at Center (C)

Material: 1.4301/X5CrNi18-10

| Type                    | Part Number           | Graduation direction | d   | V  | H | X    | Y    | € Unit Price |
|-------------------------|-----------------------|----------------------|-----|----|---|------|------|--------------|
| MEAA<br>180 Degree Type | C<br>(Zero at Center) |                      | 40  | 20 |   | 13.5 | 11.5 |              |
|                         |                       |                      | 60  | 30 | 3 | 20   | 17   |              |
|                         |                       |                      | 100 | 60 |   | 36   | 26   |              |
|                         |                       |                      | 140 | 80 |   | 48   | 40   |              |

| Type                   | Part Number  | Graduation direction | D  | V  | H | X <sub>1</sub> | Y <sub>1</sub> | X <sub>2</sub> | Y <sub>2</sub> | € Unit Price |
|------------------------|--|----------------------|----|----|---|----------------|----------------|----------------|----------------|--------------|
| MEAB<br>90 Degree Type | L<br>(Zero at Left)<br>R<br>(Zero at Right)<br>C<br>(Zero at Center) |                      | 20 | 10 |   | 12             | 5              | 5              | 12             |              |
|                        |  |                      | 30 | 15 | 3 | 17             | 7              | 7              | 17             |              |
|                        |  |                      | 50 | 25 |   | 29             | 12             | 12             | 29             |              |
|                        |  |                      | 70 | 40 |   | 43             | 18             | 18             | 43             |              |

Order Example: Part Number - V - H  
MEABC50 - 25 - 3

Days to Ship: 8 Days

Price: Volume Discount (Round down to one Cent.) P87

| Quantity      | 1-9          | 10-14 | 15-19 | 20-49 |
|---------------|--------------|-------|-------|-------|
| Discount Rate | € Unit Price | 5%    | 10%   | 18%   |

For orders larger than indicated quantity, please request a quotation.

**Angle Scales Double-sided Adhesive Tape** RoHS

**MEAN**

Hole Machining Mark

\* Zero at Left (L)  
\* Zero at Right (R)  
\* Zero at Center (C)

For D40 and D60, angle graduations are marked in 5 degree increment.  
For D100 and D140, angle graduations are marked in 1 degree increment.

Material: EN AW-1050A/A199.5

| Type | Part Number  | Graduation direction | D   | V Selection | € Unit Price |
|------|--|----------------------|-----|-------------|--------------|
| MEAN | L<br>(Zero at Left)<br>C<br>(Zero at Center)<br>R<br>(Zero at Right) |                      | 40  | 10 12 16 20 |              |
|      |  |                      | 60  | 16 20 25 30 |              |
|      |  |                      | 100 | 30 35 40 50 |              |
|      |  |                      | 140 | 40 50 60 80 |              |

Order Example: Part Number - V  
MEANC60 - 25

Days to Ship: 8 Days

Alterations: Part Number - V - (HC)  
MEANC140 - 60 - HC

Days to Ship: 8 Days

Price: Volume Discount (Round down to one Cent.) P87

| Quantity      | 1-19         | 20-29 | 30-49 | 50-100 |
|---------------|--------------|-------|-------|--------|
| Discount Rate | € Unit Price | 5%    | 10%   | 18%    |

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**Alterations**

| Code | Spec.  | Price Adder |
|------|--|-------------|
| HC   | Adds mounting holes at hole machining marks. MEAN...03.5 x 2 locations.<br>Adhesive tape is affixed to the back. (Mounting Hole Dimension Diagram)<br>Available for MEAN only. | 2,00        |

Example: MEAN

**Scale Tapes** RoHS

**TMEPL** (Zero Left End)

**TMEPR** (Zero Right End)

**TMEPN** (No Number)

Material Structure:

- Protection Film 0.06mm
- PET Film 0.10mm
- Aluminum Foil 0.05mm
- Adhesive Layer (Acrylic) 0.03mm
- Backing Paper 0.08mm

TMEPL and TMEPR repeat 100mm graduations. The values of 0, 100 are not displayed.  
Please cut with scissors etc. at convenient length.

| Zero Point Position | Part Number | Type | L    | Thickness | Scale Increment | € Unit Price |
|---------------------|-------------|------|------|-----------|-----------------|--------------|
| Left End            | TMEPL       |      | 2000 | 0.18      | 1mm Increment   |              |
| Right End           | TMEPR       |      |      |           |                 |              |
| -                   | TMEPN       |      |      |           |                 |              |

Order Example: Part Number - L  
TMEPL-2000

Days to Ship: 6 Days P87

Price: Volume Discount (Round down to one Cent.) P87

| Quantity      | 1-19         | 20-29 | 30-49 | 50-99 |
|---------------|--------------|-------|-------|-------|
| Discount Rate | € Unit Price | 5%    | 10%   | 18%   |

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# Bubble Levels / Grease Nipples / Hardening Precision Balls

CAD Data

**Bubble Levels (Mounting Type)** RoHS

**SMTD**

**Bubble Levels (Embedded Type)** RoHS

Material: EN AW-5052/AlMg2.5 Glass  
Surface Treatment: Black Anodize  
Max. Operation Temperature 55°C

Material: ABS Plastic Glass  
Surface Treatment: Black Anodize  
Max. Operation Temperature 55°C

| Part Number | Type | D  | A  | B  | h    | h2  | M Holes (N) | Sensitivity   | € Unit Price |
|-------------|------|----|----|----|------|-----|-------------|---------------|--------------|
| SMTD        |      | 28 | 16 | 22 | 10.5 | 3.5 | 2           | 38'12"(R-180) |              |
|             |      | 32 | 20 | 27 | 12.0 | 4.0 | 3           | 38'12"(R-180) |              |
|             |      |    |    |    |      |     |             |               |              |

| Part Number | Type | D  | A    | h  | h2  | Sensitivity   | € Unit Price |
|-------------|------|----|------|----|-----|---------------|--------------|
| SMH         |      | 20 | 16.7 | 11 | 9.5 | 38'12"(R-180) |              |

**Bubble Levels**

- Level the surface to be mounted prior to placing the bubble level, then mount while adjusting the bubble level so the air bubble stays within the red circle in the center.
- When the bubble moves 2mm away from the center, the mounting surface is inclined approximate 0.6 degrees.
- Mounting interface of these bubble levels have no accuracies built-in.

Order Example: Part Number - V  
SMTD28

Days to Ship: 6 Days P87

Price: Volume Discount (Round down to one Cent.) P87

| Quantity      | 1-19         | 20-29 | 30-49 | 50-99 |
|---------------|--------------|-------|-------|-------|
| Discount Rate | € Unit Price | 5%    | 10%   | 18%   |

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**Grease Fittings** RoHS

**GPA**

**GPB**

Material: 360BD Brass (JIS)  
Surface Treatment: Nickel Plating

Material: 360BD Brass (JIS)  
Surface Treatment: Nickel Plating

| Part Number | Type | No. | d          | H         | L       | E    | B  | GPA - GPB - GPC |                 | GPAS         |                 |
|-------------|------|-----|------------|-----------|---------|------|----|-----------------|-----------------|--------------|-----------------|
|             |      |     |            |           |         |      |    | € Unit Price    | Volume Discount | € Unit Price | Volume Discount |
| GPA         | GPAS | 6   | M6xP0.75   | 13.5      | 5       | -    | 7  |                 |                 |              |                 |
|             |      | 6A  | M6xP1.0    | 13.5      | 5       | -    | 7  |                 |                 |              |                 |
| GPB         | GPAS | 1   | R (PT) 1/8 | 20 (20.5) | 9 (9.5) | -    | 10 |                 |                 |              |                 |
|             |      | 2   | R (PT) 1/4 | 25        | 12      | -    | 14 |                 |                 |              |                 |
| GPB         | GPAS | 1   | R (PT) 1/8 | 21.5      | 8       | 12.5 | 10 |                 |                 |              |                 |
|             |      | 2   | R (PT) 1/4 | 25        | 11      | 13.5 | 14 |                 |                 |              |                 |
| GPC         | GPAS | 1   | R (PT) 1/8 | 21.5      | 8       | 12.5 | 10 |                 |                 |              |                 |
|             |      | 2   | R (PT) 1/4 | 25        | 11      | 14.2 | 14 |                 |                 |              |                 |

**Hardening Precision Balls** RoHS

Material: BLIJ (Inch), BLIS (Inch), BLMJ (mm), BLMS (mm)

Class 28 Standards (JIS-B1501)

| Type | Dimension | Material          | Class | Hardness | Standards                    |
|------|-----------|-------------------|-------|----------|------------------------------|
| BLIJ | Inch      | 1.3505/100Cr6     | 28    | 61-67HRC | JIS B1501                    |
| BLIS | Inch      | 1.4125/X105CrMo17 |       | 59-66HRC | In accordance with JIS-B1501 |
| BLMJ | mm        | 1.3505/100Cr6     |       | 61-67HRC | JIS B1501                    |
| BLMS | mm        | 1.4125/X105CrMo17 |       | 59-66HRC | In accordance with JIS-B1501 |

**Inch Standards Type**

| Part Number  | Type  | No. | SD (Inch) | BLIJ         |                 | BLIS         |                 |
|--------------|-------|-----|-----------|--------------|-----------------|--------------|-----------------|
|              |       |     |           | € Unit Price | Volume Discount | € Unit Price | Volume Discount |
| BLIJ<br>BLIS |       | 8   | 1/8       |              |                 |              |                 |
|              |       | 10  | 5/32      |              |                 |              |                 |
|              |       | 12  | 3/16      |              |                 |              |                 |
|              |       | 14  | 7/32      |              |                 |              |                 |
|              |       | 15  | 15/64     |              |                 |              |                 |
|              |       | 16  | 1/4       |              |                 |              |                 |
|              |       | 17  | 17/64     |              |                 |              |                 |
|              |       | 18  | 9/32      |              |                 |              |                 |
|              |       | 20  | 5/16      |              |                 |              |                 |
|              |       | 22  | 11/32     |              |                 |              |                 |
| 24           | 3/8   |     |           |              |                 |              |                 |
| 26           | 13/32 |     |           |              |                 |              |                 |

**Metric Standards Type**

| Part Number  | Type | No. | SD (mm) | BLMJ         |                 | BLMS         |                 |
|--------------|------|-----|---------|--------------|-----------------|--------------|-----------------|
|              |      |     |         | € Unit Price | Volume Discount | € Unit Price | Volume Discount |
| BLMJ<br>BLMS |      | 3   | 3       |              |                 |              |                 |
|              |      | 3.5 | 3.5     |              |                 |              |                 |
|              |      | 4   | 4       |              |                 |              |                 |
|              |      | 4.5 | 4.5     |              |                 |              |                 |
|              |      | 5   | 5       |              |                 |              |                 |
|              |      | 6   | 6       |              |                 |              |                 |
|              |      | 8   | 8       |              |                 |              |                 |
|              |      | 8   | 8       |              |                 |              |                 |

Order Example: Part Number - SD  
GPA6A BLIJ16 BLMS3

Days to Ship: 6 Days P87

Price: Volume Discount (Round down to one Cent.) P87

| Quantity      | 1-19         | 20-29 | 30-49 | 50-99 |
|---------------|--------------|-------|-------|-------|
| Discount Rate | € Unit Price | 5%    | 10%   | 18%   |

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Order Example: Part Number - SD  
GPA6A BLIJ16 BLMS3

Days to Ship: 6 Days P87

Price: Volume Discount (Round down to one Cent.) P87

| Quantity      | 1-19         | 20-29 | 30-49 | 50-99 |
|---------------|--------------|-------|-------|-------|
| Discount Rate | € Unit Price | 5%    | 10%   | 18%   |

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