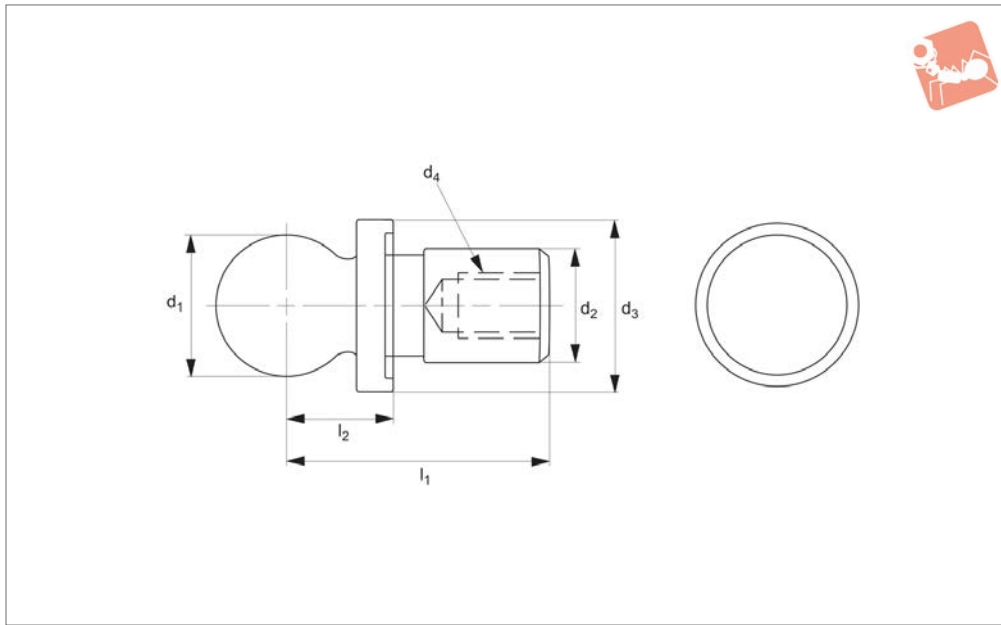




Inspection Balls - Imperial

short shank - one piece construction

Gauging & Inspection



20500

GAUGING & INSPECTION

Material

Steel (AISI 8620).

Technical Notes

Case hardened.

Concentricity of ball to shank ,0001 T.I.R.

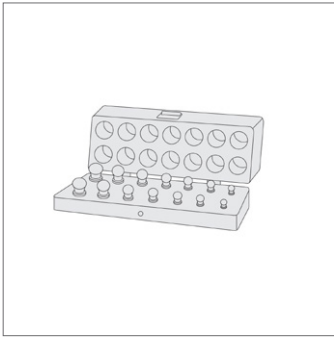
Important Notes

Used as reference points for inspection applications in conjunction with CMMs to

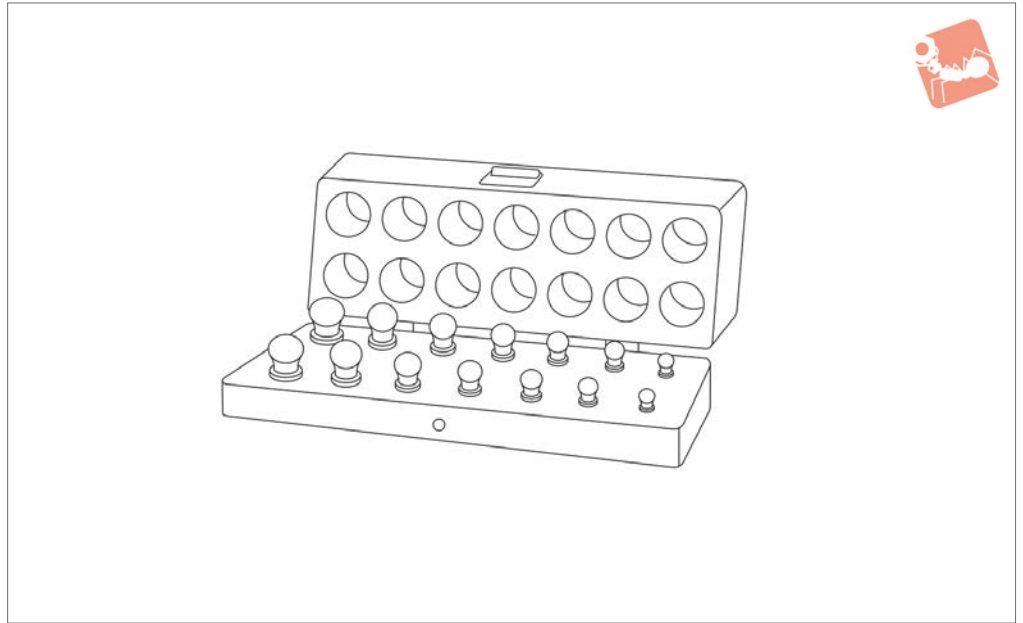
accurately measure the workpiece.

All dimensions in inches.

| Order No. | d_1 +0.0000 -0.0002 | d_2 +0.0000 -0.0002 | d_3 | d_4 | l_1 | l_2 ± 0.0002 | Weight oz |
|--------------|--------------------------|--------------------------|-------|-------|-------|-----------------------|--------------|
| 20500.W0025I | 0.250 | 0.125 | 1/4" | - | 0.58 | 0.200 | 0.16 |
| 20500.W0037I | 0.375 | 0.187 | 3/8" | - | 0.74 | 0.300 | 0.16 |
| 20500.W0038I | 0.375 | 0.313 | 1/2" | 8-32 | 0.74 | 0.300 | 0.48 |
| 20500.W0050I | 0.500 | 0.250 | 1/2" | 6-32 | 0.63 | 0.313 | 0.48 |
| 20500.W0051I | 0.500 | 0.250 | 1/2" | 6-32 | 0.93 | 0.400 | 0.48 |
| 20500.W0052I | 0.500 | 0.250 | 1/2" | 6-32 | 0.88 | 0.500 | 0.48 |
| 20500.W0053I | 0.500 | 0.375 | 5/8" | 10-24 | 1.31 | 0.375 | 0.96 |
| 20500.W0063I | 0.625 | 0.312 | 5/8" | 8-32 | 1.08 | 0.450 | 0.96 |
| 20500.W0064I | 0.625 | 0.375 | 5/8" | 10-24 | 1.42 | 0.450 | 1.12 |
| 20500.W0068I | 0.688 | 0.375 | 3/4" | 10-24 | 1.47 | 0.500 | 1.44 |
| 20500.W0075I | 0.750 | 0.375 | 3/4" | 10-24 | 1.53 | 0.562 | 2.08 |
| 20500.W0100I | 1.000 | 0.500 | 1" | 10-24 | 1.64 | 0.700 | 4.00 |



20501



Material

Steel (AISI 8620).

Important Notes

For individual part dimensions see 20500.

Order No.

20501.W0001I

Set contents

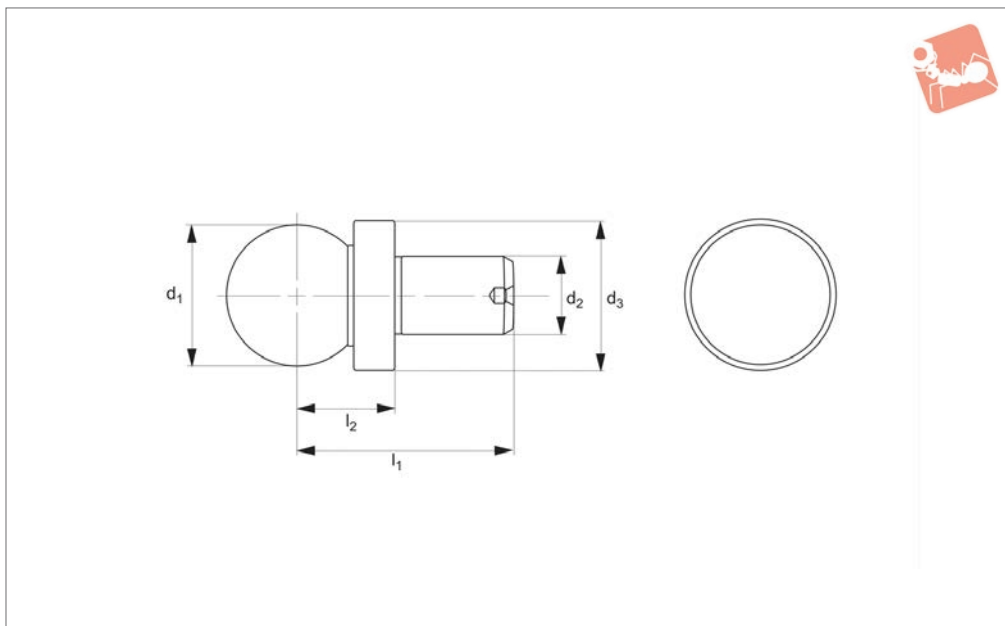
- 2 x 20500.W0025I
- 2 x 20500.W0037I
- 2 x 20500.W0038I
- 2 x 20500.W0050I
- 2 x 20500.W0051I



Precision Balls - Imperial

slip-fit - shoulder type

Gauging & Inspection



20504

GAUGING & INSPECTION

Material

Hardened and ground steel (440 stainless).

Technical Notes

Concentricity of ball to shank: ,0002 T.I.R.

Important Notes

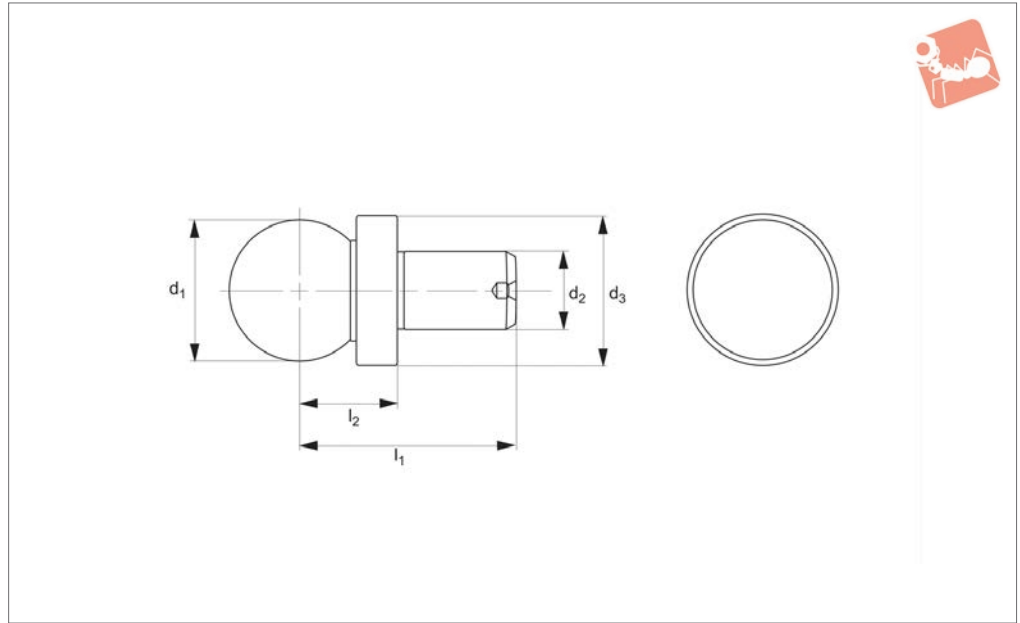
Used as reference points for inspection applications in conjunction with CMMs to accurately measure the work piece.

All dimensions in inches.

| Order No. | d_1 ± 0.0005 | d_2 $+0.0000 \mid -0.0002$ | d_3 | l_1 | l_2 ± 0.0002 | Weight oz |
|--------------|-----------------------|---------------------------------|-------|---------|-----------------------|--------------|
| 20504.W0025I | 0.250 | 0.150 | 1/4" | 9/16" | 0.200 | 0.16 |
| 20504.W0037I | 0.375 | 0.187 | 3/8" | 3/4" | 0.300 | 0.16 |
| 20504.W0050I | 0.500 | 0.250 | 1/2" | 15/16" | 0.400 | 0.48 |
| 20504.W0063I | 0.625 | 0.312 | 5/8" | 1-1/16" | 0.450 | 0.96 |
| 20504.W0075I | 0.750 | 0.375 | 3/4" | 1-1/4" | 0.500 | 1.60 |
| 20504.W0088I | 0.875 | 0.437 | 7/8" | 1-7/16" | 0.600 | 1.12 |
| 20504.W0100I | 1.000 | 0.500 | 1" | 1-5/8" | 0.700 | 3.48 |



20508



Material

Hardened and ground steel (8620 steel).

Technical Notes

Concentricity of ball to shank: $.0002$ T.I.R.

Important Notes

Used as reference points for inspection applications in conjunction with CMMs to accurately measure the work piece.

All dimensions in inches.

For Press Fit d_2 tolerance

is $+ .0003, - .0000$.

For Slip Fit d_2 tolerance

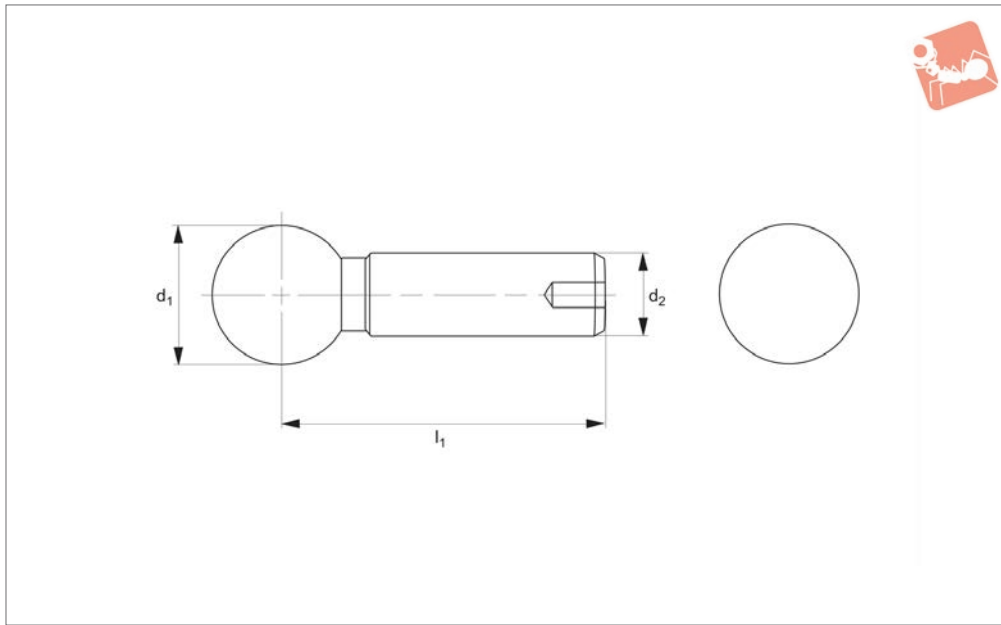
is $+ .0000, - .0004$.

| Order No. | Type | d_1 ± 0.0002 | d_2 $+0.0003 -0.0000$ | d_3 | l_1 | l_2 ± 0.0002 | Weight oz |
|--------------|-----------|-----------------------|------------------------------|-------|--------|-----------------------|--------------|
| 20508.W0025I | Slip Fit | 0.250 | 0.125 | 1/4" | 9/16" | 0.200 | 0.16 |
| 20508.W0037I | Slip Fit | 0.375 | 0.188 | 3/8" | 3/4" | 0.300 | 0.16 |
| 20508.W0050I | Slip Fit | 0.500 | 0.250 | 1/2" | 15/16" | 0.400 | 0.48 |
| 20508.W0051I | Slip Fit | 0.500 | 0.250 | 1/2" | 1-3/8" | 0.500 | 0.64 |
| 20508.W0075I | Slip Fit | 0.750 | 0.375 | 3/4" | 1-1/4" | 0.500 | 1.60 |
| 20508.W0125I | Press Fit | 0.250 | 0.125 | 1/4" | 9/16" | 0.200 | 0.16 |
| 20508.W0137I | Press Fit | 0.375 | 0.188 | 3/8" | 3/4" | 0.300 | 0.16 |
| 20508.W0150I | Press Fit | 0.500 | 0.250 | 1/2" | 15/16" | 0.400 | 0.48 |
| 20508.W0151I | Press Fit | 0.500 | 0.250 | 1/2" | 1-3/8" | 0.500 | 0.64 |
| 20508.W0175I | Press Fit | 0.750 | 0.375 | 3/4" | 1-1/4" | 0.500 | 1.60 |



Tooling Balls - Imperial standard - one piece construction

Gauging & Inspection



20510

GAUGING & INSPECTION

Material

Hardened and ground steel (8620 steel).

Technical Notes

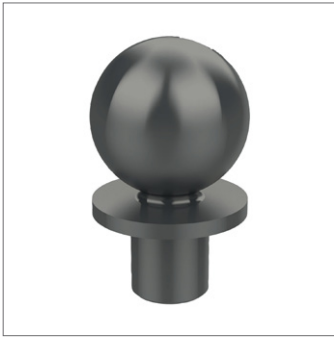
Concentricity of ball to shank: ,0002 T.I.R.

Important Notes

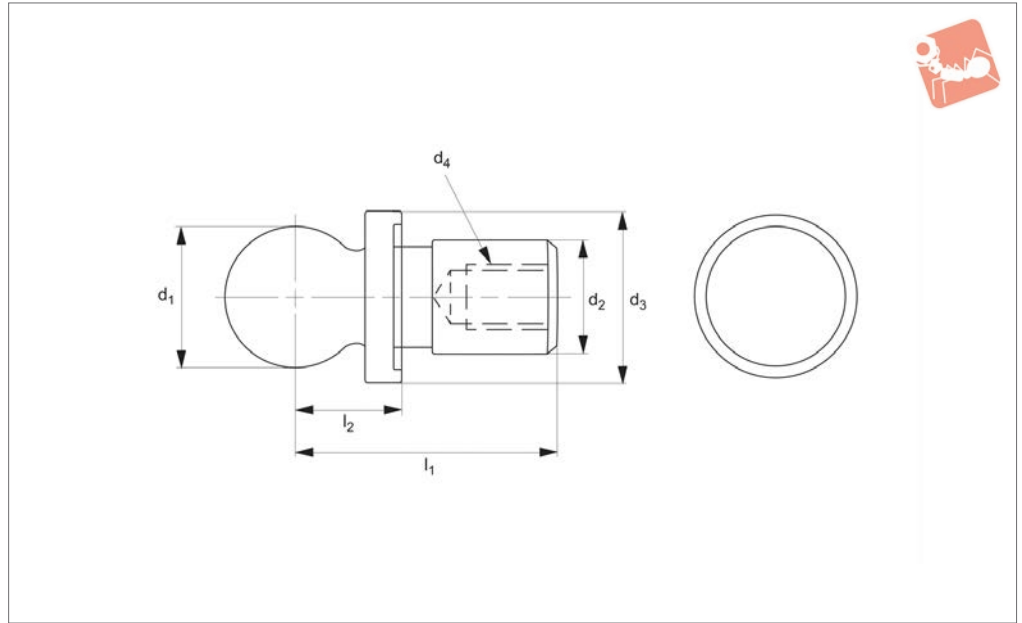
Used as reference points for inspection applications in conjunction with CMMs to accurately measure the work piece.

All dimensions in inches.

| Order No. | Type | d ₁ ±0.0002 | d ₂ +0.0000 -0.0004 | l ₁ | Weight oz |
|--------------|----------|---------------------------|-------------------------------------|----------------|--------------|
| 20510.W0025I | Slip Fit | 0.250 | 0.125 | 9/16" | 1 |
| 20510.W0037I | Slip Fit | 0.375 | 0.188 | 3/4" | 1 |
| 20510.W0050I | Slip Fit | 0.500 | 0.250 | 15/16" | 3 |
| 20510.W0051I | Slip Fit | 0.500 | 0.250 | 1-1/2" | 3 |
| 20510.W0052I | Slip Fit | 0.500 | 0.375 | 1-1/2" | 10 |



20512



Material

Hardened and ground steel (8620 steel).

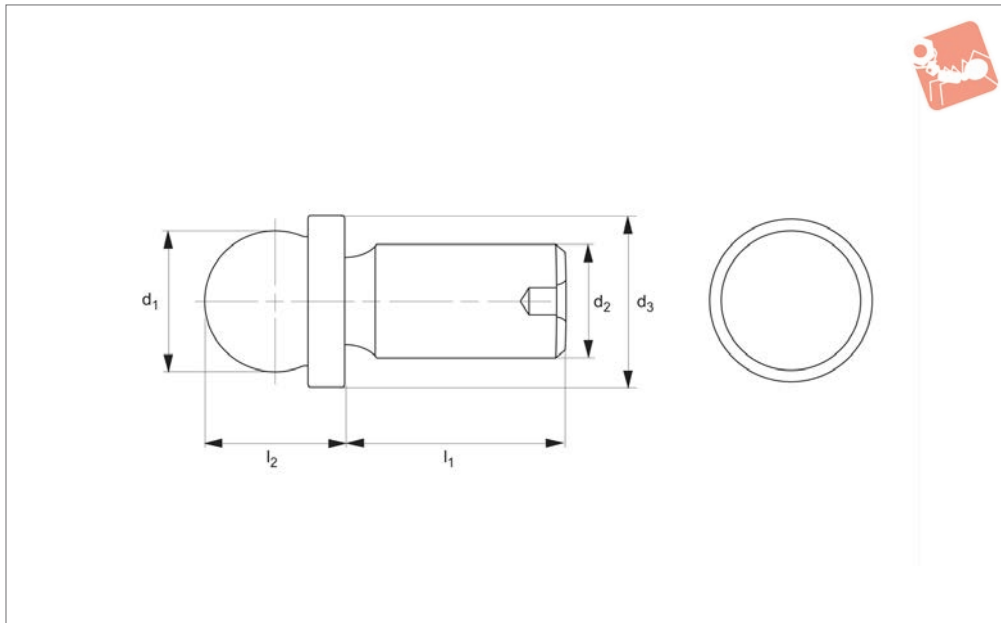
Technical Notes

Concentricity of ball to shank: ,0002 T.I.R.

Important Notes

Used as reference points for inspection applications in conjunction with CMMs to accurately measure the work piece.

| Order No. | Type | d ₁ inch ±0.0002 in ±0.005 mm | d ₂ +0.0000 in -0.0004 in. +0.000 mm -0.010 mm | d ₃ | d ₄ UNC-2B | l ₁ | l ₂ ±0.0002 in ±0.005 mm | Weight g |
|-------------|--------|--|---|----------------|--------------------------|----------------|--|-------------|
| 20512.W0006 | Inch | 0,500 | 0,250 | 1/2" | 6-32x3/16" | 5/8" | 0,313 | 13,6 |
| 20512.W0010 | Inch | 0,500 | 0,250 | 1/2" | | 5/8" | 0,313 | 13,6 |
| 20512.W0012 | Metric | 6 | 3 | 6 | | 16 | 6 | 4,5 |
| 20512.W0050 | Metric | 10 | 5 | 10 | | 20 | 10 | 13,6 |
| 20512.W0051 | Metric | 12 | 6 | 12 | | 22 | 12 | 13,6 |



20513

GAUGING & INSPECTION

Material

Ball: carbide.
Shank: 440 stainless steel.

Important Notes

Used as reference points for inspection applications in conjunction with CMMs to accurately measure the work piece.

All dimensions in inches.

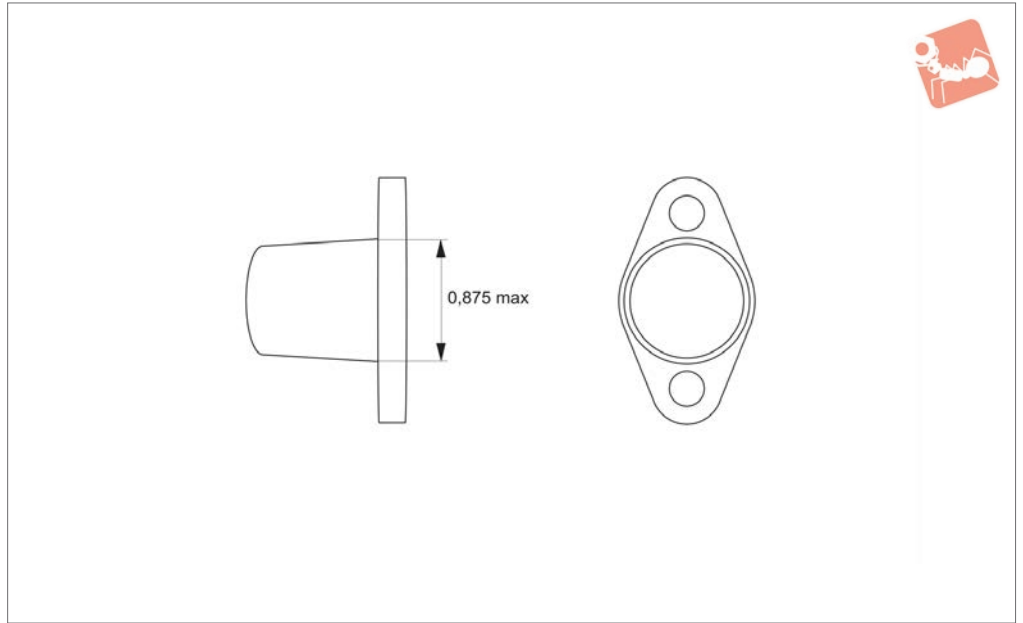
Technical Notes

Concentricity of ball to shank: ,0002 T.I.R.

| Order No. | d_1 ± 0.0003 | d_2 ± 0.0002 | d_3 | l_1 | l_2 ± 0.0002 |
|--------------|-----------------------|-----------------------|-------|-------|-----------------------|
| 20513.W0012I | 0.125 | 0.126 | 0.19 | 0.28 | 0.156 |



20515



GAUGING & INSPECTION

Material

Durable, high impact resistant polymer.

Technical Notes

Mounts over 0,875" diameter or smaller

tooling ball directly into jig fixture with two number 10 screws.

Important Notes

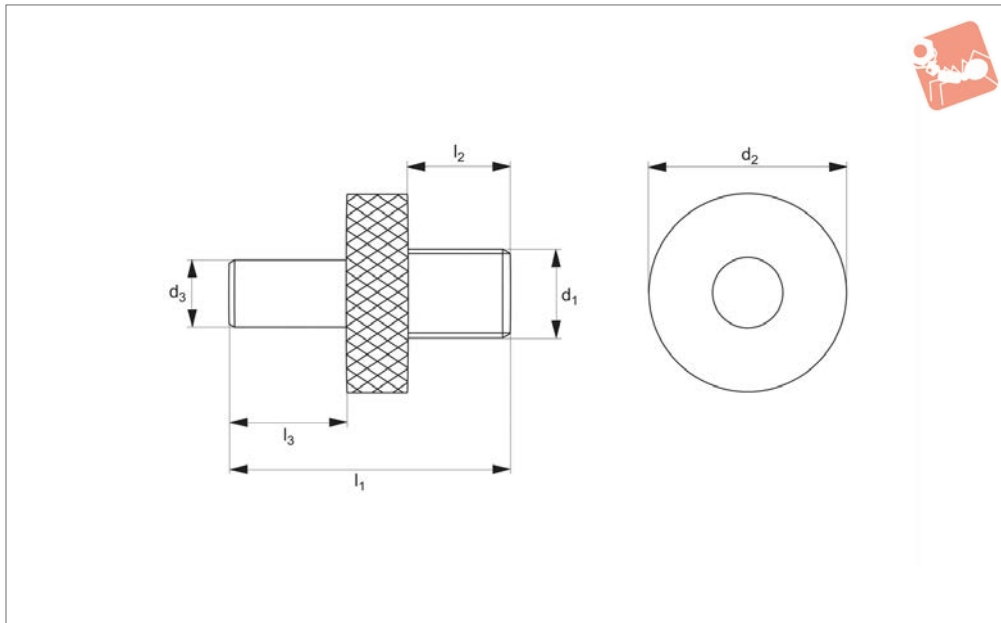
Protects tooling and inspections balls from

damage between operations.
All dimensions in inches.

Order No.

20515.W0088I

Tooling ball diameter
max.
0.875



20530

GAUGING & INSPECTION

Material

Body: 52100 steel.
Collar: 12L14 steel, blackened.

spread - all diameters are concentric within .0002 T.I.R.
Thread: class 3A.

holes in a workpiece.
All dimensions in inches.

Technical Notes

Shaft size l_3 is the same diameter on all gauges to simplify calculation of the hole

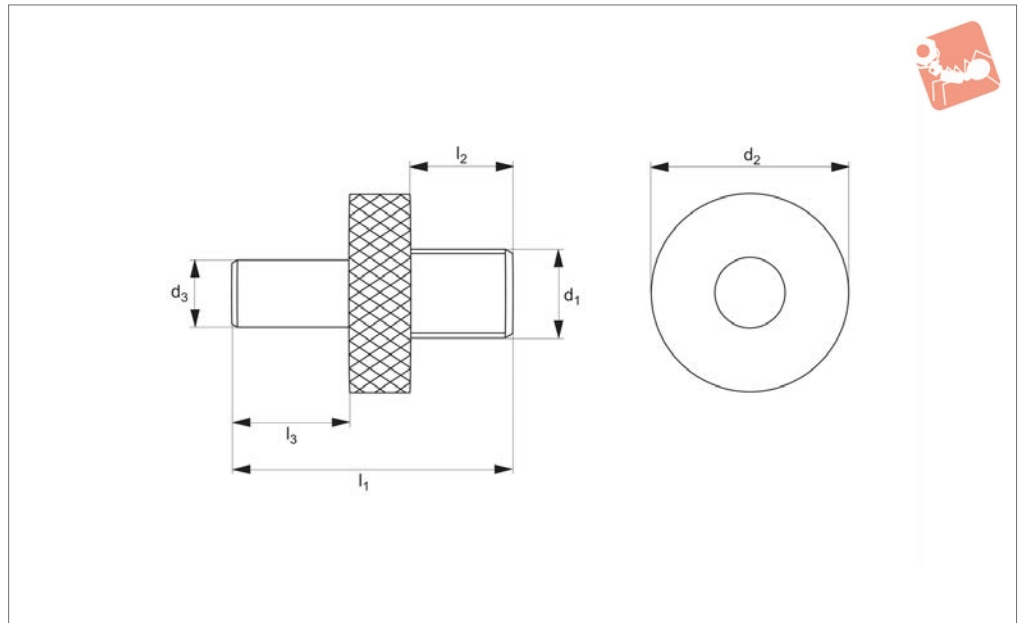
Important Notes

Two piece construction. Use to accurately measure the distance between two tapped

| Order No. | Type | d_1 tol. 3A | d_2 | d_3 +0.0002 -0.0000 | l_1 | l_2 | l_3 | Weight g |
|--------------|------|------------------|-------|--------------------------|--------|-------|-------|-------------|
| 20530.W0014I | UNF | 6-40 | 5/16" | 0.25 | 7/8" | 1/4" | 0.38 | 4.5 |
| 20530.W0019I | UNF | 10-32 | 5/16" | 0.25 | 7/8" | 1/4" | 0.38 | 4.5 |
| 20530.W0025I | UNF | 1/4"-28 | 3/8" | 0.25 | 1" | 3/8" | 0.38 | 9.1 |
| 20530.W0031I | UNF | 5/16"-24 | 1/2" | 0.25 | 1" | 3/8" | 0.38 | 13.6 |
| 20530.W0037I | UNF | 3/8"-24 | 1/2" | 0.25 | 1" | 3/8" | 0.38 | 13.6 |
| 20530.W0043I | UNF | 7/16"-20 | 7/8" | 0.25 | 1" | 3/8" | 0.38 | 18.1 |
| 20530.W0050I | UNF | 1/2"-20 | 7/8" | 0.25 | 1" | 3/8" | 0.38 | 27.2 |
| 20530.W0063I | UNF | 5/8"-18 | 7/8" | 0.25 | 1" | 3/8" | 0.38 | 27.2 |
| 20530.W0108I | UNC | 2-56 | 5/16" | 0.25 | 7/8" | 5/16" | 0.38 | 4.5 |
| 20530.W0111I | UNC | 4-40 | 5/16" | 0.25 | 7/8" | 5/16" | 0.38 | 4.5 |
| 20530.W0112I | UNC | 5-40 | 5/16" | 0.25 | 7/8" | 5/16" | 0.38 | 4.5 |
| 20530.W0114I | UNC | 6-32 | 5/16" | 0.25 | 7/8" | 5/16" | 0.38 | 4.5 |
| 20530.W0116I | UNC | 8-32 | 5/16" | 0.25 | 7/8" | 5/16" | 0.38 | 4.5 |
| 20530.W0119I | UNC | 10-24 | 5/16" | 0.25 | 7/8" | 5/16" | 0.38 | 4.5 |
| 20530.W0125I | UNC | 1/4"-20 | 3/8" | 0.25 | 1" | 3/8" | 0.38 | 13.6 |
| 20530.W0131I | UNC | 5/16"-18 | 1/2" | 0.25 | 1" | 3/8" | 0.38 | 13.6 |
| 20530.W0137I | UNC | 3/8"-16 | 1/2" | 0.25 | 1" | 3/8" | 0.38 | 13.6 |
| 20530.W0143I | UNC | 7/16"-14 | 7/8" | 0.25 | 1" | 3/8" | 0.38 | 13.0 |
| 20530.W0150I | UNC | 1/2"-13 | 7/8" | 0.25 | 1" | 3/8" | 0.38 | 27.2 |
| 20530.W0163I | UNC | 5/8"-11 | 7/8" | 0.25 | 1" | 3/8" | 0.38 | 27.2 |
| 20530.W0175I | UNC | 3/4"-10 | 1" | 0.25 | 1-1/8" | 1/2" | 0.38 | 54.4 |



20531



Material

Body: 52100 steel.
Collar: 12L14 steel, blackened.

gauges to simplify calculation of the hole spread - all diameters are concentric within .0002 T.I.R. Thread class 6G

measure the distance between two tapped holes in a workpiece.

Technical Notes

Shaft size l_3 is the same diameter on all

Important Notes

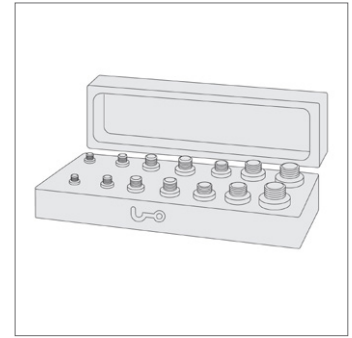
Two piece construction. Use to accurately

| Order No. | d_1 tol. 6G | d_2 | d_3 +0.0002 -0.0000 | l_1 | l_2 | l_3 | Weight g |
|-------------|------------------|-------|--------------------------|-------|-------|-------|-------------|
| 20531.W0001 | M 1,6x0,35 | 7.95 | 6.4 | 22 | 6.4 | 9.5 | 4.5 |
| 20531.W0002 | M 2x0,40 | 7.95 | 6.4 | 22 | 6.4 | 9.5 | 4.5 |
| 20531.W0003 | M 2,5x0,45 | 7.95 | 6.4 | 22 | 6.4 | 9.5 | 4.5 |
| 20531.W0004 | M 3x0,50 | 7.95 | 6.4 | 22 | 6.4 | 9.5 | 4.5 |
| 20531.W0005 | M 4x0,70 | 7.95 | 6.4 | 22 | 6.4 | 9.5 | 4.5 |
| 20531.W0006 | M 5x0,80 | 9.53 | 6.4 | 22 | 6.4 | 9.5 | 0.2 |
| 20531.W0008 | M 6x1,00 | 9.53 | 6.4 | 22 | 6.4 | 9.5 | 6.2 |
| 20531.W0010 | M 8x1,25 | 12.70 | 6.4 | 28 | 12.7 | 9.5 | 12.2 |
| 20531.W0012 | M10x1,50 | 12.70 | 6.4 | 28 | 12.7 | 9.5 | 20.4 |
| 20531.W0016 | M12x1,75 | 22.23 | 6.4 | 28 | 12.7 | 9.5 | 24.9 |
| 20531.W0020 | M16x2,00 | 22.23 | 6.4 | 28 | 12.7 | 9.5 | 34.0 |
| 20531.W2508 | M20x2,50 | 25.40 | 6.4 | 28 | 12.7 | 9.5 | 45.4 |



Location Gauges - Tapped Hole - Set imperial

Gauging & Inspection



20532

GAUGING & INSPECTION

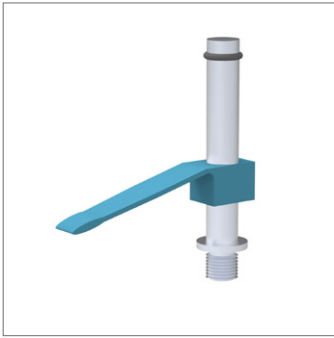
Material

Body: 52100 steel.
Collar: 12L14 steel, blackened.

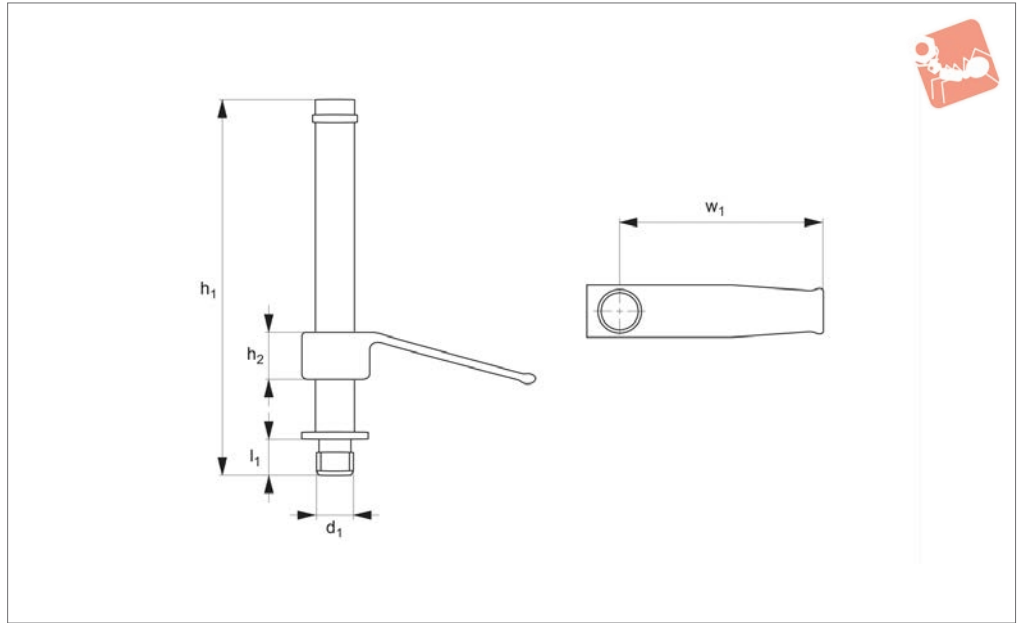
Important Notes

For individual part dimensions see 20530.

| Order No. | Set contents | Type | Weight g |
|--------------|--|------|----------|
| 20532.W0001I | 2 x 20530.W0019I 2 x 20530.W0025I 2 x 20530.W0031I 2 x 20530.W0037I 2 x 20530.W0043I | UNF | 454 |
| 20532.W0002I | 2 x 20530.W0119I 2 x 20530.W0125I 2 x 20530.W0131I 2 x 20530.W0137I 2 x 20530.W0143I | UNC | 454 |
| 20532.W0003I | 2 x 20530.W0108I 2 x 20530.W0111I 2 x 20530.W0112I 2 x 20530.W0114I 2 x 20530.W0014I | UNC | 454 |



19320



GAUGING & INSPECTION

Material

Aluminium.

Technical Notes

For fixturing on CMMs only, not recom-

mended for machining.

Tips

Optional rubber coated tip helps prevent marring of parts during inspection.

Important Notes

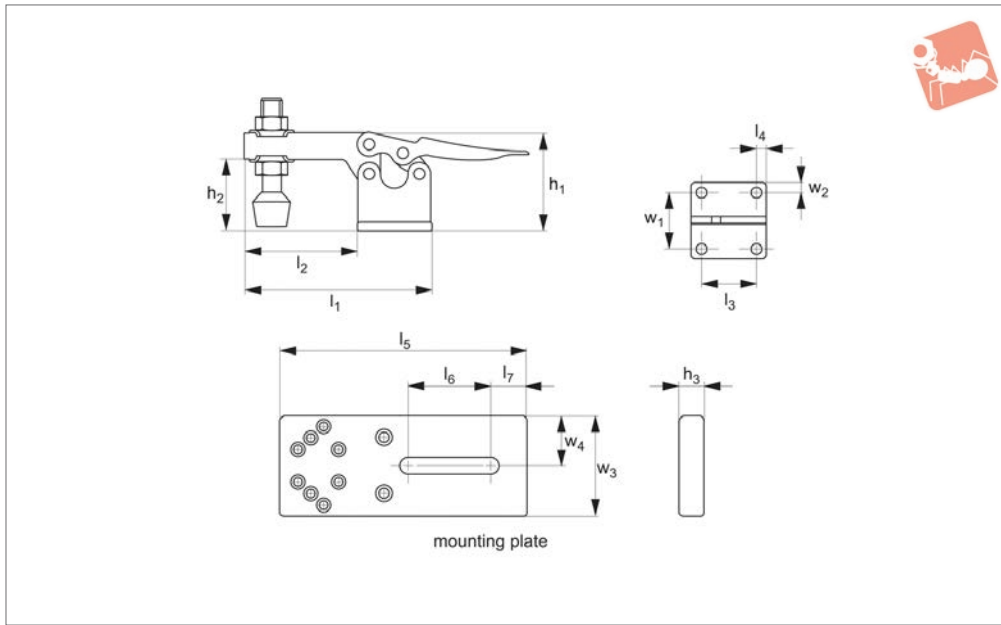
Ideal for light pressure clamping, actuated by finger pressure.

| Order No. | Type | d ₁ | h ₁ | h ₂ | l ₁ | w ₁ | Weight g |
|-------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------|
| 19320.W0008 | Standard | M 8 | 75 | 8 | 6.37 | 39.0 | 68 |
| 19320.W0012 | Standard | M 8 | 75 | 12 | 6.37 | 58.7 | 92 |
| 19320.W0108 | Rubber coated tip | M 8 | 75 | 8 | 6.37 | 39.0 | 68 |
| 19320.W0112 | Rubber coated tip | M 8 | 75 | 12 | 6.37 | 58.7 | 92 |



CMM Fixturing Toggle Clamp with mounting plate

Gauging & Inspection



19322

GAUGING & INSPECTION

Material

Single toggle clamp supplied with matching mounting plate.

mounting base for easy adjustment and positioning.

Technical Notes

Hold parts for probing on CMMs. Sliding

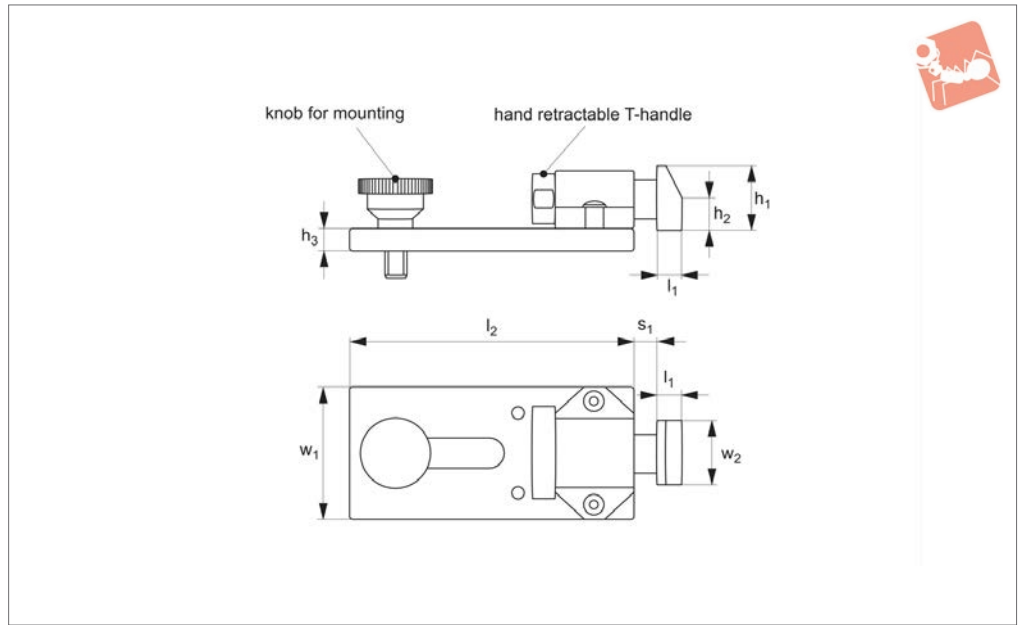
Tips

Supplied with thumb screws to locate toggle clamp mounting plate.

| Order No. | h_1 | h_2 | h_3 | l_1 | l_2 | l_3 | l_4 | l_5 | l_6 | l_7 | w_1 | w_2 | w_3 | w_4 | Weight g |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| 19322.W0075 | 19.05 | 7.9 | 6.3 | 67.5 | 17.46 | 15.9 | 7.9 | 80 | 25 | 13 | 15.9 | 3.97 | 38 | 19 | 591 |
| 19322.W0150 | 38.1 | 25.4 | 6.3 | 138.1 | 57.1 | 26.9 | 4.7 | 80 | 25 | 13 | 22.2 | 6.7 | 38 | 19 | 1000 |



19324



Material
Steel.

allows for quick part changeover. Sliding mounting base for easy adjustment and positioning.

Important Notes

Provides horizontal clamping. T-handle

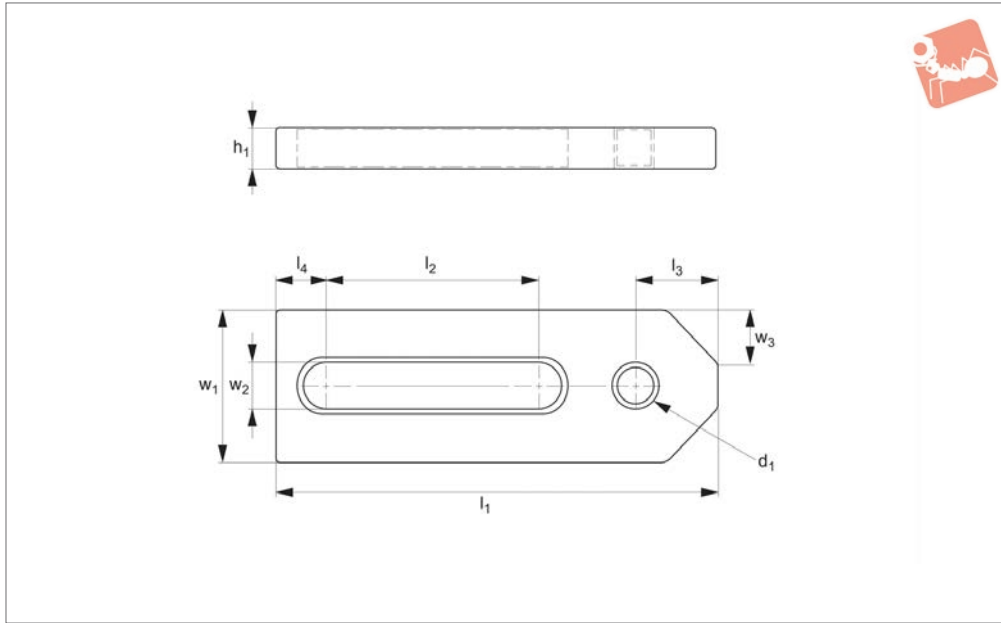
| Order No. | Stroke s_1 | h_1 | h_2 | h_3 | l_1 | l_2 | w_1 | w_2 | Weight g |
|-------------|--------------|-------|-------|-------|-------|-------|-------|-------|----------|
| 19324.W0025 | 4.8 | 15.9 | 7.9 | 6.35 | 6.4 | 80 | 38 | 15.9 | 682 |



CMM Fixturing Adjustable Stops

M 8 threads

Gauging & Inspection



19326

GAUGING & INSPECTION

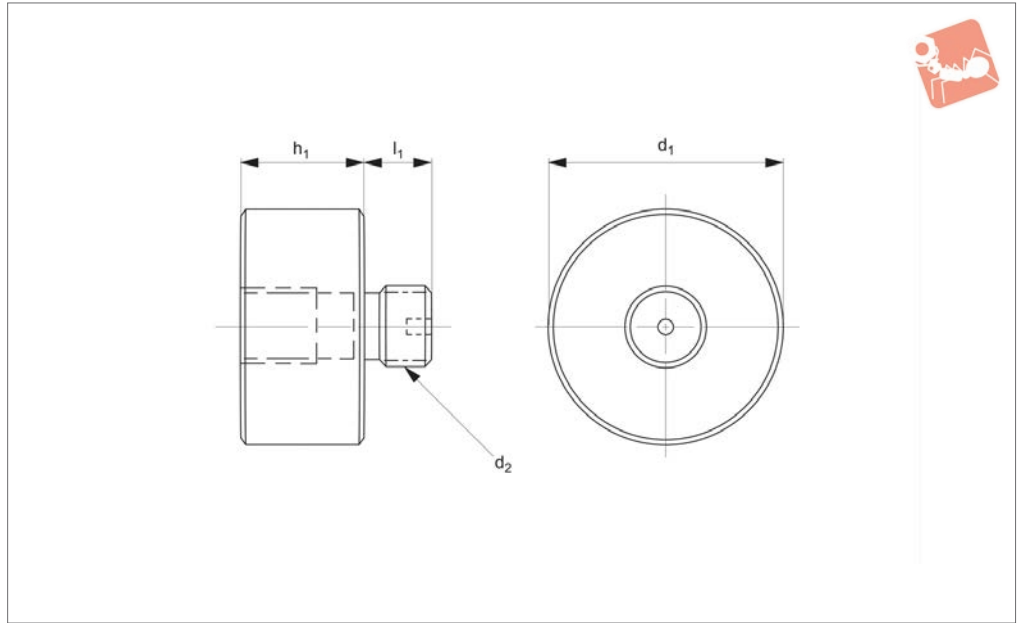
Important Notes

Sliding mounting base for easy adjustment and positioning. Thumb screw included.

| Order No. | d ₁ | h ₁ | l ₁ | l ₂ | l ₃ | l ₄ | w ₁ | w ₂ | w ₃ 45° ±0.2 | Weight g |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------|-------------|
| 19326.W0050 | M 8 | 6.4 | 51 | 22 | 5.0 | 8 | 15 | 8.75 | 5.0 | 96 |
| 19326.W0075 | M 8 | 6.4 | 76 | 45 | 6.4 | 8 | 25 | 8.75 | 6.4 | 150 |



19330



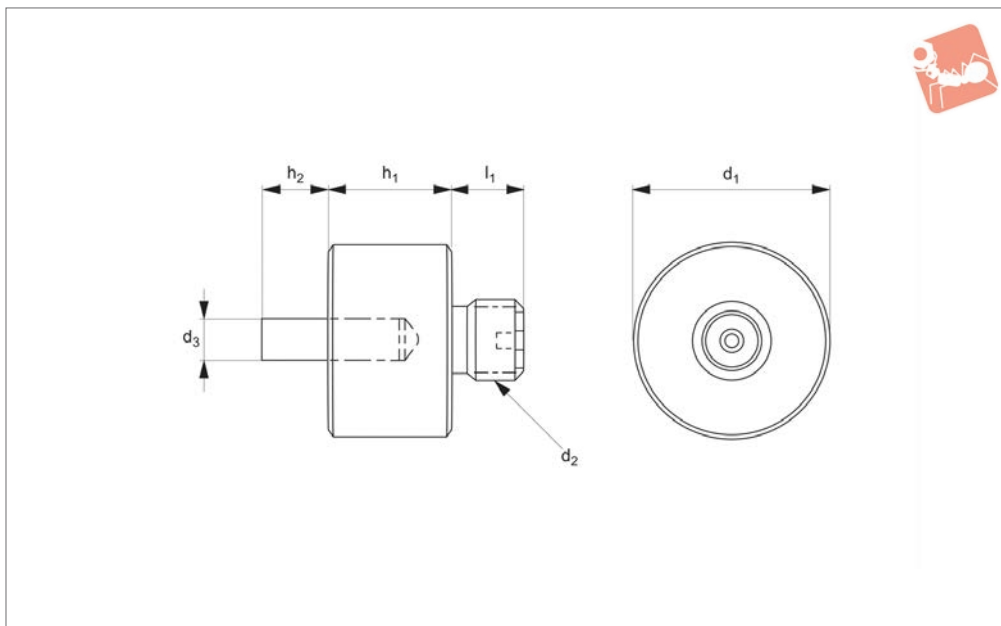
Material

Carbon steel.

Important Notes

Provides resting point to raise part for probing.

| Order No. | d_1 | d_2 | h_1 | l_1 | Weight g |
|-------------|-------|-------|-------|-------|-------------|
| 19330.W1315 | 13 | M 8 | 15 | 8 | 91 |
| 19330.W1320 | 13 | M 8 | 20 | 8 | 136 |
| 19330.W1325 | 13 | M 8 | 25 | 8 | 182 |
| 19330.W1350 | 13 | M 8 | 50 | 8 | 364 |
| 19330.W1375 | 13 | M 8 | 75 | 8 | 409 |
| 19330.W1915 | 19 | M 8 | 15 | 8 | 136 |
| 19330.W1920 | 19 | M 8 | 20 | 8 | 182 |
| 19330.W1925 | 19 | M 8 | 25 | 8 | 227 |
| 19330.W1950 | 19 | M 8 | 50 | 8 | 454 |
| 19330.W1975 | 19 | M 8 | 75 | 8 | 591 |
| 19330.W2515 | 25 | M 8 | 15 | 8 | 182 |
| 19330.W2520 | 25 | M 8 | 20 | 8 | 227 |
| 19330.W2525 | 25 | M 8 | 25 | 8 | 272 |
| 19330.W2550 | 25 | M 8 | 50 | 8 | 500 |
| 19330.W2575 | 25 | M 8 | 75 | 8 | 727 |



19331

GAUGING & INSPECTION

Material

Carbon steel.

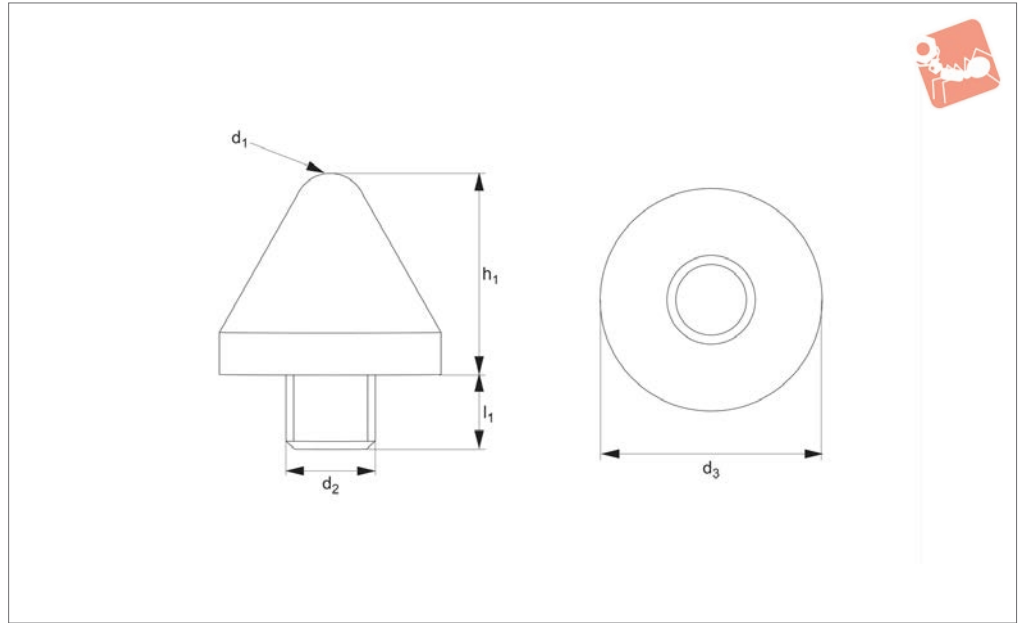
Important Notes

Provides point of rest and side stop for locating.

| Order No. | d ₁ | d ₂ | d ₃ | h ₁ | h ₂ | l ₁ | Weight g |
|-------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------|
| 19331.W1325 | 13 | M 8 | 3 | 25 | 6 | 6.4 | 91 |
| 19331.W1925 | 19 | M 8 | 3 | 25 | 6 | 6.4 | 136 |



19332



Material

Cone: thermoplastic.
Stud: steel.

Important Notes

For resting cylindrical or curved parts.
Thermoplastic, offers non-marring attri-

bute.

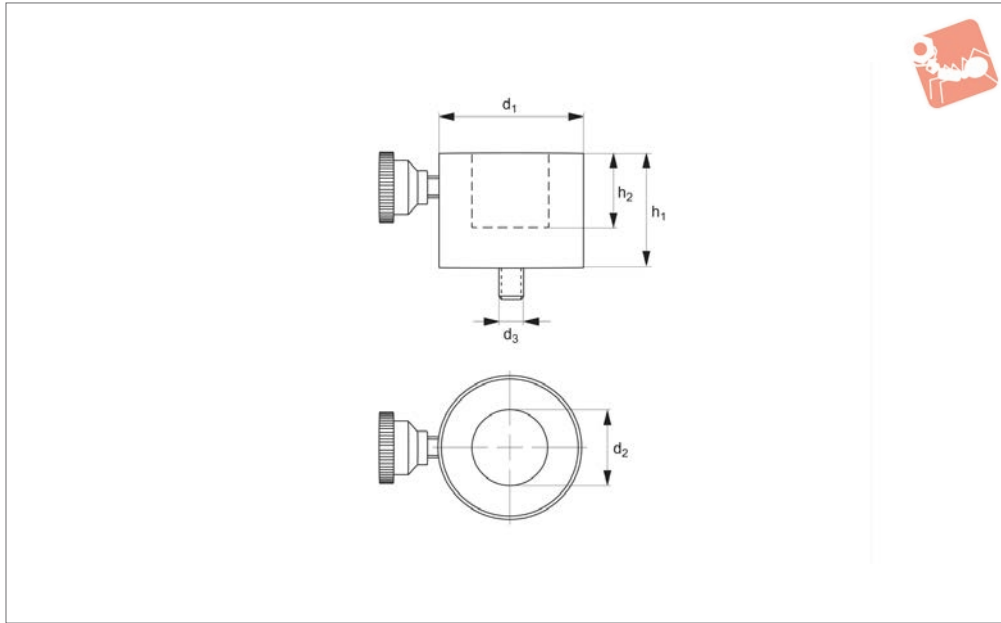
| Order No. | d_1 | d_2 | d_3 | h_1 | l_1 | Weight g |
|-------------|-------|-------|-------|-------|-------|----------|
| 19332.W1613 | 4 | M 8 | 16 | 13 | 6.4 | 114 |



CMM Fixturing Magnetic Stand off

M 8 threads

Gauging & Inspection



19333

GAUGING & INSPECTION

Material

Thermoplastic.

hold cylindrical parts. Use with magnetic vee, part 19338.

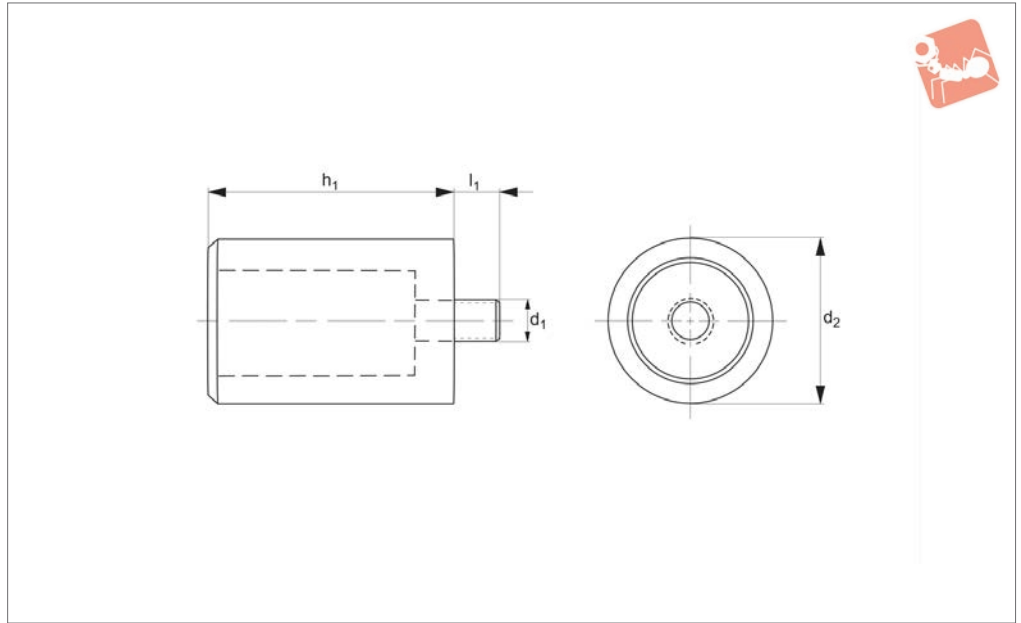
Important Notes

For aligning multiple magnetic vees to

| Order No. | d_1 | d_2 | d_3 | h_1 max. | h_2 stroke | Weight g |
|-------------|-------|-------|-------|---------------|--------------|-------------|
| 19333.W2832 | 28 | 13.5 | M 8 | 32 | 15.8 | 91 |
| 19333.W3532 | 35 | 19.5 | M 8 | 32 | 15.8 | 136 |
| 19333.W4132 | 41 | 25.4 | M 8 | 32 | 13.0 | 182 |



19336



GAUGING & INSPECTION

Material

AL NICO magnet in brass sleeve.

Important Notes

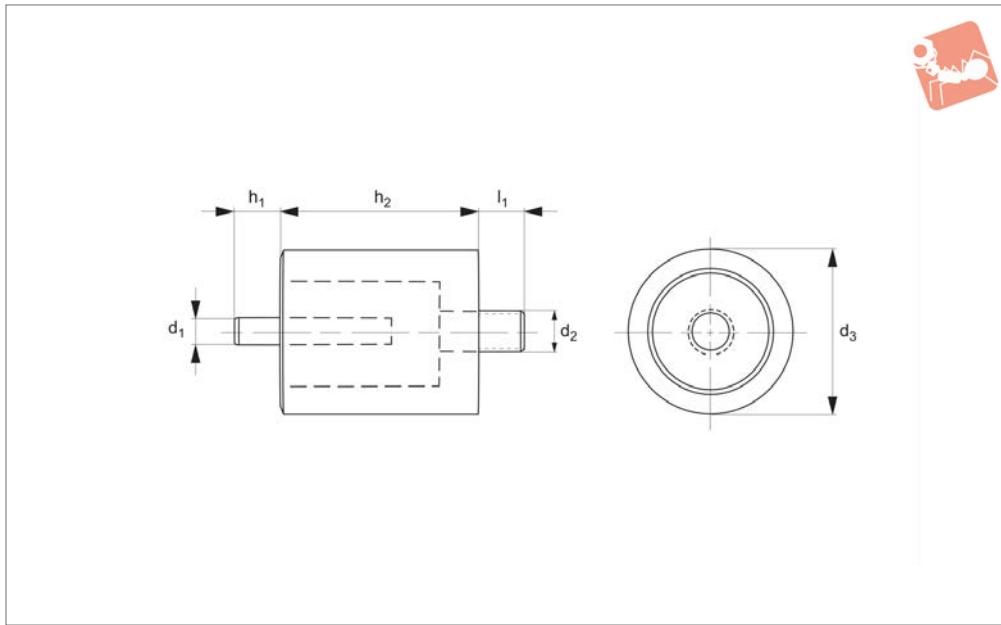
For fixturing steel or iron parts. Magnetic force holds parts during probing.

| Order No. | d_1 | d_2 | h_1 | l_1 | Weight g |
|-------------|-------|-------|-------|-------|-------------|
| 19336.W1325 | M 8 | 12.7 | 25 | 8 | 91 |
| 19336.W1925 | M 8 | 19.0 | 25 | 8 | 227 |
| 19336.W2525 | M 8 | 25.4 | 25 | 8 | 273 |



CMM Fixturing Magnetic Stand off with pin, for M 8 threads

Gauging & Inspection



19337

GAUGING & INSPECTION

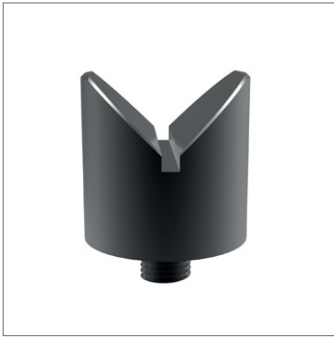
Material

AL NICO magnet in brass sleeve.

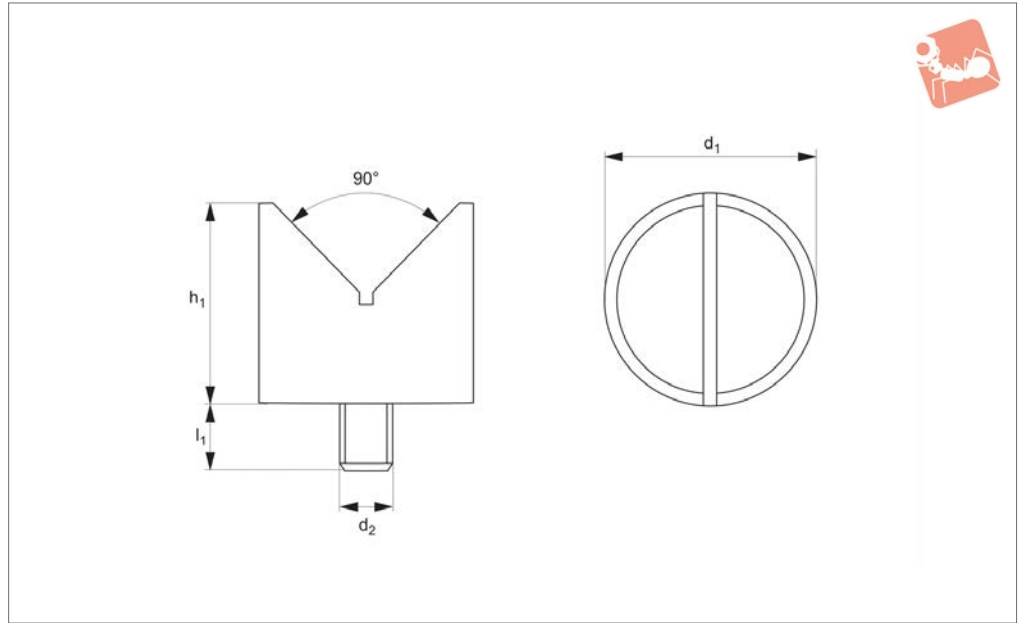
Important Notes

For fixturing steel or iron parts. Magnetic force holds parts during probing.

| Order No. | d ₁ | d ₂ | d ₃ | h ₁ | h ₂ | l ₁ |
|-------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 19337.W1325 | 3 | M 8 | 12.7 | 6 | 25 | 8 |
| 19337.W1925 | 3 | M 8 | 19.0 | 6 | 25 | 8 |
| 19337.W2525 | 3 | M 8 | 25.4 | 6 | 25 | 8 |



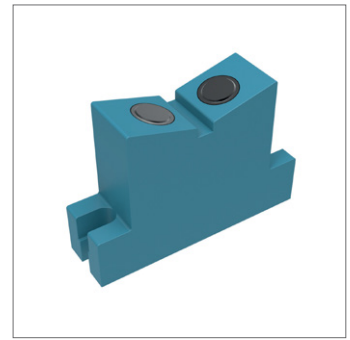
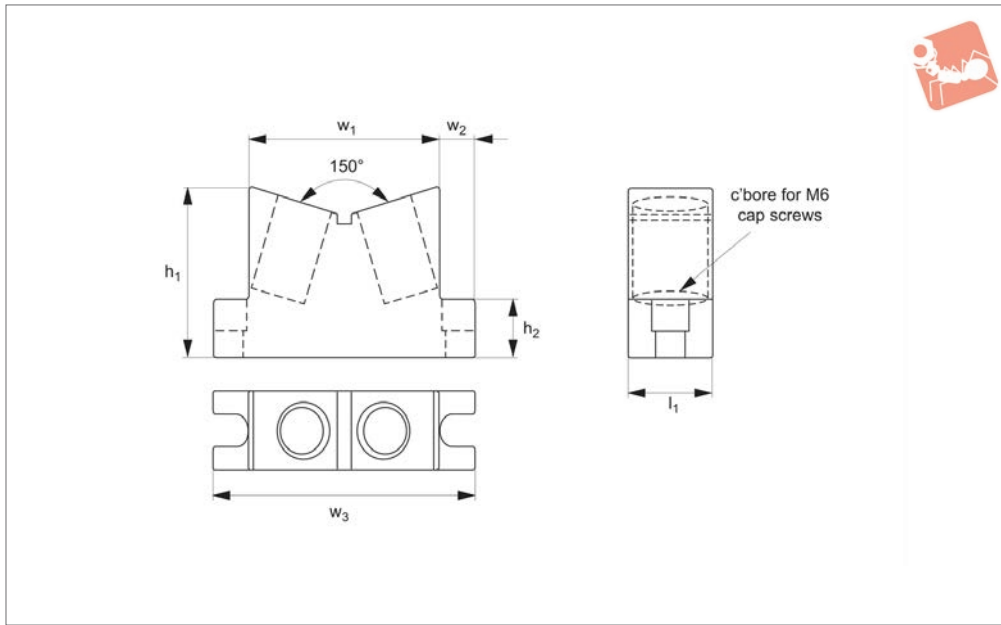
19338



Important Notes

For fixturing cylindrical steel or iron parts.
Magnetic force holds parts during probing.

| Order No. | d ₁ | d ₂ | h ₁ | l ₁ | Holding dia. | Weight g |
|-------------|----------------|----------------|----------------|----------------|--------------|----------|
| 19338.W1325 | 12.7 | M 8 | 25.4 | 6.4 | 3-16 | 68 |
| 19338.W2525 | 25.4 | M 8 | 25.4 | 6.4 | 3-40 | 182 |



19339

GAUGING & INSPECTION

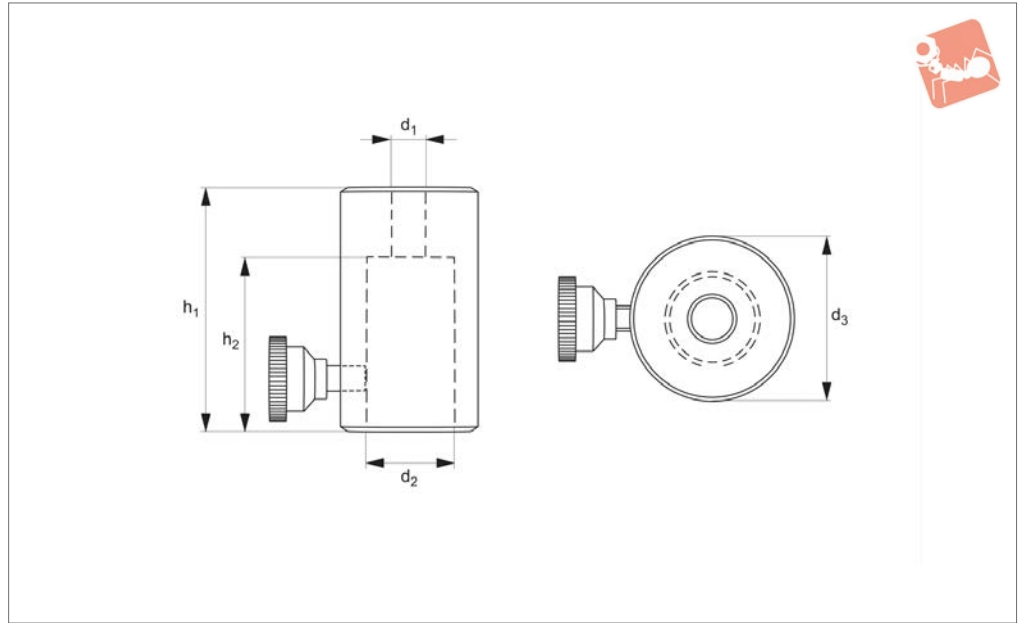
Important Notes

For holding large cylindrical steel or iron parts. Includes two cap screws to fasten to plate.

| Order No. | h_1 | h_2 | l_1 | w_1 | w_2 | w_3 | For holding dia. | Weight g |
|-------------|-------|-------|-------|-------|-------|-------|------------------|----------|
| 19339.W0050 | 42 | 22 | 25 | 63.4 | 14 | 92 | 50-160 | 454 |



19350



Material

Thermoplastic.

Important Notes

Slips over Ø12,7 standoffs. Knurled knob quickly tightens for height adjustment.

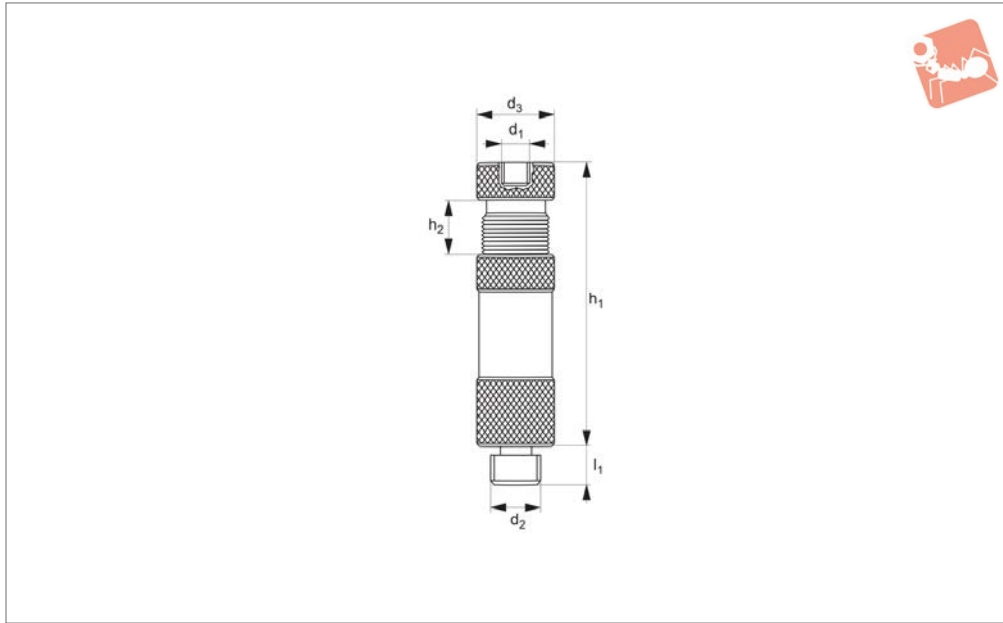
| Order No. | d ₁ | d ₂ | d ₃ | h ₁ | h ₂ | Weight g |
|-------------|----------------|----------------|----------------|----------------|----------------|----------|
| 19350.W0028 | M 8 | 12.7 | 28 | 50 | 38 | 70 |



CMM Fixturing Screws Jacks

M 8 threads

Gauging & Inspection



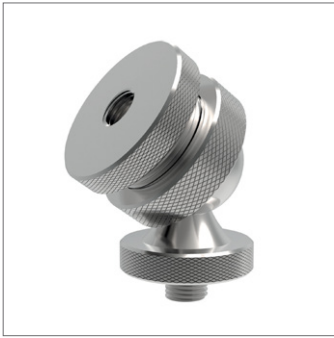
19352

GAUGING & INSPECTION

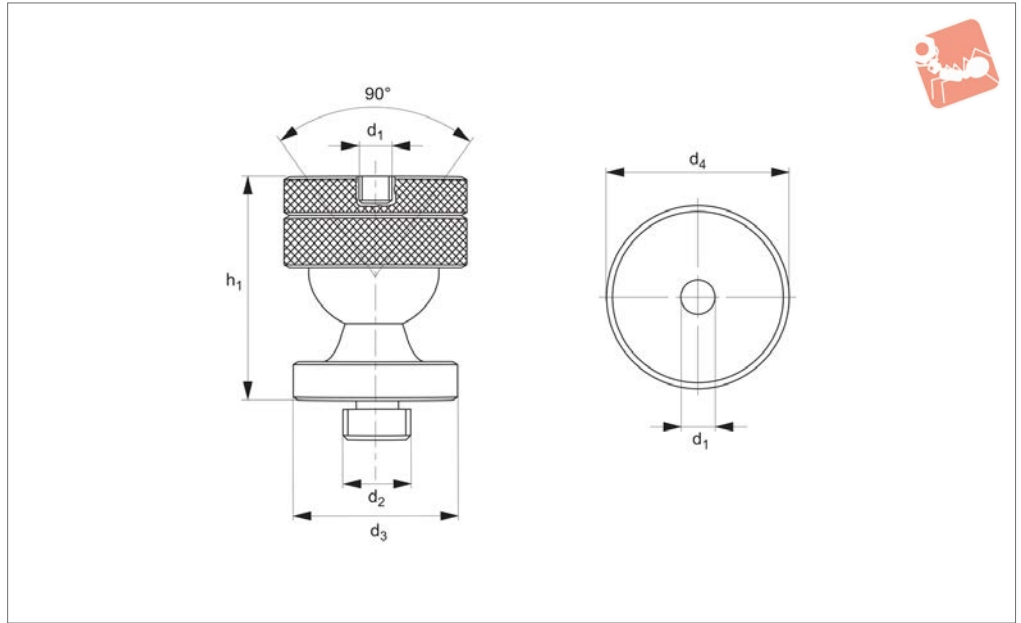
Material
Aluminium.

Important Notes
Allows for fine height adjustment during CMM probing.

| Order No. | d ₁ | d ₂ | d ₃ | h ₁ max. | h ₂ stroke | l ₁ | Weight g |
|-------------|----------------|----------------|----------------|------------------------|-----------------------|----------------|-------------|
| 19352.W1945 | M 8 | M 8 | 19 | 44.5 | 8 | 6.4 | 88 |



19354



GAUGING & INSPECTION

Material

Ball: steel.
All other components: aluminium 6160.

Technical Notes

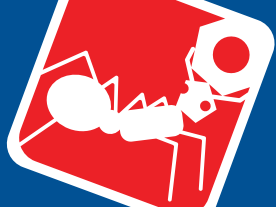
Pivots approximatively 45° from horizontal

in every direction.

Important Notes

For holding parts at an angle. Collar easily tightens on ball at variable angles.

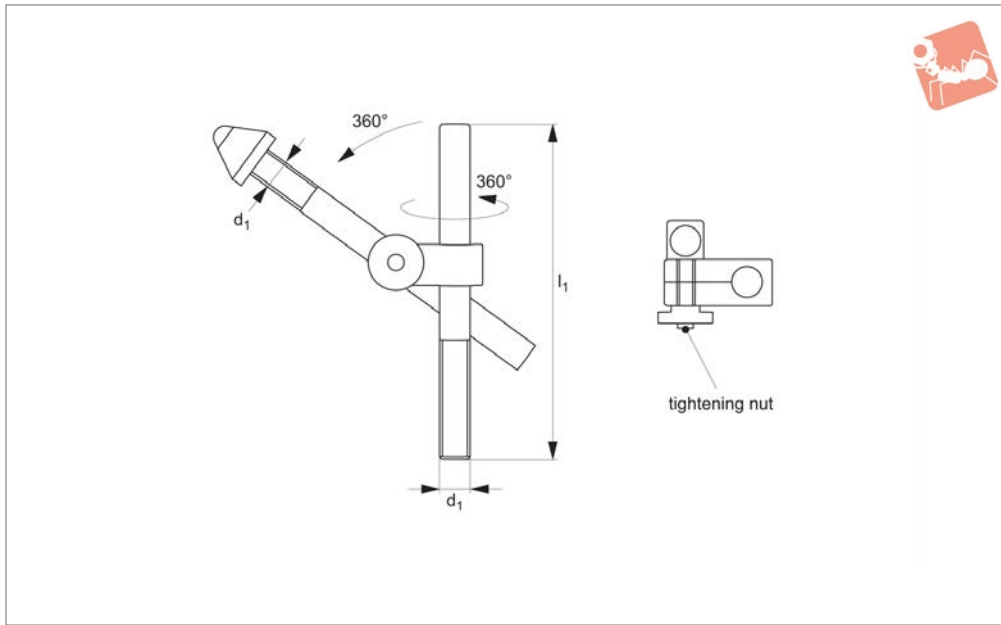
| Order No. | d ₁ | d ₂ | d ₃ | d ₄ | h ₁ | Weight g |
|-------------|----------------|----------------|----------------|----------------|----------------|----------|
| 19354.W2835 | M 8 | M 8 | 25 | 28.5 | 34 | 95 |



CMM Swivel Joint

M 8 threads

Gauging & Inspection



19358

GAUGING & INSPECTION

Technical Notes

Fully articulated adjustable stop, rotates in 360° in both horizontal, vertical plains. Fully XYZ adjustable.

Important Notes

Rotates from side-to-side and up and down. Arm extends and retracts. Rotating arm features thermoplastic cone for posi-

tioning a part without marring its surface.

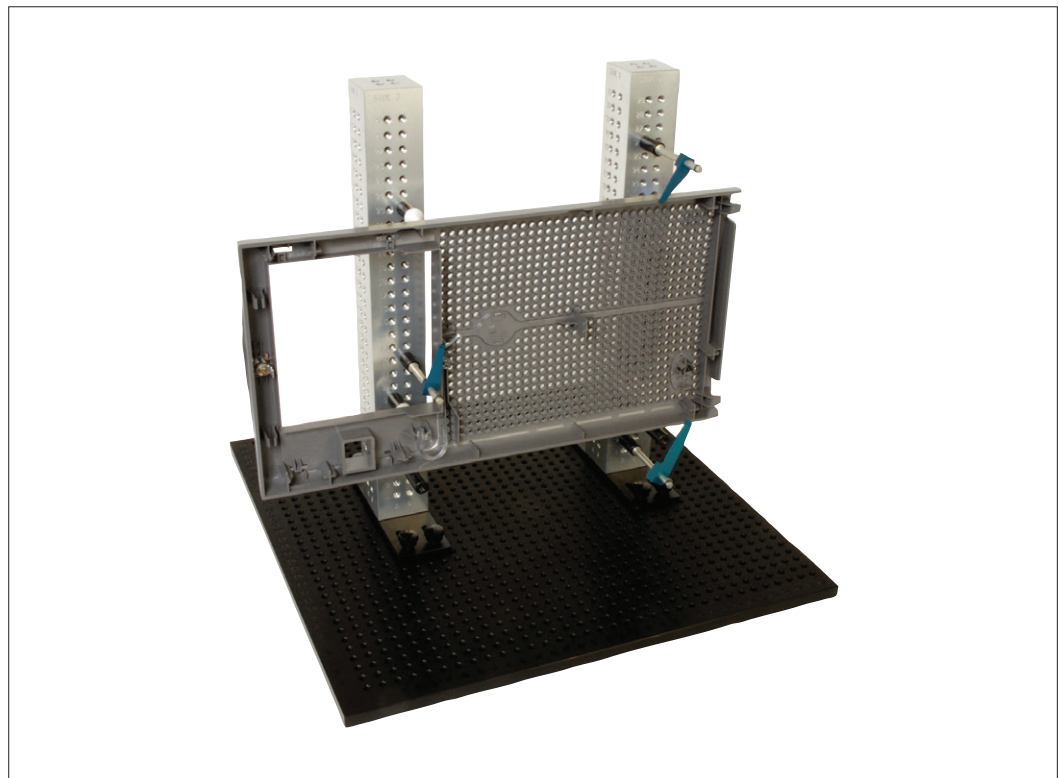
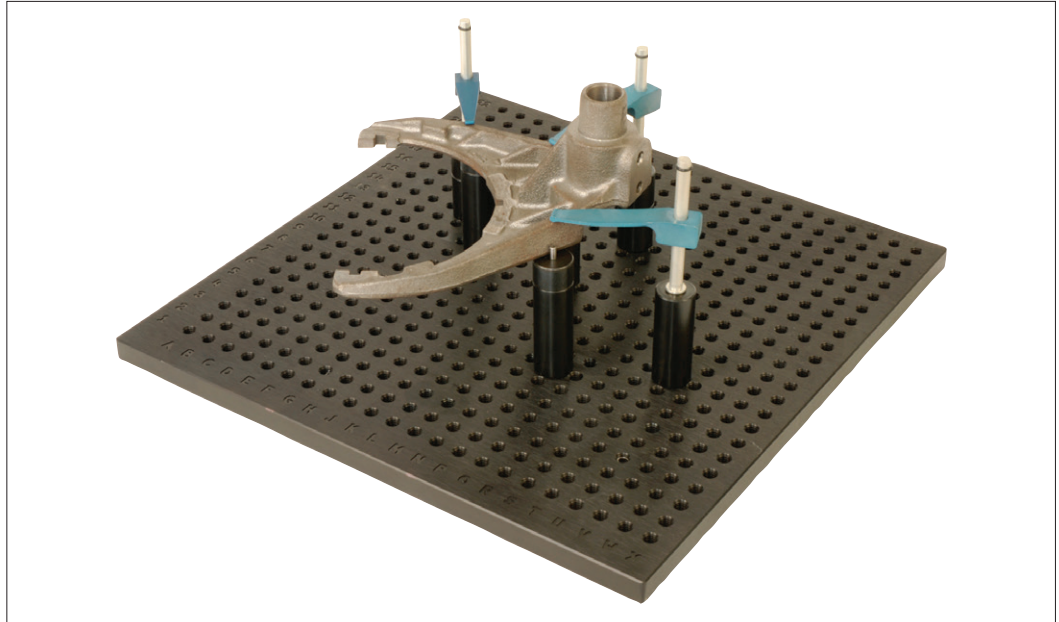
| Order No. | d ₁ | l ₁ | Weight g |
|-------------|----------------|----------------|-------------|
| 19358.W0008 | M 8 | 100 | 134 |



Wixroyd's CMM fixturing system is designed for easy assembly and high repeatability, eliminating the need to build dedicated fixtures. The system offers a highly accurate and flexible solution of holding parts while probing on CMMs.

Flexible

A variety of component parts as well as complete kits are available; to enable setup of fixtures in minutes.

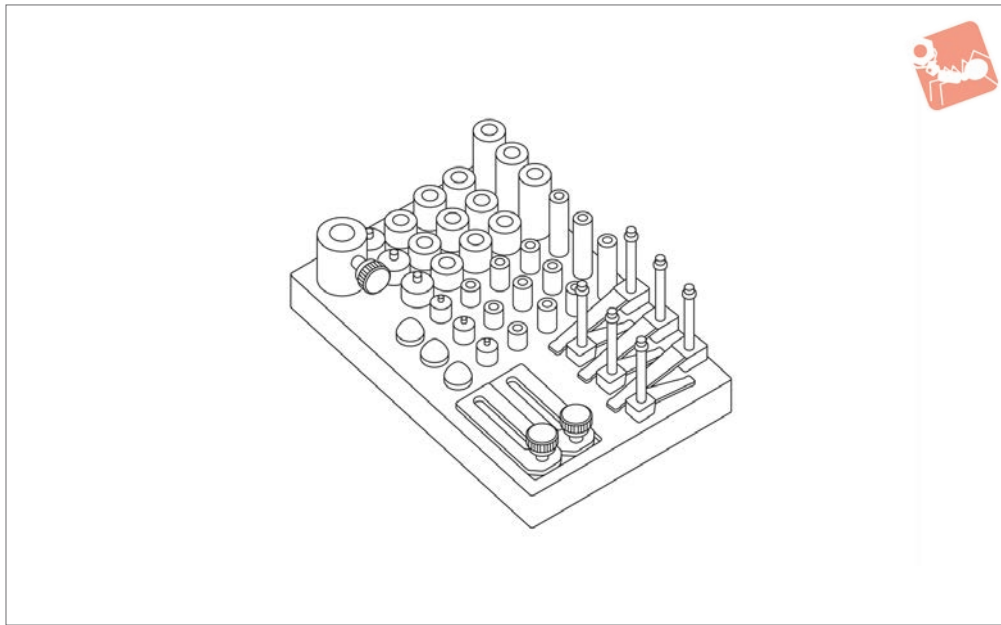


- Aluminium base plates – hole based system with alpha-numeric labelling for easy set-up and recording of fixture positions.
- Fixture towers – ideal for fixturing of large vertical components.
- Soft-touch clamps – non-marking clamps providing the ideal force for holding parts during CMM probing.
- Locating components – rest pads, vee pads for cylindrical parts, pin rests etc.



Basic CMM Fixturing Set for M 8 threads

Gauging & Inspection



19310

GAUGING & INSPECTION

Technical Notes

Designed for clamping non-magnetic parts on CMM tables.

Important Notes

M 8 coarse thread. Basic set of workholding

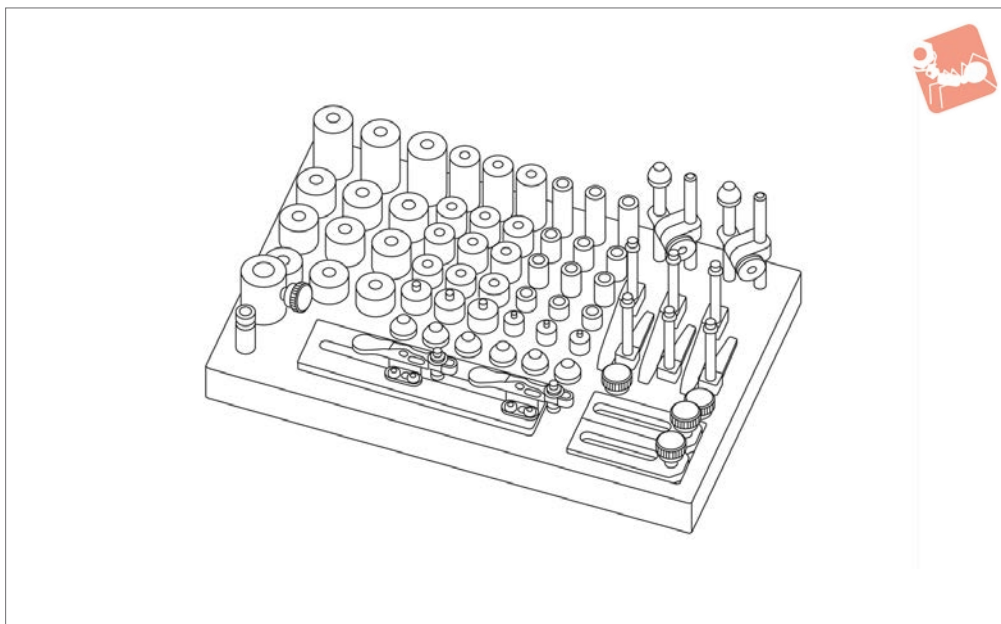
components for fixturing of components on CMMs. Components are of lightweight materials: aluminium, plastic etc. to avoid damage to components. Supplied on wooden holder for easy and tidy storage.

For CMM fixturing plates and towers see 19300 and 19302.

| Order No. | Soft touch clamp 19320 | CMM fixturing stand-off 19330 | | CMM fixturing stand-off with pin 19331 | CMM fixturing positioning cone 19332 | CMM fixturing adj. positioner 19354 | CMM fixturing stand-off adjustable 19350 | Weight g |
|--------------------|--------------------------------|---|---|---|---|--|---|----------|
| 19310.W0008 | .W0008 x 3pcs .W0012 x 3pcs | .W1320 x 3pcs .W1350 x 3pcs .W1925 x 6pcs | .W1325 x 6pcs .W1920 x 3pcs .W1950 x 3pcs | .W1325 x 3pcs .W1925 x 3pcs | .W001613 x 3pcs | .W2835 x 2pcs | .W0028 x 1pc | 2800 |



19312



Technical Notes

M8 coarse thread. Comprehensive set of workholding components for fixturing

components on CMMs. Components are of lightweight materials; aluminium, plastic etc. to avoid damage of workpieces. Supp-

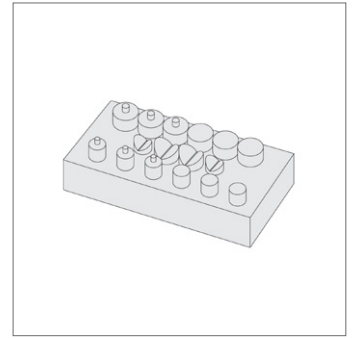
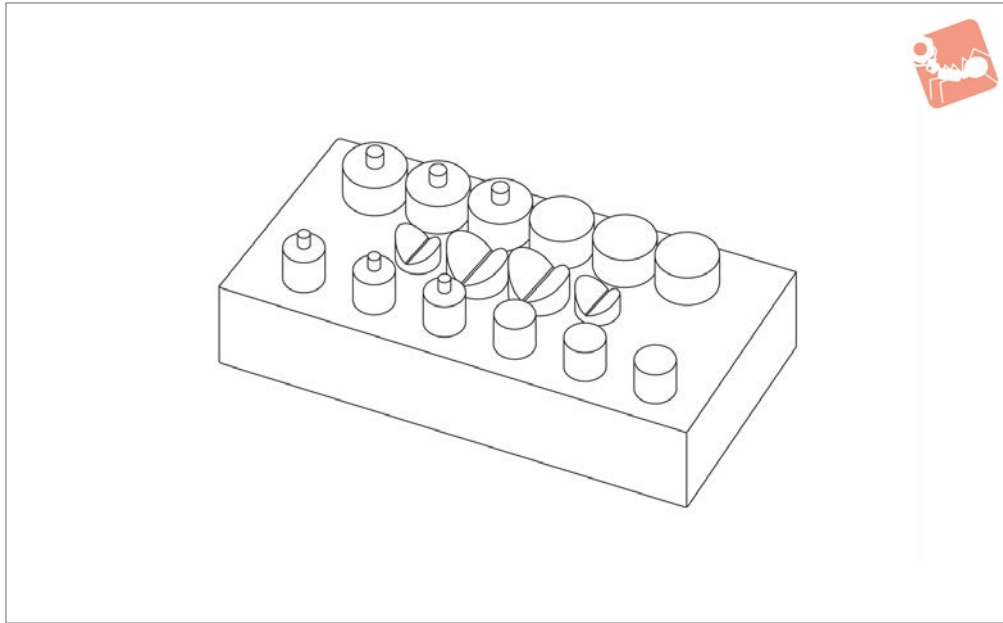
plied on a wooden holder for easy and tidy storage. For CMM fixturing plates and towers see parts 19300 and 19302.

| Order No. | Soft touch clamp 19320 | CMM fixturing stand-off 19330 | | | Toggle clamp 19322 | Weight g |
|--------------------|---|---|--|---|---------------------------------------|--|
| 19312.W0008 | .W0008 x 3pcs .W0012 x 3pcs | .W1320 x 3pcs .W1325 x 6pcs .W1350 x 3pcs .W1920 x 3pcs .W1925 x 6pcs .W1950 x 3pcs .W2520 x 3pcs .W2525 x 6pcs .W2550 x 3pcs | | | .W0075 x 2pcs | 4600 |
| Order No. | CMM fixturing stand-off with pin 19331 | CMM fixturing positioning cone 19332 | CMM fixturing adj. positioner 19354 | CMM fixturing stand-off adjustable 19350 | CMM fixturing screw jack 19352 | CMM fixturing adjustable stop 19358 |
| 19312.W0008 | .W1325 x 3pcs .W1925 x 3pcs | .W001613 x 3pcs | .W2835 x 2pcs | .W0028 x 1pc | .W1945 x 1pc | .W0008 x 2pcs |



CMM Fixturing Magnetic Stand-off Set for M 8 threads

Gauging & Inspection



19314

GAUGING & INSPECTION

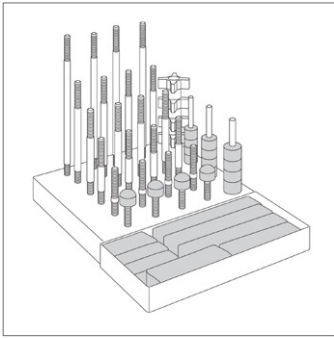
Material

Magnets in brass sleeves, in wooden holder.

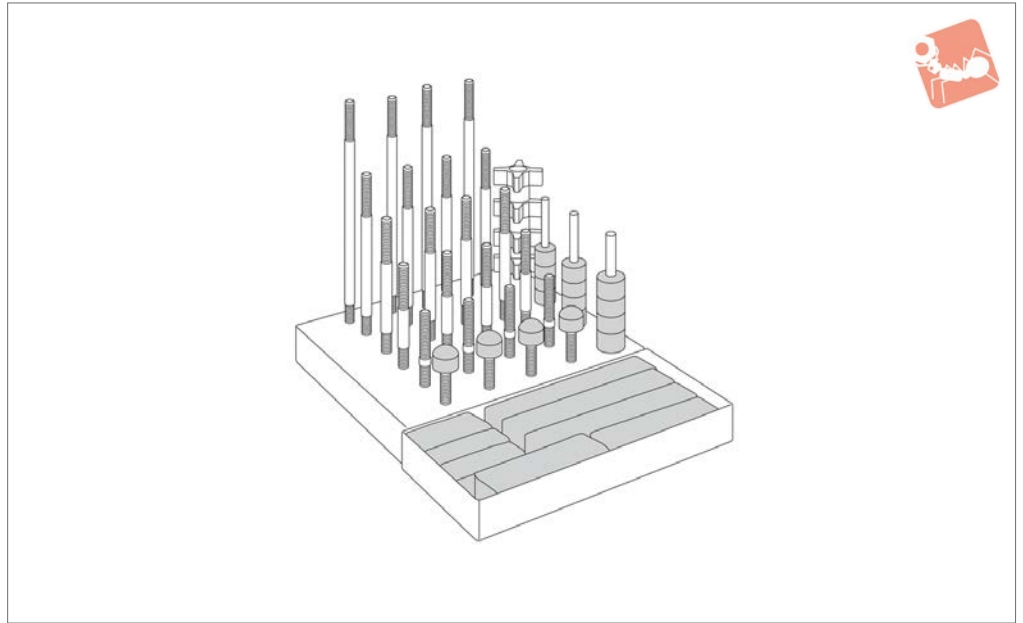
Tips

Use with steel and iron components.

| Order No. | CMM fixturing magnetic rest buttons 19336 | CMM fixturing magnetic stand-off with pin 19337 | CMM fixturing magnetic vee stand-off 19338 |
|--------------------|---|---|--|
| 19314.W0008 | .W1325 x 3pcs .W1925 x 3pcs | .W1325 x 3pcs .W1925 x 3pcs | .W1325 x 2pcs .W2525 x 2pcs |



19370



Material

Clamps, rest feet: nylon 101.
 Studs, coupling nuts and washers: steel.
 Supplied in metal tray for improved organi-

sation.

Tips

Lightweight components reduce risk of

damage to the CMM table.

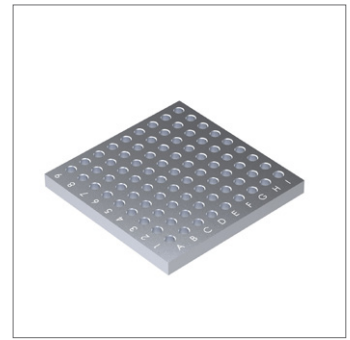
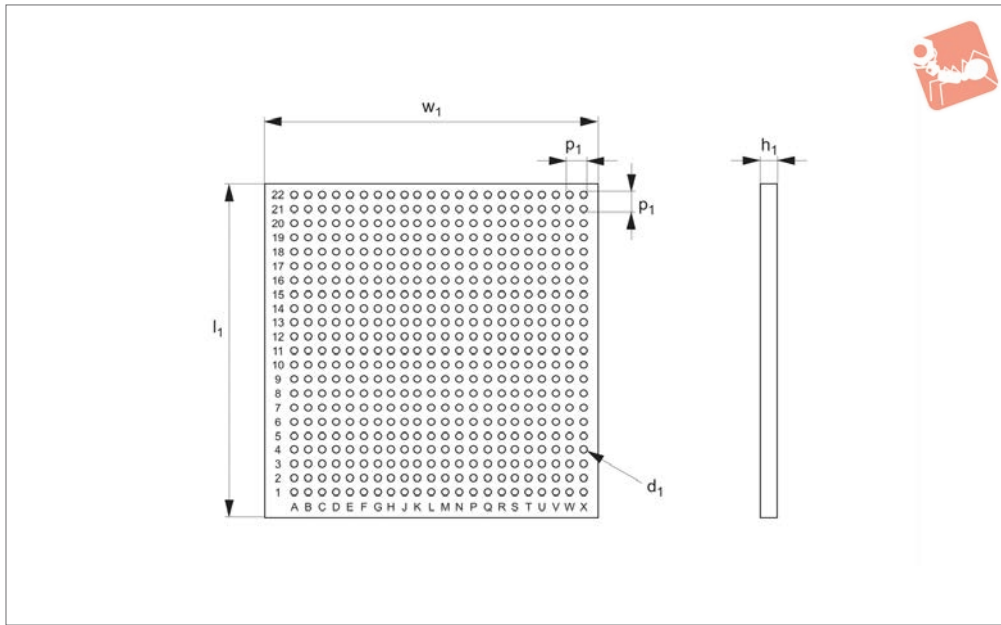
| Order No. | Thread size | Studs | Nylon clamps | Extension nuts | Nylon star knob | Support feet | Nylon washers | Weight g |
|--------------------|-------------|--------------|---|----------------|-----------------|--------------|----------------|----------|
| 19370.W0008 | M 8 | 50mm x 4pcs | 63mm x 4pcs 90mm x 4pcs 115mm x 4pcs | M 8 x 4pcs | M 8 x 4pcs | M 8 x 4pcs | for M 8 x 8pcs | 2495 |
| | | 75mm x 4pcs | | | | | | |
| | | 100mm x 4pcs | | | | | | |
| | | 125mm x 4pcs | | | | | | |
| | | 150mm x 4pcs | | | | | | |
| 19370.W0010 | M10 | 50mm x 4pcs | 63mm x 4pcs 100mm x 4pcs 150mm x 4pcs | M10 x 4pcs | M10 x 4pcs | M10 x 4pcs | for M10 x 8pcs | 2857 |
| | | 75mm x 4pcs | | | | | | |
| | | 100mm x 4pcs | | | | | | |
| | | 125mm x 4pcs | | | | | | |
| | | 150mm x 4pcs | | | | | | |
| 19370.W0012 | M12 | 50mm x 4pcs | 63mm x 4pcs 100mm x 4pcs 150mm x 4pcs | M12 x 4pcs | M12 x 4pcs | M12 x 4pcs | for M12 x 8pcs | 4991 |
| | | 75mm x 4pcs | | | | | | |
| | | 100mm x 4pcs | | | | | | |
| | | 125mm x 4pcs | | | | | | |
| | | 150mm x 4pcs | | | | | | |



Fixture Plates for CMMs

M 8 threads

Gauging & Inspection



19300

GAUGING & INSPECTION

Material

Aluminium, hard anodized (black).

Technical Notes

CMM fixture plates can be mounted to the

surface plate of your CMM by using step blocks and clamps or by drilling mounting holes into the plate which correspond to the inserts on your surface plate.

Tips

Soft touch clamps 19320 are perfect for clamping in CMM fixturing applications.

| Order No. | l_1 | d_1 | w_1 | p_1 | h_1 |
|-------------|-------|-------|-------|-------|-------|
| 19300.W3030 | 300 | M 8 | 300 | 15 | 13 |
| 19300.W4545 | 450 | M 8 | 450 | 15 | 13 |
| 19300.W6060 | 600 | M 8 | 600 | 15 | 19 |