

# Universal datum sphere

**The Renishaw universal datum sphere enhances the performance of manual and fully automated co-ordinate measuring machines.**

Hard wearing tungsten carbide sphere (ball) available in five sizes:

- Metric  $\varnothing 12$  mm,  $\varnothing 19$  mm and  $\varnothing 25$  mm
- Inch  $\varnothing 3/4$  in and  $\varnothing 1$  in
- Sphericity  
 Grade 5  $\leq 0.13 \mu\text{m}$  (0.000 005 in)  
 Grade 3  $\leq 0.08 \mu\text{m}$  (0.000 003 in)
- Diametric tolerance  $\pm 1 \mu\text{m}$  (0.000 04 in)

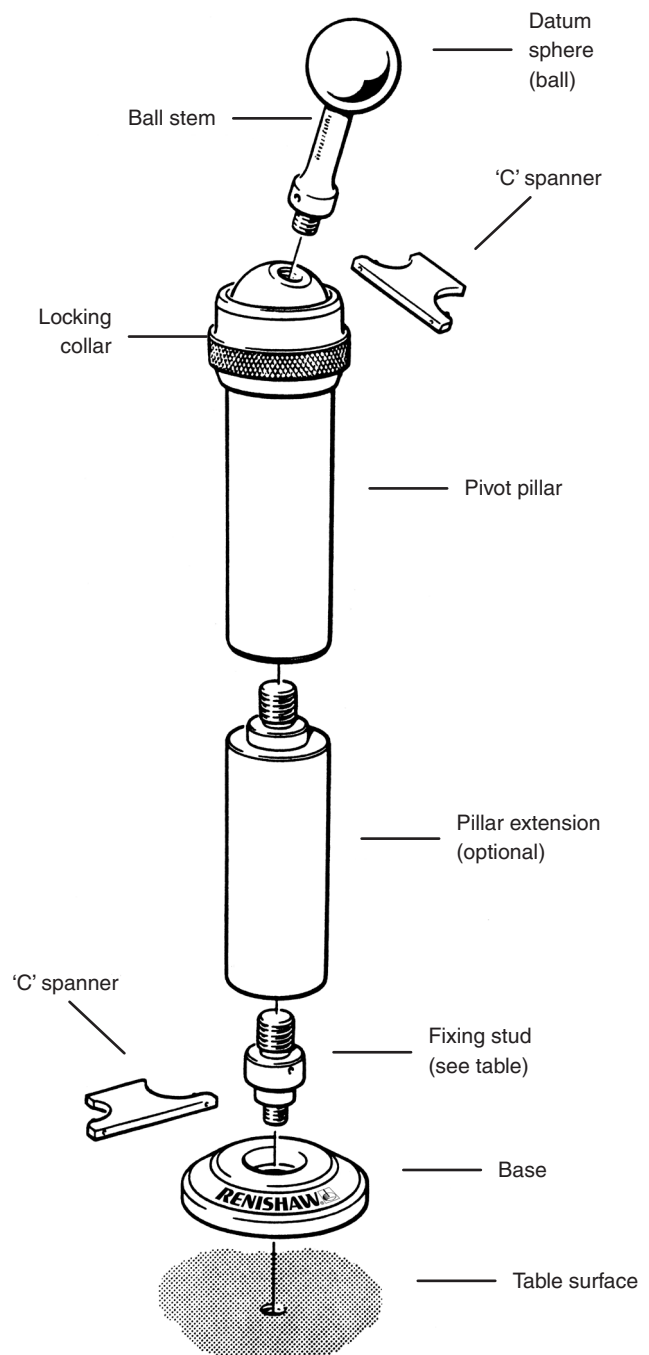
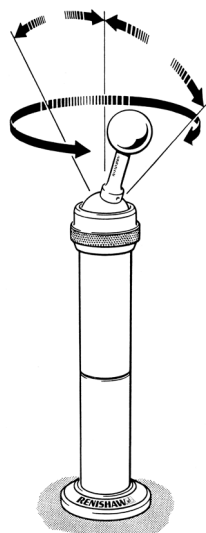
Adaptor available for twin ball and tri-ball applications (optional).

Quick and easy adjustment to set ball stem over a wide range of probe datuming angles. This enables datuming above, centrally and below the ball. The hand adjustable pivot joint enables stem rotation through  $360^\circ$  in the horizontal plane, and  $\pm 45^\circ$  in the vertical plane.

Each datum sphere is supplied with its own certificate, traceable to UK (NPL) standards, giving ball diameter and sphericity.

A vertical positioning feature provides positive feel when the stem arrives in vertical position.

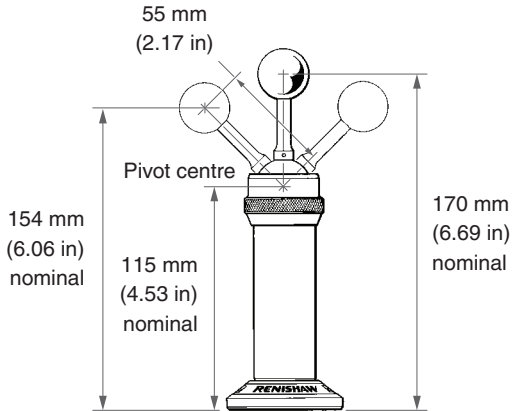
Vertical height from table to centre of all standard ball sizes is approximately 170 mm (6.69 in). An optional pillar extension increases height to 245 mm (9.65 in).



**NOTE:** Please quote the part number when ordering equipment.

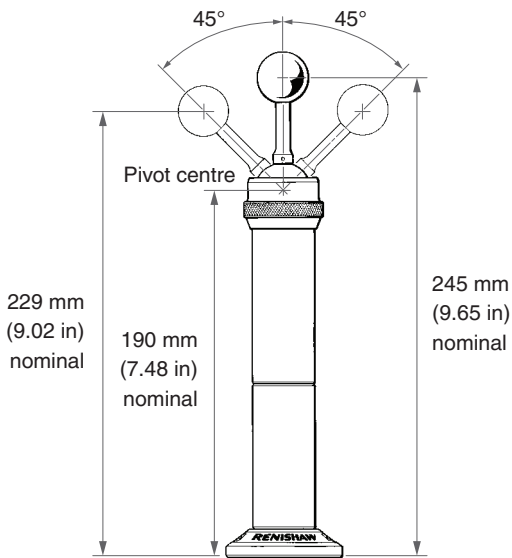
### Mounting the universal datum sphere on the CMM

1. Position the base of the datum sphere over a tapped hole on the CMM table.
2. Pass the fixing stud through the base centre hole and screw firmly into the CMM table, using the 'C' spanner.
3. Screw the pivot pillar assembly firmly onto stud / base.
4. Finally screw the datum sphere into the pivot ball at the top of the pillar, and tighten with the 'C' spanner.



### Positioning the sphere

1. Slacken off the locking collar and move to the required position by gripping the ball stem.
2. Hold the ball in position and tighten the locking collar firmly by hand, taking care not to overtighten.



### Universal datum sphere kit

Comprising:

- One datum ball (selected by size)
- Pivot pillar
- Base
- 'C' spanner
- Ball certificate
- Storage box

Datum sphere kit	Part number (Grade 5)	Part number (Grade 3)
Ø12 mm datum ball	A-1034-0028	A-1034-0361
Ø19 mm datum ball	A-1034-0027	A-1034-0360
Ø25 mm datum ball	A-1034-0026	A-1034-0359
Ø3/4 in datum ball	A-1034-0031	A-1034-0363
Ø1 in datum ball	A-1034-0035	A-1034-0362

### Fixing stud

A fixing stud is required with each kit.


Thread size	Part number
M6 × 1	A-1034-0352
M8 × 1.25	A-1034-0351
M10 × 1.5	A-1034-0350
5/16 in UNC	A-1034-0354
3/8 in UNC	A-1034-0353

### Optional extras

Part	Part number
Ø12 mm datum ball	A-1034-0005
Ø19 mm datum ball	A-1034-0023
Ø25 mm datum ball	A-1034-0002
Ø3/4 in datum ball	A-1034-0032
Ø1 in datum ball	A-1034-0036
2 way adaptor	A-1034-0356
3 way adaptor	A-1034-0357
Pillar extension 75 mm (2.95 in) long	A-1034-0355

[www.renishaw.com](http://www.renishaw.com)

 #renishaw

+44 (0) 1453 524524  [uk@renishaw.com](mailto:uk@renishaw.com)

© 1991–2024 Renishaw plc. All rights reserved. This document may not be copied or reproduced in whole or in part, or transferred to any other media or language by any means, without the prior written permission of Renishaw. RENISHAW® and the probe symbol are registered trade marks of Renishaw plc. Renishaw product names, designations and the mark 'apply innovation' are trade marks of Renishaw plc or its subsidiaries. Other brand, product or company names are trade marks of their respective owners.

WHILE CONSIDERABLE EFFORT WAS MADE TO VERIFY THE ACCURACY OF THIS DOCUMENT AT PUBLICATION, ALL WARRANTIES, CONDITIONS, REPRESENTATIONS AND LIABILITY, HOWSOEVER ARISING, ARE EXCLUDED TO THE EXTENT PERMITTED BY LAW. RENISHAW RESERVES THE RIGHT TO MAKE CHANGES TO THIS DOCUMENT AND TO THE EQUIPMENT, AND/OR SOFTWARE AND THE SPECIFICATION DESCRIBED HEREIN WITHOUT OBLIGATION TO PROVIDE NOTICE OF SUCH CHANGES. Renishaw plc. Registered in England and Wales. Company no: 1106260. Registered office: New Mills, Wotton-under-Edge, Glos, GL12 8JR, UK.

Part no.: H-1000-2250-05-A  
Issued: 02.2024