

## Probing systems for co-ordinate measuring machines

### TP20 / TP20 NI modular probes

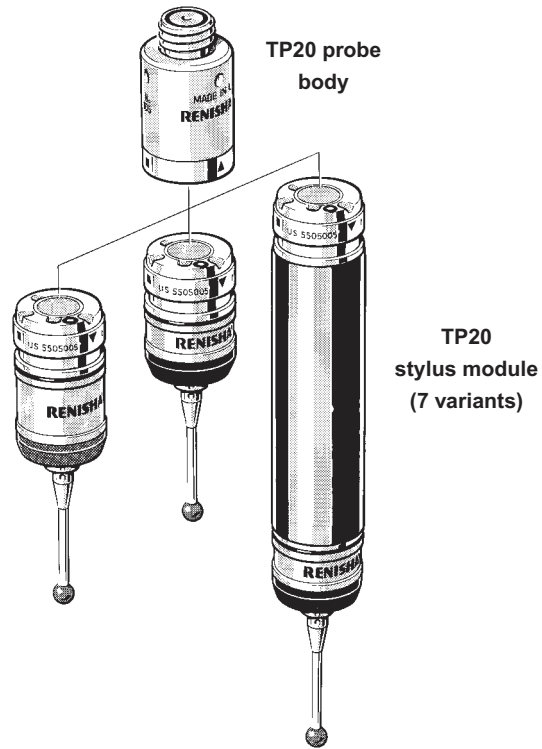
The TP20 is a 5-way or 6-way kinematic touch-trigger probe. Its two piece design comprises a probe body and detachable stylus module(s), which gives the ability to change stylus configurations either manually or automatically without re-qualification of the stylus tips, providing significant time savings in inspection routines.

A direct replacement for the industry standard Renishaw TP2 probe, the TP20 probe system brings a range of new benefits to manual and DCC CMM applications, and can easily be retrofitted to existing TP2 installations.

The TP20 can be used on a wide range of Renishaw's manual or motorised probe heads, either by direct mounting using the standard M8 thread or, alternatively, by using a PAA# adaptor to connect to an autojoint.

The system components are:

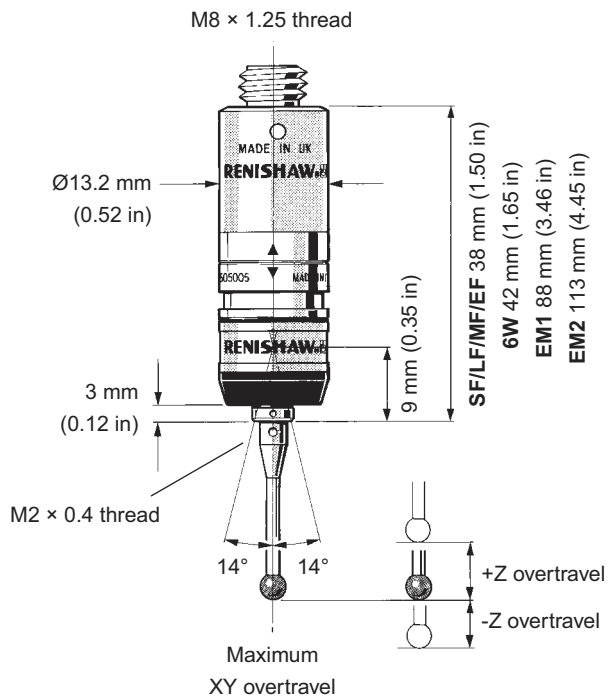
- TP20/TP20 NI probe body
- TP20 stylus module – seven module variants allow for optimisation of performance to suit the application
- MCR20 module changing rack – automatic operation
- The TP20 probe system may be used with Renishaw's PI 4-2, PI 7-2 or PI 200 probe interfaces (see section 9)



#### TP20 probe body

The TP20 probe body houses one half of the highly repeatable magnetic kinematic coupling that attaches the stylus module and body. The body also contains a magnetic proximity switch to inhibit triggering of the probe during automatic module changing with MCR20.

**NOTE:** If the probe is operated close to magnetised parts/clamping etc, the probe trigger may become inhibited. Countermeasures include the use of long styli, stylus extensions or body orientation to increase the distance to the magnetic source. Alternatively, use the TP20 NI probe body.



#### TP20 NI probe body

The TP20 NI probe differs from the TP20 body in that it is not affected by magnetic fields. However the probe trigger must be inhibited through software during change cycles using the MCR20.

|            | +Z overtravel    | -Z overtravel       |
|------------|------------------|---------------------|
| SF/EM1/EM2 | 4 mm (0.16 in)   | 6W 1.5 mm (0.06 in) |
| LF         | 3.1 mm (0.12 in) |                     |
| MF         | 3.7 mm (0.15 in) |                     |
| EF         | 2.4 mm (0.09 in) |                     |
| 6W         | 4.5 mm (0.18 in) |                     |