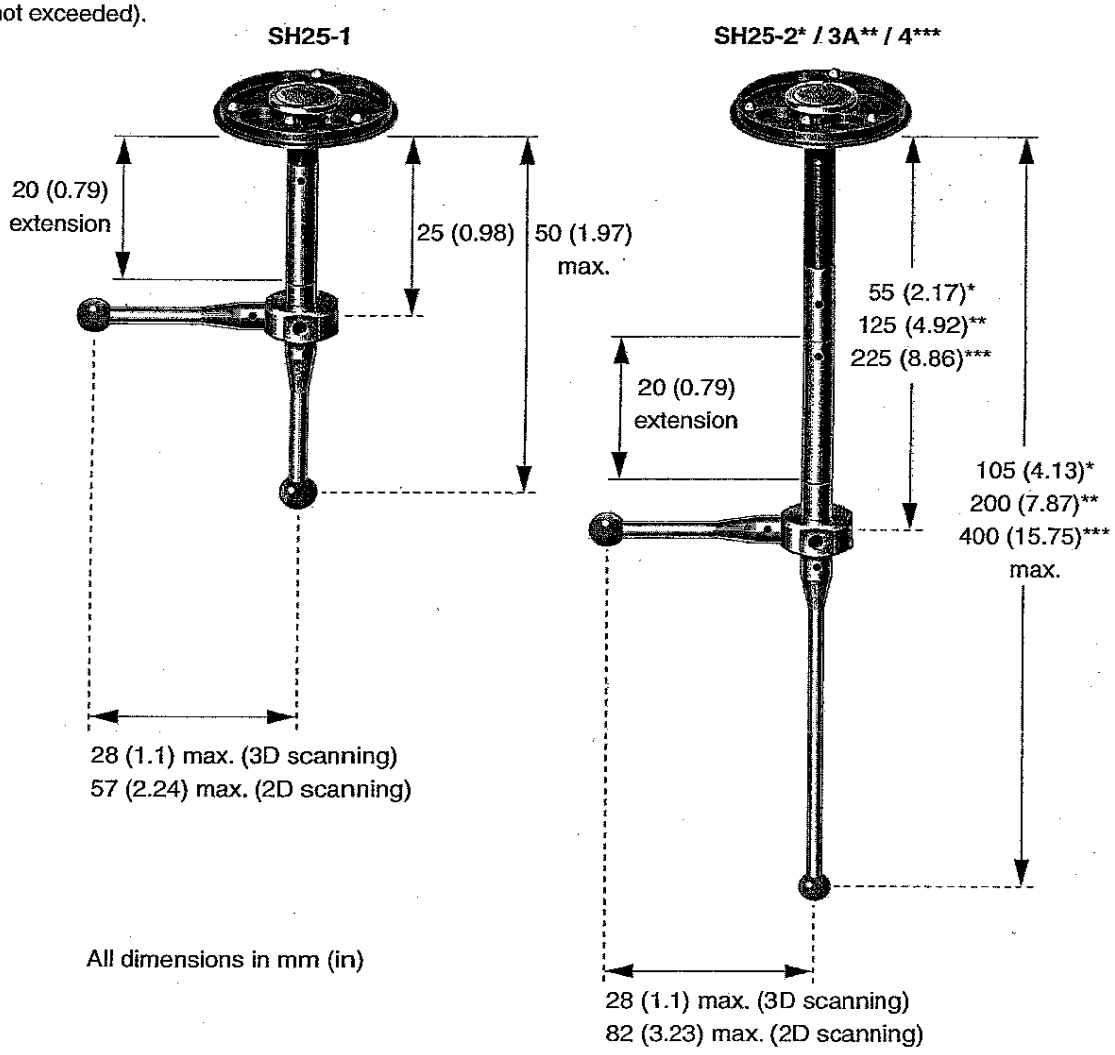
Page 2

5.3 Using cranked (star) styli

The SP25M can carry cranked (star) styli configurations only when using SM25-1, SM25-2, SM25-3 and SM25-4 scanning modules.

It is mandatory that a 20 mm long (M3) extension be used between the stylus holder and the crank centre to give the correct 'crank down' distance from the stylus holder to the crank centre. Then, if desired, a straight 'down' stylus can be added to the crank centre to continue the projection 'down' from the stylus holder (providing always that the maximum overall stylus length, as applicable to the relevant module, is not exceeded).



The maximum 'crank out' distance is 28 mm and is measured from the cranked (star) stylus tip to the centre of crank centre. The figure above illustrates the maximum crank styli dimensions.

Multiple crank styli may be used, providing the recommended overall mass of the crank centre together with its cranked styli is not exceeded (see table 5).

Please refer to Renishaw's styli catalogue for full details of crank and star stylus configurations that are possible. It is recommended that a 'one piece' star stylus be used wherever possible to help minimise mass. However, greater flexibility is possible by configuring a crank centre together with one or more cranked styli.

page 3

Table 5 - SP25M – cranked (star) stylus carrying capability				
Module/Stylus holder	SM25-1/ SH25-1	SM25-2/ SH25-2	SM25-3/ SH25-3A	SM25-4/ SH25-4
Mandatory 'crank down' distance by using a 20 mm long extension* between the stylus holder and the crank (disc) centre.	25 mm (0.98 in)	55 mm (2.17 in)	125 mm (4.92 in)	225 mm (8.86 in)
3D Scanning Maximum 'crank out' distance when measured to tip of crank (star) stylus	28 mm (1.1 in)	28 mm (1.1 in)	28 mm (1.1 in)	28 mm (1.1 in)
2D Scanning and Point Taking Maximum 'crank out' distance when measured to tip of crank (star) stylus	57 mm (2.24 in)	82 mm (3.23 in)	82 mm (3.23 in)	82 mm (3.23 in)
Maximum 'down' stylus (same as 'effective stylus reach' - see straight styli above	50 mm (1.97 in)	105 mm (4.13 in)	200 mm (7.87 in)	400 mm (15.75 in)
Maximum permissible mass of crank (star) centre plus all styli	9 g **	6 g **	11 g **	10 g **
Max operating stylus tip deflection for above in any orientation	0.4 mm (0.02 in)	0.4 mm (0.02 in)	0.4 mm (0.02 in)	0.4 mm (0.02 in)
* For example, use part number M-5000-3592 (20 mm (0.79 in) long × M3 stainless steel extension)				
** This excludes the mass of the mandatory 20 mm (0.79 in) extension				

5.4 Using disc styli

The SP25M can carry disc styli using the full range of modules SM25-1/2/3/4. It is mandatory that a 20 mm (0.79 in) long (M3) extension be used between the stylus holder and the disc stylus. The disc stylus carrying capability is shown in the table below.

Table 6 - SP25M - disc stylus carrying capability					
Module/Stylus holder	SM25-1/ SH25-1	SM25-2/ SH25-2	SM25-3/ SH25-3	SM25-3/ SH25-3A	SM25-4/ SH25-4
Effective stylus reach (by using a 20 mm long extension* between the stylus holder and the disc)	20 mm (0.79 in)	50 mm (1.97 in)	120 mm (4.72 in)	120 mm (4.72 in)	220 mm (8.66 in)
Maximum permissible disc stylus mass	9 g **	6 g **	12 g **	11 g **	10 g **
Maximum operating stylus tip deflection for above in any orientation	0.4 mm (0.02 in)	0.4 mm (0.02 in)	0.4 mm (0.02 in)	0.4 mm (0.02 in)	0.4 mm (0.02 in)
* For example, use part number M-5000-3592 (20 mm (0.79 in) long × M3 stainless steel extension)					
** This excludes the mass of the mandatory 20 mm (0.79 in) extension					