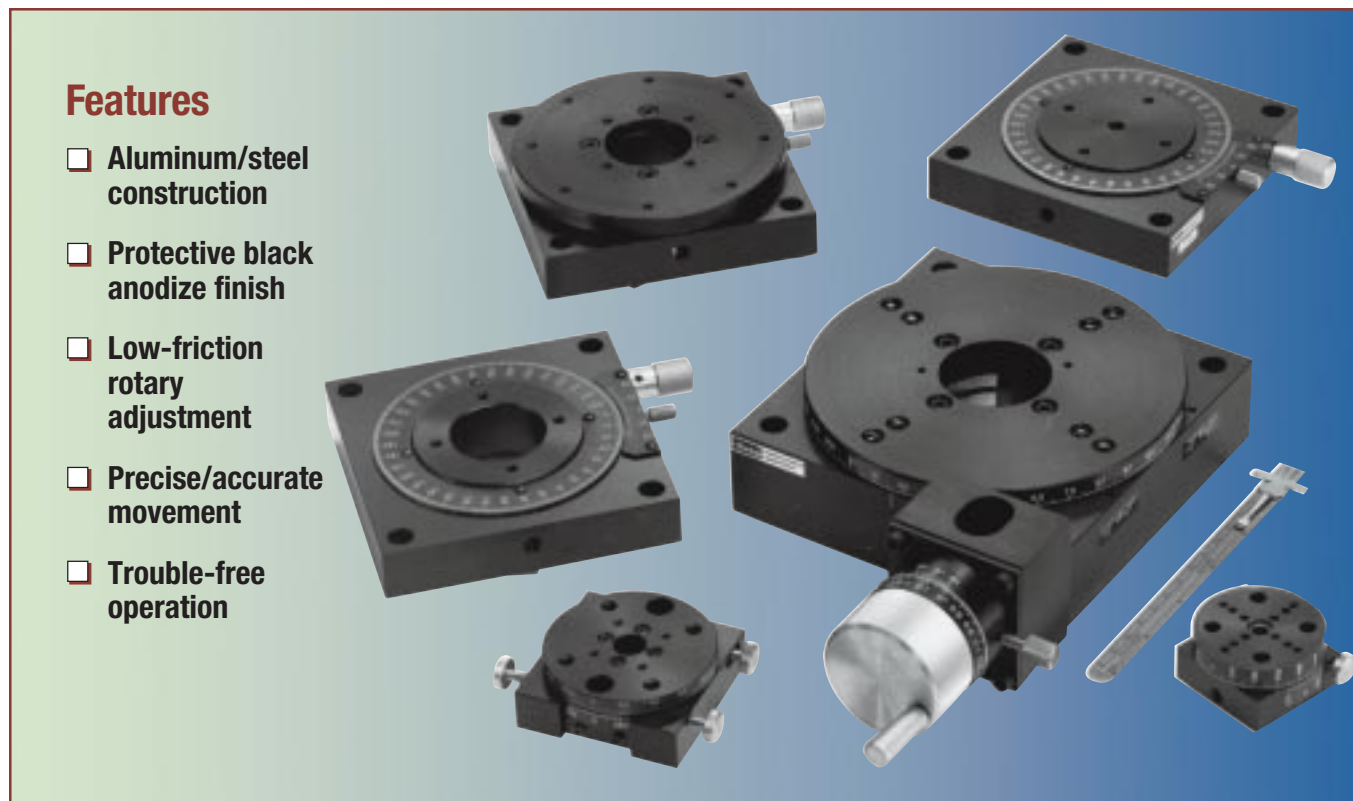


## Rotary Positioning Stages Introduction



### Features

- Aluminum/steel construction
- Protective black anodize finish
- Low-friction rotary adjustment
- Precise/accurate movement
- Trouble-free operation

Daedal precision rotary stages are utilized whenever controlled rotation or precise angular positioning are needed. The primary components in these stages are: a stationary base; main bearing; drive mechanism and rotating top (load platform). The base houses the main bearing, which is a high-precision, low-friction ball bearing that supports the rotating top. The rotating top is driven by the drive mechanism which controls the rotational velocity and positional accuracy of the top.

### Drive Mechanisms

#### Tangent Arm Drive

The drive mechanism for model 2520, 2525, and 4575 stages is the tangent arm drive. With this drive, angular rotation is controlled by three control knobs. The release knob disengages the shaft from the drive, freeing the table to be rotated continuously by hand to any desired location. The release knob when tightened will re-engage the drive

mechanism and transfer control to an adjustment knob which, when rotated, produces precise angular positioning of the shaft and table top. The locking knob can then be used to positively lock the table at the desired setting.

#### Precision Worm Gear Drive

A precision worm gear drive is employed as the drive mechanism for the other Daedal stages. A worm wheel (gear), which is

attached to the table shaft, meshes with the worm drive, whose shaft extends out of the housing. Controlled rotation of the worm shaft creates precise angular rotation of the worm wheel and table shaft. The worm gear and shaft are matched sets and are preloaded to remove backlash. This type of drive provides high resolution (180:1) and continuous angular positioning over a full 360° range.

### Selection Guide

Model Series	Table Diameter	Drive Mechanism	Normal Load	Mounting	Page
2500 M2500	1.88-2.62 in 47,7-66,5 mm	Tangent Arm Drive	10 lbs 4,5 kgs	English Metric	D29 D29
4575* M4575*	2.38 in 60,5 mm	Tangent Arm Drive	5 lbs 2,25 kgs	English Metric	D32 D32
10000-20000 M10000-M20000	2.75-4.75 in 69,8-305,0 mm	Worm Gear Drive	50 lbs 22,0 kgs	English Metric	D30 D30
30000 M30000	5.00-12.00 in 127,0-305,0 mm	Worm Gear Drive	25-200 lbs 11,5-90,0 kgs	English Metric	D31 D31

\*Models 4575 and M4575 are combination rotary and linear stages which also provide 0.50 in (12,7 mm) of linear travel.

**2500 Series Tangent Arm Drive Miniature Stage**

Series 2500 rotary stages are tangential drive units which offer low-friction rotary positioning, quick manual table top rotation, precise angular adjustment at any selected position, and positive locking. These miniature units have a preloaded angular contact ball bearing system which provides smooth, continuous rotary movement.

Models 2525/M2525 and 2535/M2535 include a dial and vernier for direct position readout (readable to six arc-minutes).

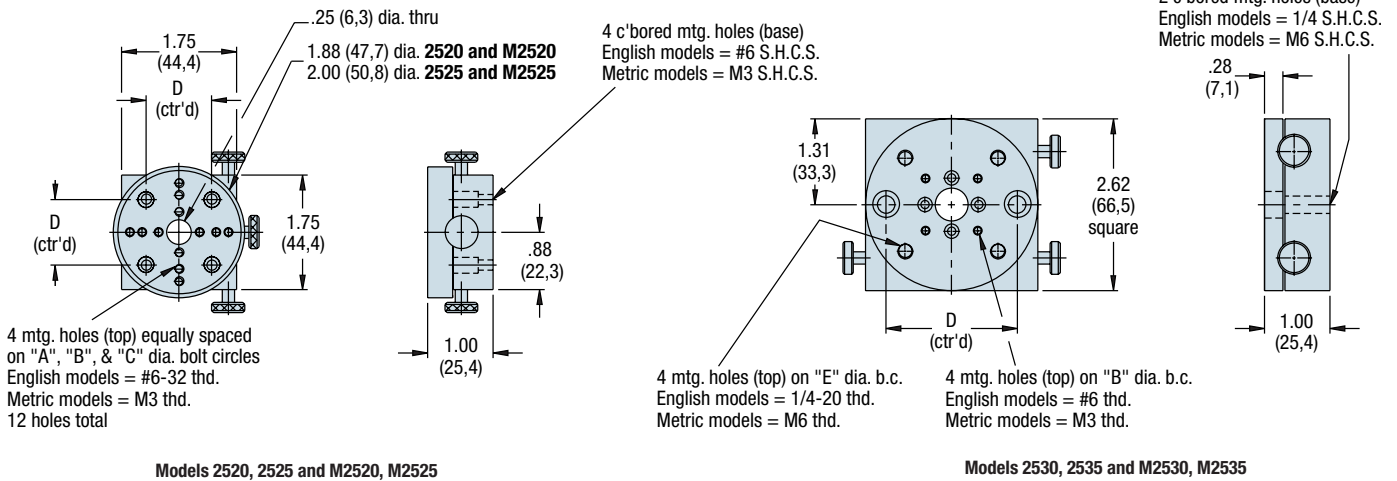
These stages can be mounted in a horizontal or vertical position, and can be combined with compatible linear stages for linear-rotary applications.



**Specifications**

	English	Metric
Load Capacity:		
Normal	10 lb	4,5 kg
Moment	See note.	See note.
Range	360° (free rotation) 10° (fine positioning)	
Weight	1.0 - 1.8 lbs	0,5 - 0,8 kg
Resolution	6 arc-min (vernier readout)	

NOTE: For moment loads refer to [www.daedalpositioning.com](http://www.daedalpositioning.com)



**Selection Guide**

	Model	Diameter	Vernier Readout	Thru Hole Diameter	Weight	A	B	C	D	E
English	2520	1.88 in	No	0.25 in	1.0 lb	0.625 in	1.125 in	1.5 in	1.0 in	—
	2525	2.00 in	Yes	0.25 in	1.0 lb	0.625 in	1.125 in	1.5 in	1.0 in	—
	2530	2.62 in	No	0.50 in	1.8 lb	—	1.125 in	—	2.0 in	2.0 in
	2535	2.62 in	Yes	0.50 in	1.8 lb	—	1.125 in	—	2.0 in	2.0 in
Metric	M2520	47,7 mm	No	6,3 mm	0,5 kg	15,0 mm	25,0 mm	35,0 mm	25,0 mm	—
	M2525	50,8 mm	Yes	6,3 mm	0,5 kg	15,0 mm	25,0 mm	35,0 mm	25,0 mm	—
	M2530	66,5 mm	No	12,7 mm	0,8 kg	—	25,0 mm	—	50,0 mm	50,0 mm
	M2535	66,5 mm	Yes	12,7 mm	0,8 kg	—	25,0 mm	—	50,0 mm	50,0 mm

Manually Driven

## 10000/20000 Low Profile Stage – Worm Gear Drive

The 10000/M10000 and 20000/M20000 series rotary positioning stages provide smooth, continuous adjustment over a full 360° travel range. The drive mechanism features a worm gear drive. A position locking knob allows the stage to be positively locked in place. The 10000 and 20000 models offer a 2.75 inch (69,8 mm) diameter stage with a calibrated dial and

vernier, readable to 6.00 arc minutes. The 10001 and 20001 models, which do not include the vernier readout, offer a larger 4.75 inch (120,6 mm) diameter mounting surface. These versatile low-cost units can be combined with linear positioning stages having 4.00 inch (English) or 100,0 mm (Metric) mounting hole centers for multi-axis polar set-ups.

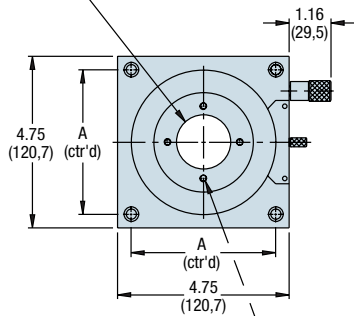


### Specifications

	English	Metric
Load Capacity:		
Normal Moment	50 lb	22 kg
	Consult factory.	
Rotational Range: 360° continuous		
Drive Ratio	120:1	120:1
Weight	2.0 lbs	1,0 kg
Vernier: 6 arc-min		



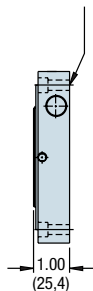
25 (6,4) dia. thru **10000 and M10000**  
 1.50 (38,1) dia. thru **20000 and M20000**



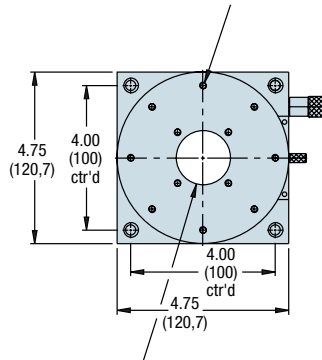
4 mtg. holes (top) on 2.00 (50) dia. b.c.  
 English models = #10-32 thd.  
 Metric models = M4 thd.

Models 10000, M10000 and 20000, M20000

4 c'bored mtg. holes (base)  
 English models = 1/4 S.H.C.S.  
 Metric models = M6 S.H.C.S.

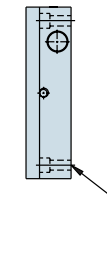


12 mtg. holes (top)  
 4 holes on 2,00 (50) dia. b.c.  
 8 holes on "A" dia. b.c.  
 English models = #10-32 thd.  
 Metric models = M4 thd.



25 (6,4) dia. thru **10001 and M10001**  
 1.50 (38,1) dia. thru **20001 and M20001**

Models 10001, 20001 and M10001, M20001



4 c'bored mtg. holes (base)  
 English models = 1/4 S.H.C.S.  
 Metric models = M6 S.H.C.S.

### Selection Guide

	Model	Diameter	Vernier Readout	Thru Hole Diameter	A
English	10000	2.75 in	Yes	0.25 in	—
	20000	2.75 in	Yes	1.50 in	—
	10001	4.75 in	No	0.25 in	4.0 in
	20001	4.75 in	No	1.50 in	4.0 in
Metric	M10000	69,8 mm	Yes	6,3 mm	—
	M20000	69,8 mm	Yes	38,1 mm	—
	M10001	120,6 mm	No	6,3 mm	100,0 mm
	M20001	120,6 mm	No	38,1 mm	100,0 mm

## 30000 Worm Gear Drive Heavy Load-Carrying Stage

Daedal rotary indexing tables provide accurate rotational positioning with a heavy load-carrying capability. Tables feature an angular contact ball bearing system which is stiffly preloaded to produce precise rotation of the table top. The drive mechanism is a precision worm gear drive which provides precise rotational positioning. An angular readout – graduated in degrees – is provided around the circumference of the table top, while a finer position readout dial, found on the control knob, reads directly in 0.01° increments, with the vernier providing even higher (0.002°) resolution. A thumbscrew lock is included to lock the table at the desired setting. For customer convenience, threaded mounting holes with locking threaded inserts are provided as well as a clearance hole through the center of the table to allow easy access from below. If desired, the table top can easily be removed to permit custom modification. These units can be mounted in any orientation and are compatible with Daedal linear tables.

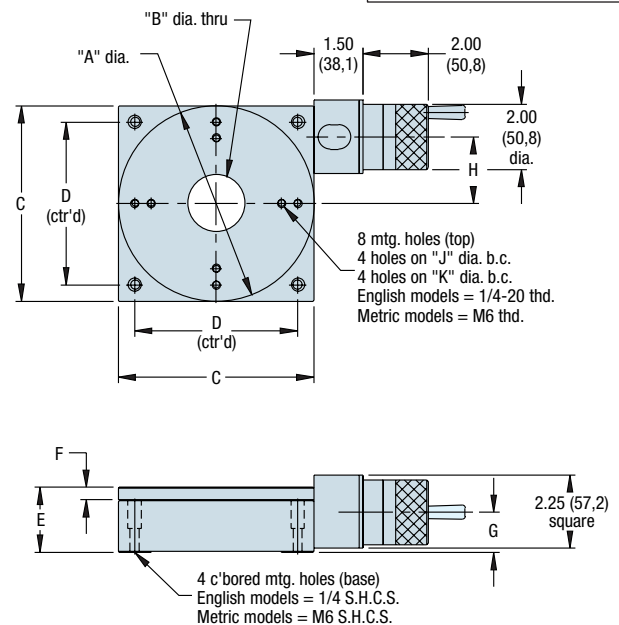


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### Specifications

	English	Metric
<b>Load Capacity:</b>		
Normal	25 - 200 lb	11,5 - 90 kg
Moment	See note	See note
<b>Runout:</b>		
Standard Grade	0.003 in	75 μm
Precision Grade	0.001 in	25 μm
<b>Concentricity:</b>		
Standard Grade	0.0005 in	1,3 μm
Precision Grade	0.0001 in	0,3 μm
<b>Rotational Range: 360° continuous</b>		
<b>Vernier Resolution: 0.002°</b>		

NOTE: For moment loads refer to [www.daedalpositioning.com](http://www.daedalpositioning.com)



### Selection Guide

	Table Diameter	Normal Load	Output Torque	Weight	Model Number		A	B	C	D	E	F	G	H	J	K
					Std. Grd.	Prec. Grd.										
English	5.00 in	25 lbs	25 in-lb	6.0 lbs	30005-S	30005-P	5.00	1.00	5.00	4.00	1.75	0.31	1.11	1.66	3.00	4.00
	6.00 in	150 lbs	40 in-lb	8.0 lbs	30006-S	30006-P	6.00	1.75	6.00	5.00	2.00	0.38	1.23	2.04	4.00	5.00
	8.00 in	75 lbs	40 in-lb	15.0 lbs	30008-S	30008-P	8.00	1.75	8.00	6.00	2.50	0.50	1.57	2.04	4.00	6.00
	10.00 in	200 lbs	190 in-lb	27.0 lbs	30010-S	30010-P	10.00	2.00	10.00	9.00	3.00	0.75	1.81	3.03	6.00	8.00
	12.00 in	200 lbs	190 in-lb	31.0 lbs	30012-S	30012-P	12.00	2.00	10.00	9.00	3.00	0.75	1.81	3.03	8.00	10.00
Metric	127,0 mm	11,5 kg	2,8 Nm	2,7 kg	M30005-S	M30005-P	127,0	25,4	127,0	100,0	44,5	7,9	28,2	42,2	75,0	100,0
	152,0 mm	68,0 kg	4,5 Nm	3,6 kg	M30006-S	M30006-P	152,4	44,5	152,4	125,0	50,8	9,7	31,2	51,8	100,0	125,0
	203,0 mm	34,0 kg	4,5 Nm	6,8 kg	M30008-S	M30008-P	203,2	44,5	203,2	175,0	63,5	12,7	39,9	51,8	100,0	175,0
	254,0 mm	90,0 kg	21,5 Nm	12,2 kg	M30010-S	M30010-P	254,0	50,8	254,0	225,0	76,2	19,1	46,0	77,0	150,0	200,0
	305,0 mm	90,0 kg	21,5 Nm	14,1 kg	M30012-S	M30012-P	304,8	50,8	254,0	225,0	76,0	19,1	46,0	77,0	200,0	250,0

Manually Driven

**Model 4575/M4575 Combination Linear/Rotary Stage**

The model 4575 combines both linear and rotary motion into one compact unit. It is designed for applications where space restrictions do not allow stacking a linear stage and a rotary stage. The mounting surface is 2.38" diameter with a 0.75" diameter thru hole, with (4) #10-32 threaded mounting holes on 2.00" centers.

Linear travel is provided by a fine resolution micrometer. Rotary travel is provided by a tangent arm drive offering both a coarse and a fine adjustment. This feature allows quick rotation over a continuous 360° range, plus precise angular adjustment at any selected position.

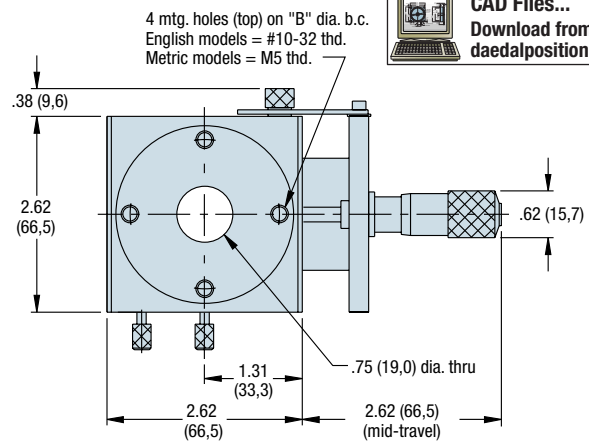


**Specifications**

	English	Metric
Load Capacity:		
Normal	5 lb	2,25 kg
Moment	See note.	See note.
Rotational range	360° (free rotation) 10° (fine positioning)	
Linear range	0.50 in	12,7 mm
Straightline accuracy	0.0001 in	2,5 µm
Micrometer gradations	0.001 in	0,01 mm
Weight	1.0 lb	0,5 kg

NOTE: For moment loads refer to [www.daedalpositioning.com](http://www.daedalpositioning.com)

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**Selection Guide**

	Model No.	A	B	C
English	4575	2.0 in	2.0 in	0.31 in
Metric	M4575	50 mm	50 mm	8,3 mm

