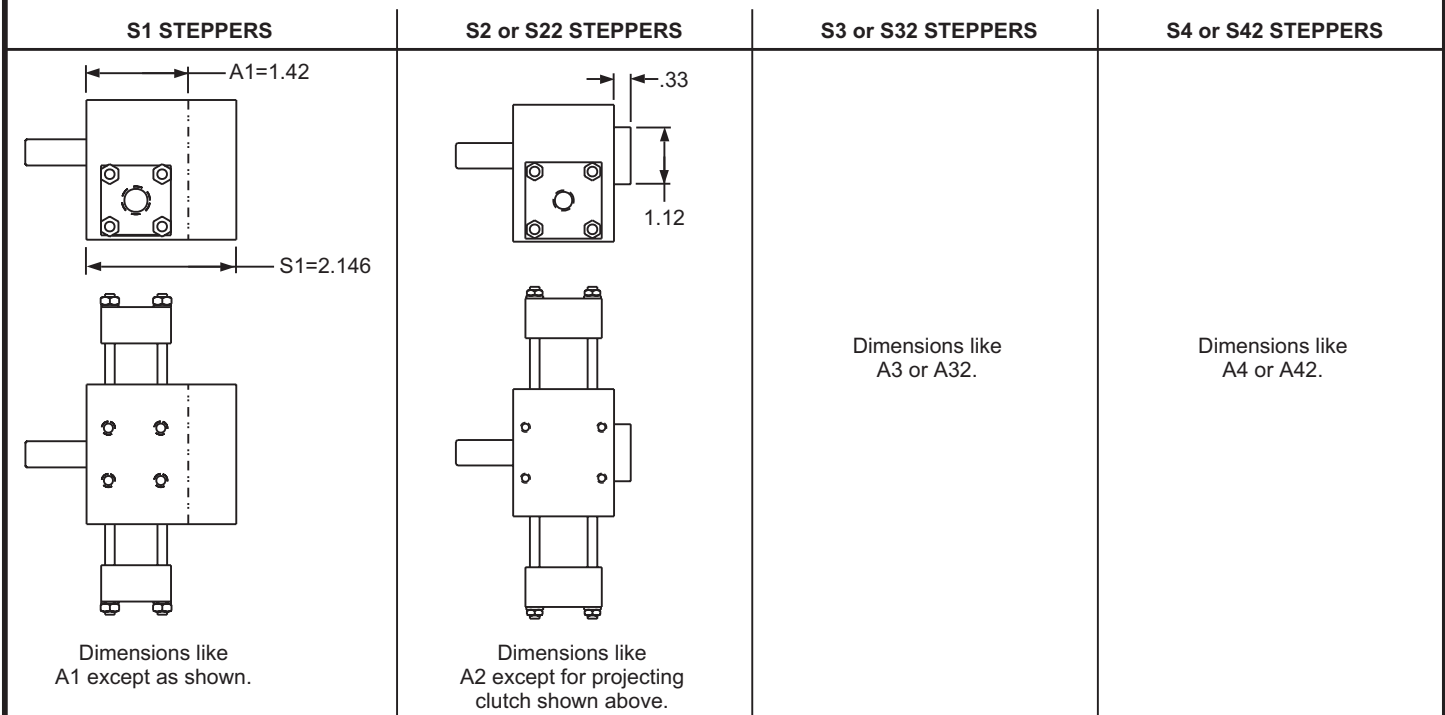


STEPPING ACTUATORS MOUNTING DIMENSIONS



STEPPING ACTUATOR RATINGS

	S1	S2	S22	S3	S32	S4	S42
Torque Factor: in. lb./p.s.i.	.153	.49	.98	1.49	2.98	3.46	6.92
Max. Working Pressure, p.s.i.:	Air	150	150	75	130	65	120
	Oil	300	150	75	130	65	120
Max. Torque: Non-shock, in. lb.	45	73	73	196	196	412	412
Max. Reverse Torque: Non-shock, in. lb.	23	37	37	98	98	206	206
Max. Thrust: Non-shock, lb.	40	75	75	150	150	200	200
Max. Radial Load: Non-shock, lb.	40	75	75	150	150	200	200
Displacement: in ³ /deg.	.0026	.0086	.0172	.026	.052	.060	.121
Weight 180 deg. std. unit: lb.-oz.	1-2	2-7	3-12	6-2	8-12	8-14	13-14



HINTS ON USING A STEPPING ACTUATOR

The stepping actuator provides torque while rotating through its specified angle, always in one direction. It has no ability to slow or stop its load, so it will stop at a point determined by load inertia, friction, or external stops. The shaft can freewheel in the forward direction without restriction, so it has no fixed reference position. A one way clutch in the body prevents rotation in the reverse direction. Optional rotation adjusters can be used to set the stroke, and multiple stroke lengths can be obtained from a multi-angle actuator. The actuator can be stalled continuously by an external stop without problems.

Natural applications for the stepping actuator include:

- indexing applications where there is a high drag/inertia ratio and where error does not accumulate, such as driving a pinch roller to pull stock from a spool incrementally to be cut into lengths
- driving detented items such as rotary switches, cam sequences, etc
- those needing one-direction rotary motion with no position accuracy requirement, such as waste conveyors

Torque Ratings

The maximum torque is limited by the roller clutches used to drive the shaft and to prevent reverse rotation. Exceeding the maximum working pressure specified may overload the clutch, reducing life and/or causing immediate failure. Dual rack actuators are intended for use in applications where the maximum torque rating of the clutch cannot be utilized on normal shop air. Please note that normal shop air may overload the clutch on a dual rack actuator.

Reverse torque from an external source can also damage the actuator if it exceeds the maximum torque rating.

PRECISE POSITIONING/INDEXING

The stepping actuator can index even a high inertia load very precisely with a shot pin or other detent mechanism. The precision of the angle and load position is that of the detent system. This offers a number of advantages:

- The stop positions can be adjusted by adjustment of the detent position.
- Irregular, custom angle sequences are possible.
- The detent can be placed at a large radius to handle high inertia loads.

LOAD POSITION STABILITY

The shaft and load are prevented from rearward motion by the drive clutch and by a similar non-return clutch installed between the shaft and body. However, the clutches offer no resistance to forward motion, so torques in that direction will displace the shaft and load. Unwanted forward motion can be prevented by a controlled clutch/brake. Such a device can be installed on the rear projection of a double ended shaft.