

**About NPM Linear Actuators**

NPM Linear Actuators are equipped with KSS miniature ball screws. We offer three ball screw types of actuator: captive, non-captive and external type. They are more efficient than lead screw type actuators, reducing the energy consumption.

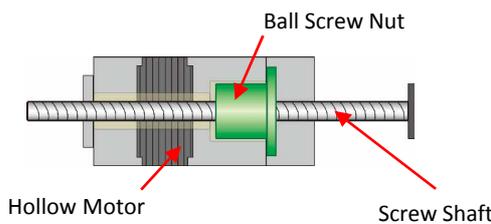


**【Features & Benefits】**

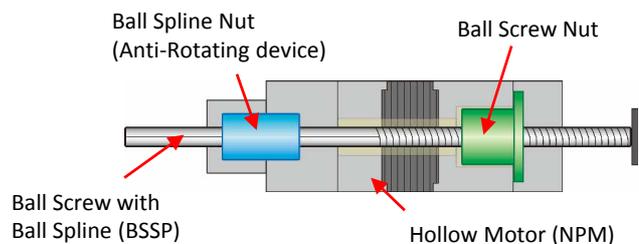
- Compared to lead screw type actuators, ball screw actuators are more efficient during operation.
- Compactness of miniature ball screw helps to reduce number of parts and saves space of the unit.
- The most appropriate size of actuator can be recommended depending on the operating condition required by customer request.
- Motor uses NEMA11 and NEMA17 sizing, which are widely available for ball screw actuators, providing options for user applications.
- Captive type actuator's compact design comes with anti-rotating device installed, with combination of Ball Screw with Ball Spline (BSSP) and hollow motor.

**【Internal Structure】**

NPM Linear Actuator is equipped with a hollow motor combined with KSS Miniature Ball Screw or BSSP. The Outer diameter of the ball nut of the ball screw is larger than a lead screw nut, so a larger hollow hole for the motor is required. NPM designed the motor with larger hollow hole without having to reduce torque, and combined with the BSSP integrated into motor unit. BSSP spline nut works as anti-rotating device for captive type ball screw.



Non-Captive Type



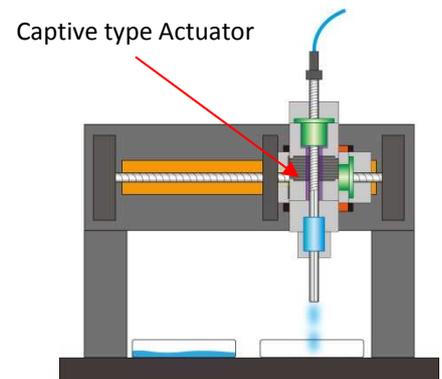
Captive Type

**【Application】**

NPM Linear Actuator (captive, non-captive) is widely used for medical devices such as dispensers or syringe pumps. Also, external type is mainly selected for those precision equipment such as industrial microscopes or X-Y stages.



Syringe Pump Unit



Dispense Unit