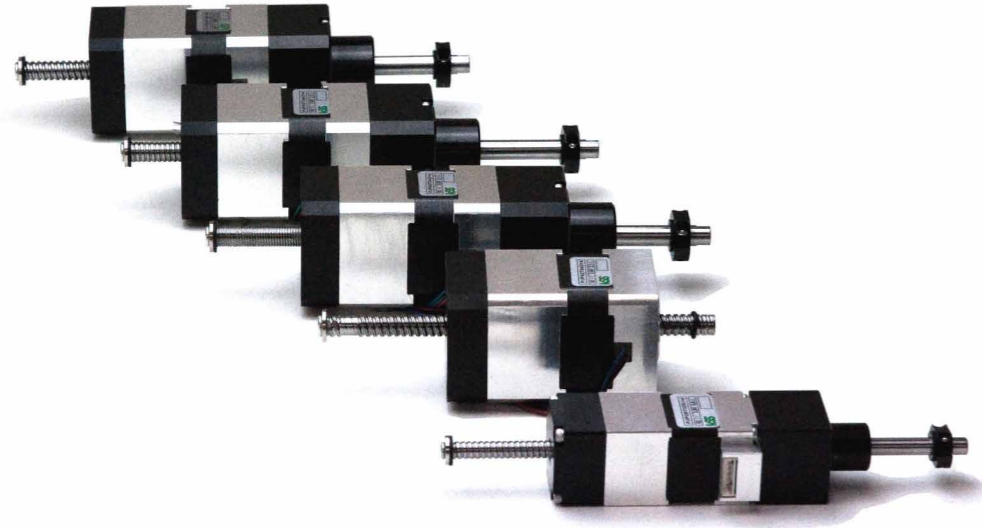


Miniature Electric cylinder

AR / CL Series

Ball Screw type Linear Actuator (Captive and Non-Captive type)

Compact Cylinder with 2-phase Hollow Stepping Motor integrated with Ball Screw or Ball Screw with Ball Spline (BSSP).



●Features

- The new Cylinder type Actuator comes with 2 Motor sizes, □28(NEMA11) & □42(NEMA17). AR type with anti-rotating device or CL type without anti-rotating device can be selected in each Motor size as standard.
- Variety of Shaft diameter & Lead combination allows wider selection of Accuracy and Thrust Force.

●Types

AR Cylinder (Captive type)

KSS miniature Ball Screw with Ball Spline(BSSP) is used for an anti-rotating device.

CL Cylinder (Non-Captive type)

Simple combination of the Hollow Motor and the Ball Screw contributes to lightweight and compact body.

●Variation

Unit:mm

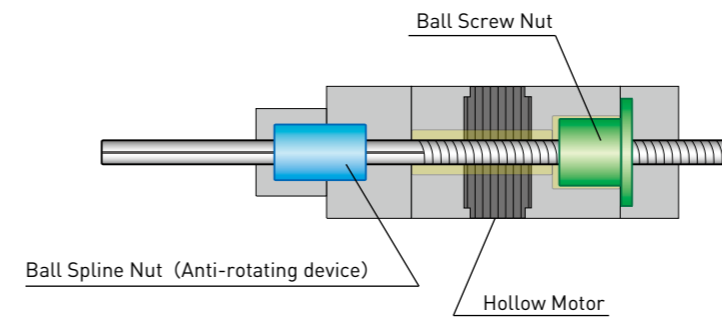
	Drive Screw	Notation	□28 (NEMA11)		□42 (NEMA17)	
			Lead	Travel	Lead	Travel
AR type (Captive)	Precision Ball Screw	G	1,2	40	2,5	50
CL type (Non-Captive)	Precision Ball Screw	G	1,2	40,80	2,5	50,100
	Rolled Ball Screw	R	1,2	40,80	2,5	50,100
	Resin Lead Screw	Re	2,6	40,80	2,5	50,100

Note) If the Lead other than the above is required, please ask KSS representative.

Utility model resisterd

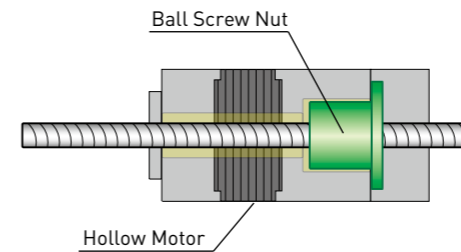
●Internal Structure

AR Cylinder (Captive type)



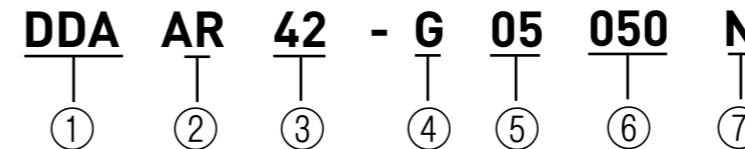
Ball Spline Nut in BSSP plays a role of anti-rotating device. No need to set up anti-rotating design outside the Actuator. Our unique BSSP enable a compact and slim body by using Ball Spline Nut as an anti-rotating device.

CL Cylinder (Non-Captive type)



Simple design of Screw Shaft in Hollow Motor. External anti-rotating device should be set up when usage.

●Model number notation



- ①Series No.
DDA : Direct Drive Actuator Series
- ②Cylinder type
AR : Captive type (with anti-rotating device)
CL : Non-Captive type (without anti-rotating device)
- ③Motor size
42 : □42 Stepping Motor (NEMA17)
28 : □28 Stepping Motor (NEMA11)
- ④Lead Screw / Ball Screw type
G : Precision Ball Screw
R : Rolled Ball Screw
Re : Resin Lead Screw
- ⑤Lead / Pitch (mm) : 05 means 5mm
- ⑥Travel(mm) : 050 means 50mm
- ⑦Connector type
N : No connector (Bare)
E : EI connector (Tyco Electronics)

●Option

KSS provides Standard Stepping Motor Driver and Extension Cable for Linear Actuator(AR/CL Cylinder) in order to make it easy to use.

[Stepping Motor Driver]

SD4030B2



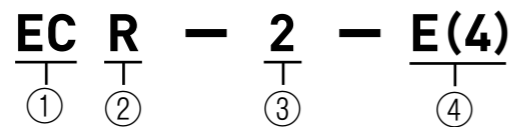
This is recommended Driver for 2-phase stepping Motor. It has Micro-Step function with 8-step angle.(page V108)

※Caution

- The factory setting of SD4030B2 is 2A.
- Please be sure to perform a current setup of Driver based on Motor Rated current before use.
- Please confirm with the operation manual attached to a Driver about current setup.

[Extension Cable]

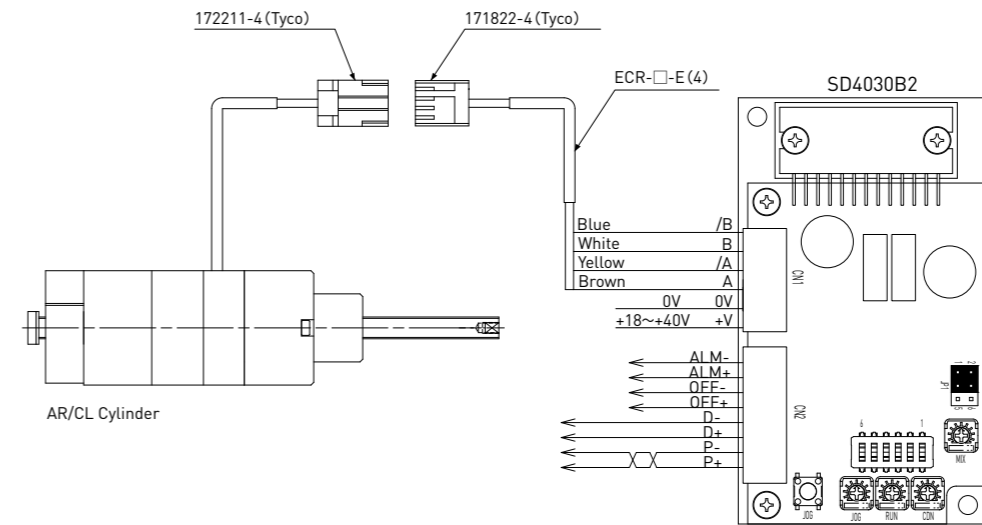
Extension Cable between KSS Linear Actuator(AR/CL Cylinder) and KSS recommended Stepping Motor Driver. Please designate Cable length and Connector type in accordance with the example below. Please note that one side of Extension Cable is cut end only (no connector).



- ①Extension Cable
- ②Cable type
R : Robot Cable
- ③Cable length (m)
- ④Connector type
N : No connector (Cut only)
E(4) : El connector 4-pins

Note)El connector by Tyco Electronics

●Connection Diagram



Motor cable 172211-4 (male)

1	Stepping Motor /B (Blue)
2	Stepping Motor B (Red)
3	Stepping Motor /A (Green)
4	Stepping Motor A (Black)

Motor Extension cable 171822-4 (female)

4	3	2	1	1	Stepping Motor /B (Blue)
				2	Stepping Motor B (White)
				3	Stepping Motor /A (Yellow)
				4	Stepping Motor A (Brown)