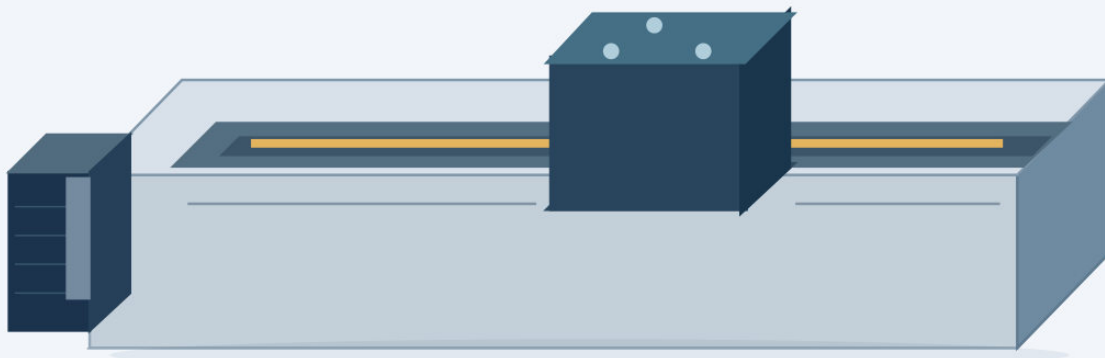


MOTION COMPONENT / ENGINEERING OVERVIEW

FSL80

HEAVY-LOAD BALL-SCREW LINEAR STAGE

NEMA 24 Stepper Motor | Enclosed Rail Module



CONCEPTUAL PRODUCT ILLUSTRATION - NOT TO SCALE

80 mm

PROFILE WIDTH

100-1500 mm

STROKE RANGE

G1610 / C7

BALL-SCREW ASSEMBLY

APPLICATION PROFILE

Enclosed, screw-driven positioning axis for CNC automation, fixtures, pick-and-place systems and industrial motion applications. The 100 mm offered configuration is rated at 40 kg horizontal and 20 kg vertical load under the listed operating conditions.

Published values are configuration-dependent. Verify the selected motor, stroke and installation orientation.

Technical Specifications

Mechanical / motion ratings

LISTED CONFIGURATION

Drive system	Ball screw, model G1610
Screw geometry	16 mm nominal diameter / 10 mm lead
Screw accuracy grade	C7 (seller-listed)
Motor designation	NEMA 24 stepper motor
Effective travel	100-1500 mm selectable strokes
Seller-listed repeat positioning	+/- 0.03 mm
Catalog positioning accuracy	0.05 mm (distinct metric)
Nominal stage / carriage width	80 mm / 80 mm
100 mm-stroke assembled length	472 mm
100 mm version: max horizontal load	40 kg
100 mm version: max vertical load	20 kg
100 mm version: no-load speed	220 mm/s
100 mm version: full horizontal load	210 mm/s
100 mm version: full vertical load	60 mm/s

Motor-dependent catalog references

REFERENCE ONLY

Drive class	No-load	Loaded H	Loaded V
3 N.m catalog drive	220 mm/s	210 mm/s	60 mm/s
5 N.m catalog drive	320 mm/s	320 mm/s	200 mm/s

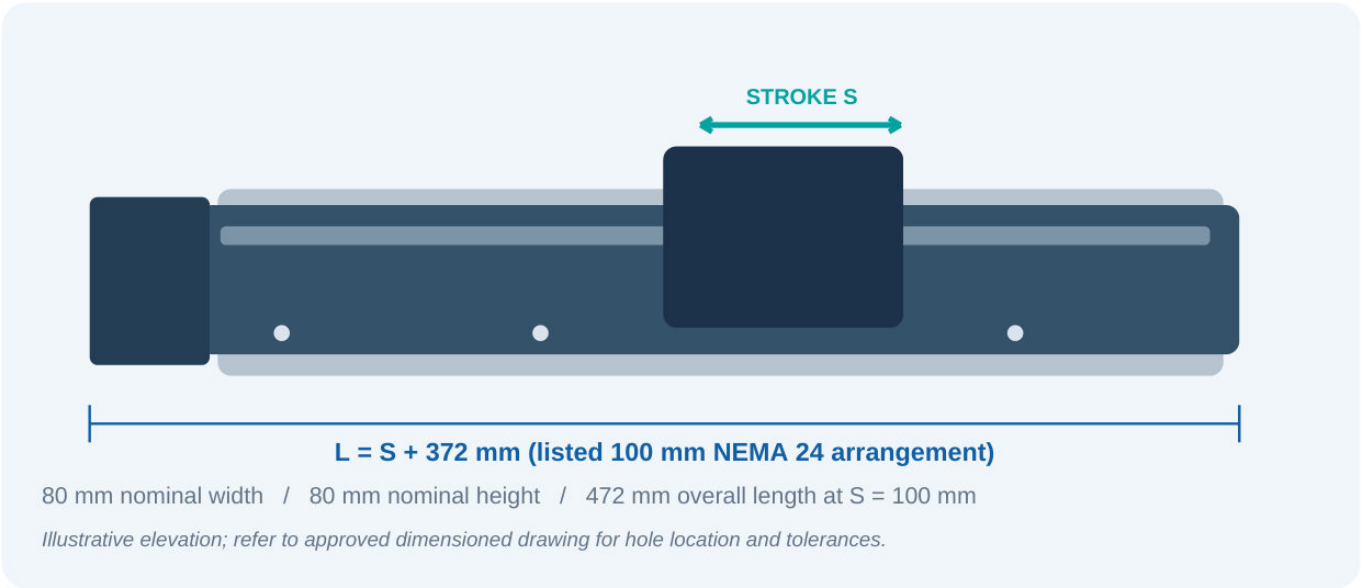
RATING INTERPRETATION

The product overview also states "up to 60 kg" horizontal load. The detailed 100 mm option and historical series data specify 40 kg. Do not apply the 60 kg headline to this NEMA 24 configuration without written confirmation.

Dimensions & Stroke Selection

Reference envelope

100 mm NEMA 24 LISTED UNIT



Available strokes & reference module mass

S = STROKE / L = OVERALL LENGTH

STROKE	LENGTH	MASS
100 mm	472 mm	5.2 kg
200 mm	572 mm	5.65 kg
300 mm	672 mm	6.4 kg
400 mm	772 mm	6.65 kg
500 mm	872 mm	7.55 kg
600 mm	972 mm	8.15 kg
700 mm	1072 mm	8.3 kg
800 mm	1172 mm	8.8 kg

STROKE	LENGTH	MASS
900 mm	1272 mm	9.95 kg
1000 mm	1372 mm	10.55 kg
1100 mm	1472 mm	11.35 kg
1200 mm	1572 mm	11.95 kg
1300 mm	1672 mm	12.6 kg
1400 mm	1772 mm	13.2 kg
1500 mm	1872 mm	13.5 kg

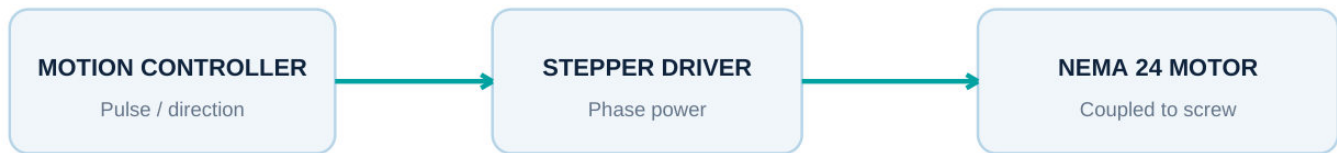
DIMENSIONAL SCOPE

Lengths and masses follow a published reference build and may differ with motor selection, side-folded drive, couplings or special options. The above layout is not a manufacturing drawing. Confirm mounting slots, end clearances, limits and cable space before drilling.

Controls, Installation & Verification

Electrical / motion integration

CONCEPTUAL SYSTEM BLOCK DIAGRAM



Installation checklist

- **Rigid mounting**
Secure the 80 mm stage to a flat, stable machine structure.
- **Guidance and alignment**
Check parallelism, load offsets and absence of binding.
- **Home / limits**
Install and verify end-of-travel sensors before automatic motion.
- **Stroke clearance**
Leave clearance for carriage, motor, fittings and cable bend.
- **Vertical-axis safety**
Prevent uncontrolled descent during power loss.

Items requiring confirmation

- **Motor electrical data**
Rated current, coil wiring, voltage range and holding torque.
- **Selected motor geometry**
Exact motor length, coupling and shaft orientation.
- **Load case**
Moment loads, overhang, cycle rate, acceleration and duty.
- **Protection limits**
IP65 claim applies to the guide only; confirm entire assembly.
- **Control hardware**
Driver, power supply, controller and sensors are not assumed included.

PERFORMANCE & ACCURACY NOTES

Positioning accuracy (0.05 mm) and repeat positioning (+/- 0.03 mm) are not interchangeable measurements. The seller gives the latter; a separate series catalog gives the former. Max. listed velocity depends on motor torque and load, and must not be interpreted as a guaranteed loaded speed for every motor or stroke.

Document classification: Independent compiled technical reference; verify configuration-specific values with supplier documentation before procurement or design release.