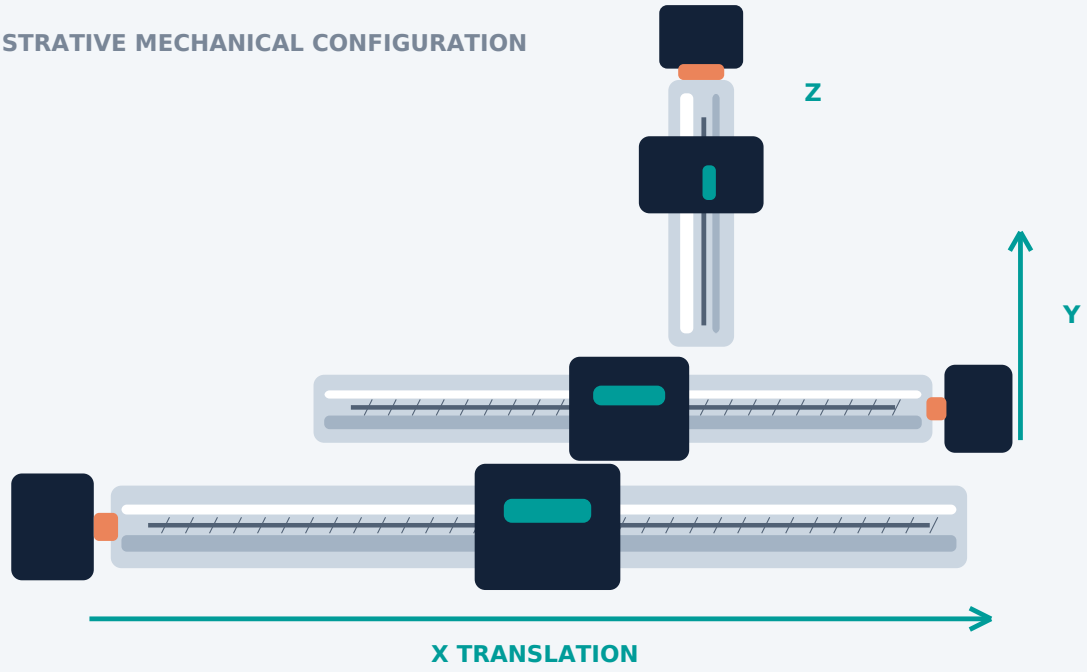
FSL40 | XYZ LINEAR STAGE

Ball-screw positioning system / NEMA 23 driven / modular three-axis assembly

3-AXIS ASSEMBLY | BALL-SCREW DRIVE | NEMA 23 CLASS

ILLUSTRATIVE MECHANICAL CONFIGURATION



Conceptual assembly only - axis orientation, support brackets and cable routing vary.

LINEAR STAGES	LIMIT SWITCHES	CONNECTION PLATES
3 pcs	4 pcs	1 kit

PRODUCT DEFINITION

The specified product is a configurable three-axis XY/XYZ motion assembly built from FSL40 linear stages. Select X/Y/Z stroke lengths separately. The listing also refers to a separate main-system item at checkout; verify the actual kit contents. The assembled envelope depends on axis lengths, brackets and motor orientation.

CONFIGURATION NOTE

An XY/XYZ kit is not the same item as a stand-alone FSL40 single-axis actuator; single-axis thrust, loading and dimensions must not be treated as certified XYZ assembly ratings.

Technical specifications

Seller-listed data for the three-axis assembly (unless otherwise noted).

Product family	FSL40 XY / XYZ linear positioning system
System format	Three linear guide stages, modular assembly
Mechanical transmission	Ball-screw linear-motion stages
Nominal motor class	NEMA 23 stepper motor
Available stroke options	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000 mm
Stated accuracy	±0.03 mm (seller-advertised ball-screw positioning figure)
Limit switches	4 pieces listed for the kit
Connection hardware	1 connection-panel / plate kit listed
Switch mounting	M4 side mounting holes stated
Custom configurations	Stroke, motor and multi-axis configuration by request
System controller	Not specified in the selected product listing
Assembled XYZ rated load	Not published as a validated overall-system capacity

SINGLE-AXIS SERIES DATA / NOT XYZ SYSTEM RATINGS

Separate FSL40 single-axis listings describe a C7 G1610 ball screw, a 40 mm-wide stage, and nominal NEMA 23 motor options with 1.8° step angle. One single-axis listing cites up to 25 kg horizontal load, 20 kg vertical load and 255 mm/s no-load speed.

These figures depend on the particular screw, motor, orientation and version. They must NOT be applied to the stacked XYZ structure: upper stages, brackets, workpiece offsets and Z-axis holding requirements reduce usable payload.

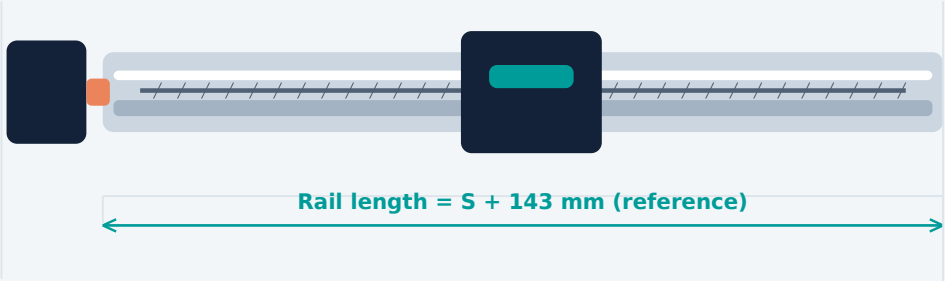
ACCURACY QUALIFICATION

The published ±0.03 mm value is a vendor claim; no multi-axis calibration certificate, repeatability test or volumetric accuracy report was supplied.

Stroke selection & dimensions

Each stage can be selected separately. The illustrations and derived length values below are single-axis references, not an XYZ-system mounting drawing.

SINGLE-AXIS REFERENCE GEOMETRY



S = selected effective travel. Drawing is indicative and not to scale.

ILLUSTRATIVE LENGTH CONVERSION

Stroke S	Stage rail S + 143	Approx. with motor S + 199
100 mm	243 mm	299 mm
150 mm	293 mm	349 mm
200 mm	343 mm	399 mm
300 mm	443 mm	499 mm
500 mm	643 mm	699 mm
700 mm	843 mm	899 mm
1000 mm	1143 mm	1199 mm

DIMENSIONAL AND REVISION CONTROL

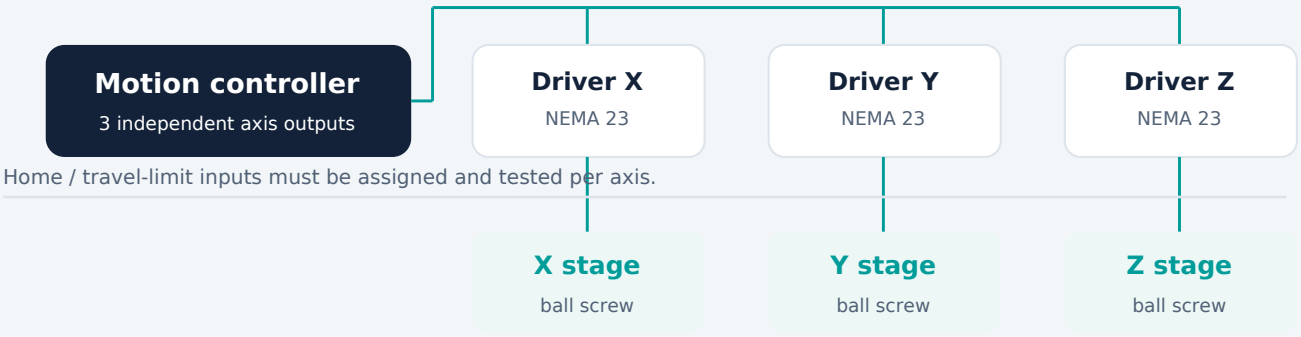
There is no verified overall XYZ footprint or Z clearance drawing for the exact selected kit. X/Y/Z stacked dimensions cannot be obtained by simply adding the three axis lengths.

The single-axis data may differ between V1 and V2 base-plate patterns, motor couplings and mounting orientations. Obtain the exact mechanical drawing before drilling fixtures or machining connection plates.

Controls & integration

Three-axis operation requires coordinated control and verified limit / home wiring.

CONTROL ARCHITECTURE (FUNCTIONAL SCHEMATIC)



INSTALLATION AND COMMISSIONING CHECKLIST

01 **Confirm order contents**
Verify 3 stages, 4 switches, plate kit, motors and any external drives.

02 **Check mechanical stack**
Verify X/Y/Z orientation, clearance, stiffness and cable bend radius.

03 **Validate end-limit strategy**
Four switches do not provide two hardwired end limits on every axis.

04 **Select compatible drivers**
Match actual motor current, wiring, supply and microstepping.

05 **Home at low speed**
Test direction, switch polarity, soft limits and E-stop response.

06 **Verify payload and Z holding**
Account for combined moving mass, cantilever loads and power loss.

ENGINEERING USE

This document is a compiled technical reference, not a manufacturer-certified drawing or a tested three-axis load specification. Confirm final axis selections, accessories, dimensions and motor model before integration.