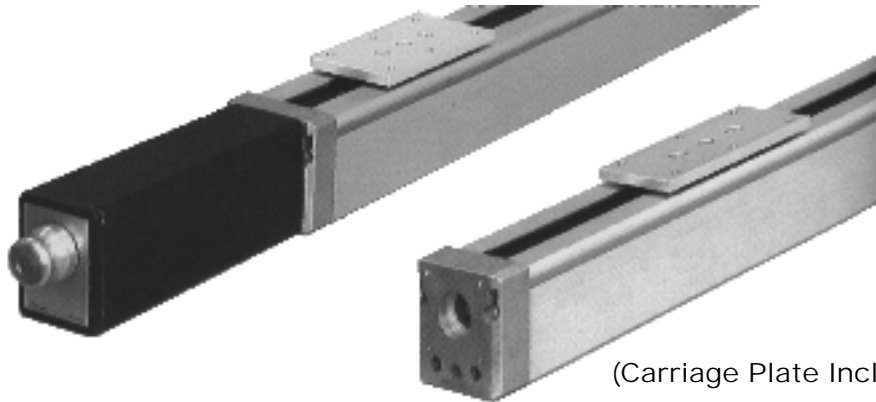


# QS4 Slide for Heavy Loads

## FEATURES

- ◆ Constructed from a **single rigid aluminum extrusion profile** with aluminum end plates
- ◆ Compact, modular design with T-slotted extrusions for easy mounting
- ◆ Available with 150 oz•in stepper motor or 120W servo motor
- ◆ Fitted with plastic seals to guard against contaminants
- ◆ Home reference and far end limit switch with a repeatability of  $\pm 0.01$  mm
- ◆ Two precision steel rails  $\text{\O}12\text{h}6$  with either one or two single piece steel bearing blocks hardened to  $\text{HRC } 62 \pm 2$
- ◆ Anti-backlash  $\text{\O}16$  mm ball screw drives with pitches of 2.5, 5, 10 and 20 mm available
- ◆ Linear carriage is capable of speed up to 5 m/sec.



## HEAVY-DUTY SLIDE SELECTION

**CATALOG NUMBER**  
KO53QSPE



**EXAMPLE:** To order a QS4 Slide with Servo Motor (Y), 10 mm Ball Screw (32), 1 screw and 2 carriages (5), and 390 mm length, the Catalog Number is **KO53QSPE2512325Y**.

### Motor Drive

**V** Stepper, 150 oz•in  
**Y** Servo, 120 W  
**A** No motor

### Setup

**4** 1 Carriage  
**5** 2 Carriages

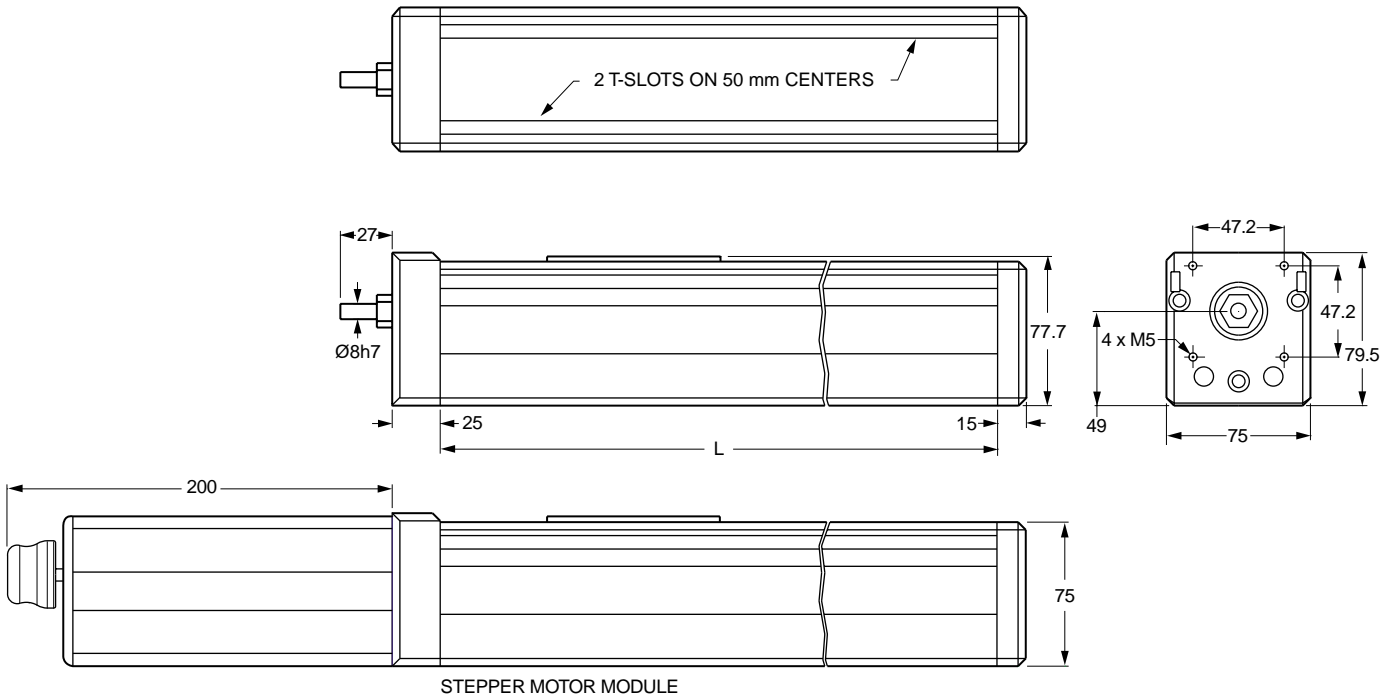
### Pitch Code

**22** No screw  
**24** 2.5 mm  
**27** 5 mm  
**32** 10 mm  
**42** 20 mm

Code	Length mm (in)	Travel* mm (in)	Code	Length mm (in)	Travel* mm (in)
2512	390 (15.4)	122 (4.8)	3312	1190 (46.9)	922 (36.3)
2612	490 (19.3)	222 (8.7)	3412	1290 (50.8)	1022 (40.2)
2712	590 (23.2)	322 (12.7)	3512	1390 (54.7)	1122 (44.2)
2812	690 (27.2)	422 (16.6)	3612	1490 (58.7)	1222 (48.1)
2912	790 (31.1)	522 (20.6)	3912	1790 (70.5)	1522 (59.9)
2012	890 (35.0)	622 (24.5)	3112	1990 (78.3)	1722 (68.0)
2112	990 (39.0)	722 (28.4)	4612	2490 (98.0)	2222 (87.5)
3212	1090 (42.9)	822 (32.4)	4112	2990 (117.7)	2722 (107.2)

\*Travel spec is based on a slide with 2 bearings. For a slide with only one bearing, add 130 mm (5.1 in) to the travel. Dimension L is unchanged.

# QS4 Slide for Heavy Loads



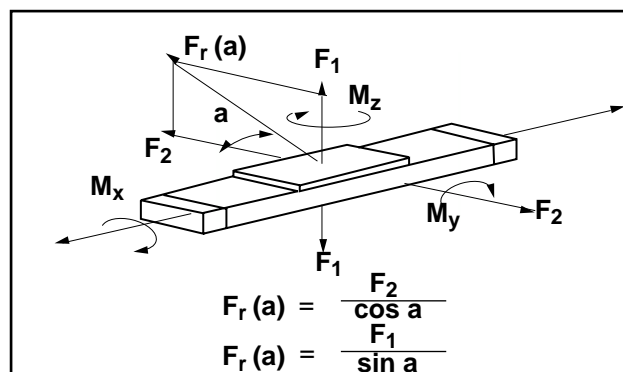
SPECIFICATIONS				
<b>Repeatability</b>		± 0.01 mm (± .0004 in)		
<b>Accuracy</b>		± 0.1 mm / 300 mm (± .004 in / in)		
<b>Vertical Static Load Capacity</b>		125 lb / bearing block		
Motor Drive	Ball Screw Pitch mm	Thrust Force @ Low Speeds kg (lb)	No Load Speed mm/sec (in/sec)	Resolution mm (in)
<b>Stepper Motor</b>	2.5	182 (400)	64 (2.5)	0.0062 (.0002)
	5	91 (200)	127 (5.0)	0.0125 (.0005)
	10	45 (100)	254 (10.0)	0.0250 (.0098)
	20	23 (50)	508 (20.0)	0.0500 (.0197)
<b>Servo Motor</b>	2.5	226 (500)	77 (3.0)	0.0013 (.00005)
	5	113 (250)	152 (6.0)	0.0025 (.00010)
	10	57 (125)	305 (12.0)	0.0050 (.00020)
	20	28 (63)	610 (24.0)	0.0100 (.00040)

**NOTES ON SPECIFICATIONS:** Stepper motor is model KO4822P5101223, operating in half step mode, with 4.5A / phase, 40V chopper driver. Servo motor is model KC4822P2464823, operating with 6A / 80V chopper amplifier and 1000 line encoder operating in quadrature. These figures will, of course, vary with different loads, amplifiers and acceleration profiles provided by the controller.

## Ball Screw Actuator Specifications

### Load and Moment Data for Ball Screw Driven Slides

Model	Standard Duty	KG4 Slide	QS4 Slide	
# of carriages	4 carriages	4 carriages	1 or 2 carriages	
Carriage type	Series 1 Carriage 1	Bearing Carriage 4	Bearing Carriage 4	
F1 stat [N]	430	800	800	
F1 dyn [N]	400	500	500	
F2 stat [N]	430	800	800	
F2 dyn [N]	400	500	500	
Mx stat [N·m]	7.3	12.6	12.6	
My stat [N·m]	3.7	22	22	
Mz stat [N·m]	3.7	12.6	12.6	
Mx dyn [N·m]	7.3	7.4	7.4	
My dyn [N·m]	3.7	13	13	
Mz dyn [N·m]	3.7	7.4	7.4	



## No-Load Torque Charts

### Standard-Duty Slides

No-Load Speed (rpm)	No-Load Torque (N • m) Screw Pitch		
	5	10	20
500	0.18	0.2	0.21
1500	0.22	0.24	0.25
3000	0.26	0.29	0.3

### KG4 Slides

No-Load Speed (rpm)	No-Load Torque (N • m) Screw Pitch			
	2.5	5	10	20
500	0.18	0.2	0.21	0.22
1500	0.24	0.24	0.25	0.26
3000	0.26	0.29	0.3	0.32

### QS4Slides

No-Load Speed (rpm)	No-Load Torque (N • m) Screw Pitch			
	2.5	5	10	20
500	0.15	0.16	0.17	0.18
1500	0.19	0.19	0.2	0.21
3000	0.23	0.24	0.25	0.26

