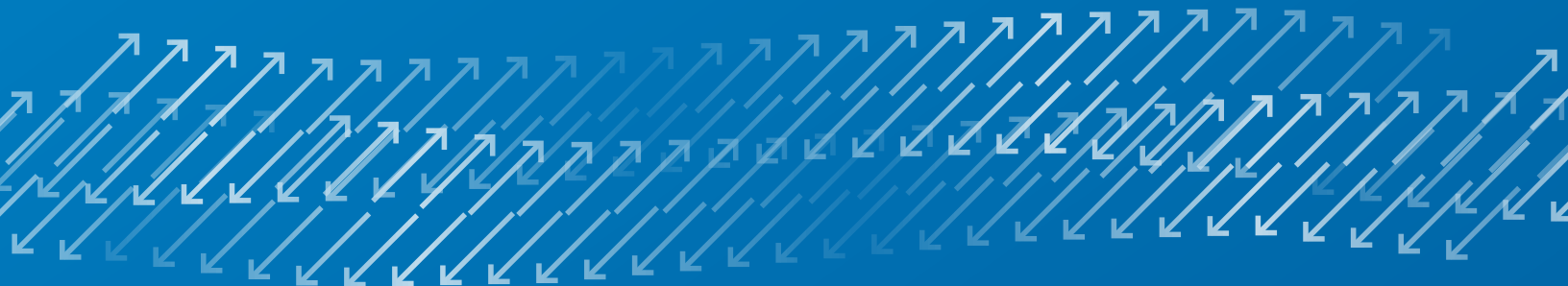




MTS Series 322 Test Systems

A versatile T-slot load unit designed to meet your testing needs today and tomorrow

THE **MTS SERIES 322 TEST SYSTEM** HAS THREE BASIC MODELS OF INCREASING CAPACITY AND STIFFNESS. AFTER CHOOSING YOUR BASIC MODEL, YOU CAN SPECIFY THE ACTUATOR, FORCE TRANSDUCER, AND SERVOVALVE COMBINATION, AS WELL AS THE PLATEN DIMENSIONS AND COLUMN HEIGHT NEEDED TO MEET YOUR TESTING NEEDS.



The 322 Advantages

» **Versatile**

The T-slot platen gives you a workbench for mounting and testing everything from a small material specimen to a large automotive subassembly.

» **Multiple Actuator Positions**

Multiple actuator mounting positions put the actuator where you need it. You can order your test system with a platen or crosshead mounted actuator—or even with a swivel mounted actuator hung from the crosshead. Mount an additional, horizontal actuator with reaction brackets and you can run biaxial tests.

» **A Second Load Train Position**

Two load train mounting positions put the actuator and crosshead assembly where you need it. The standard mounting position centers the load train on the platen. The optional position puts the load train at the end of the platen.

» **Hydraulic Lifts And Locks To Increase Your Productivity**

Optional hydraulic lifts let you smoothly reposition the crosshead without using an overhead crane. Optional hydraulic locks quickly unlock and lock the crosshead.

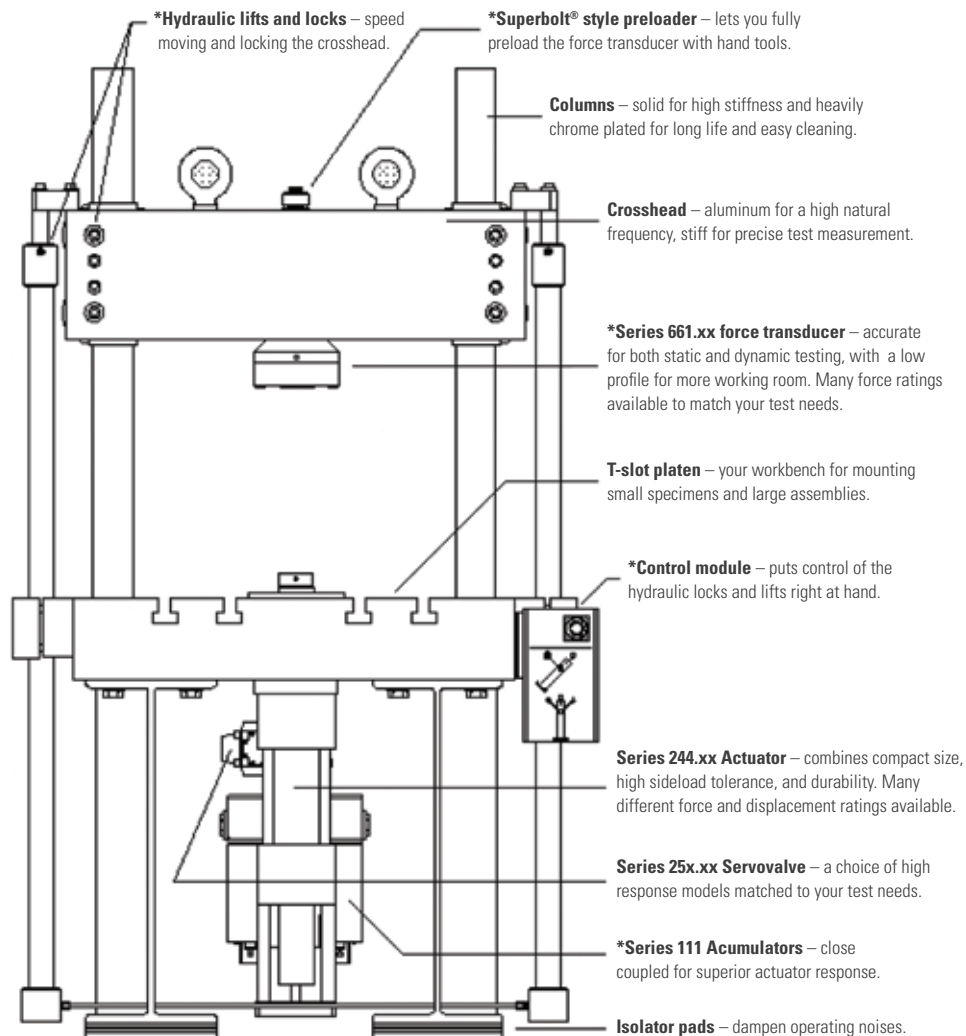
» **Highly Configurable**

The 322 family has three basic models of increasing capacity and stiffness. After choosing your basic model, you can specify the actuator, force transducer, and servovalve combination, as well as the platen dimensions and column height needed to meet your testing needs.

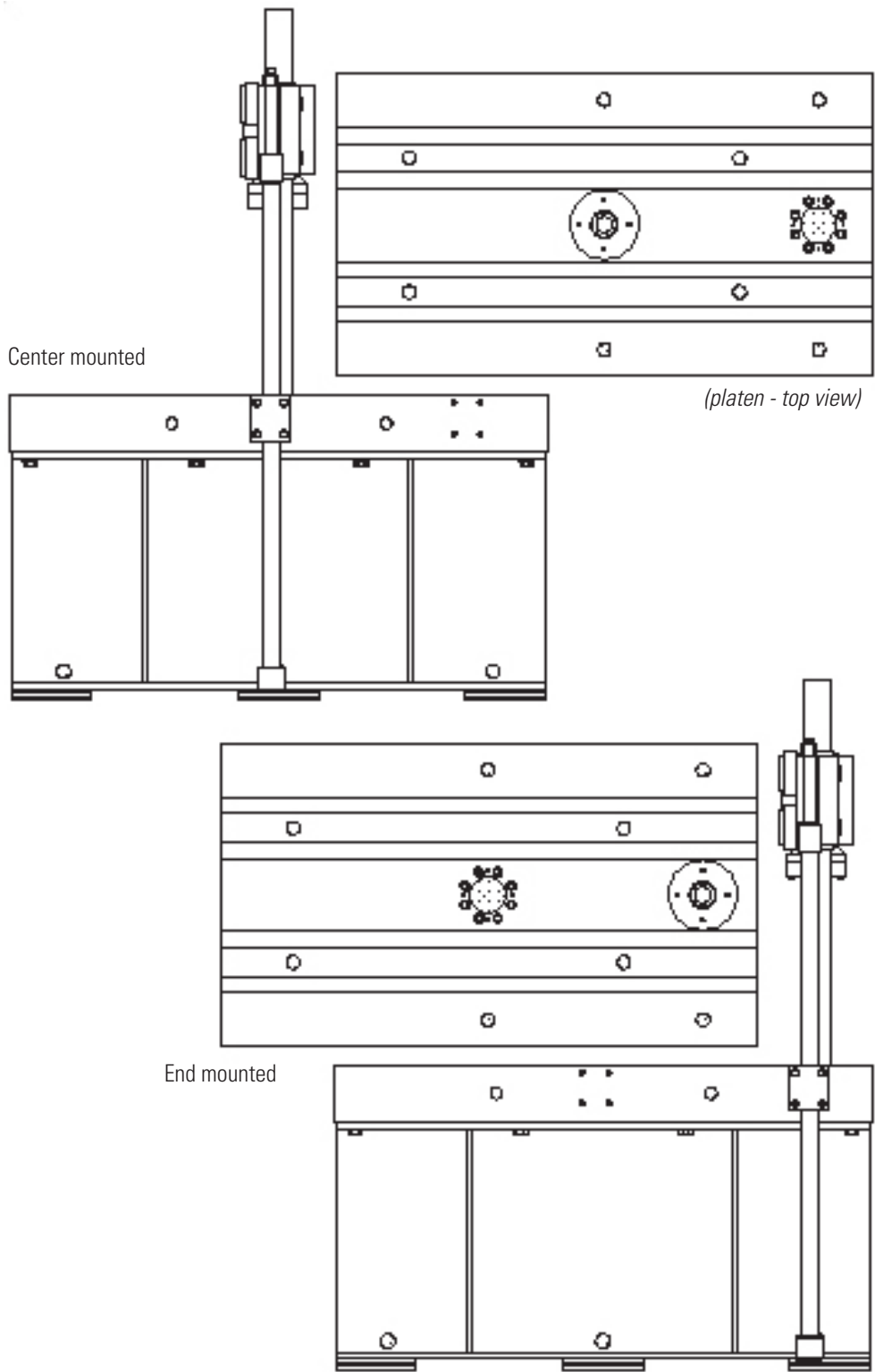
» **Freestanding**

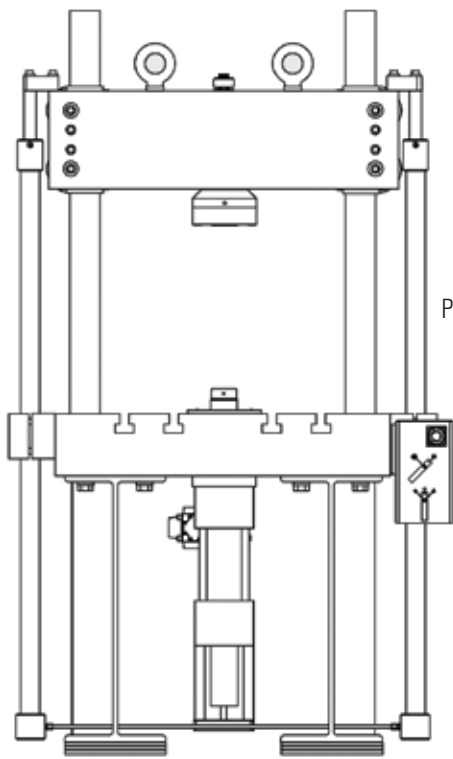
The Series 322 test system comes with legs that put its platen at a convenient working height. The weight is well distributed so most systems can be installed without special foundations or reinforcing your laboratory floor. The Series 322 system rests on isolation pads to give you a quieter work area.

Design Features



Load Train Position Options

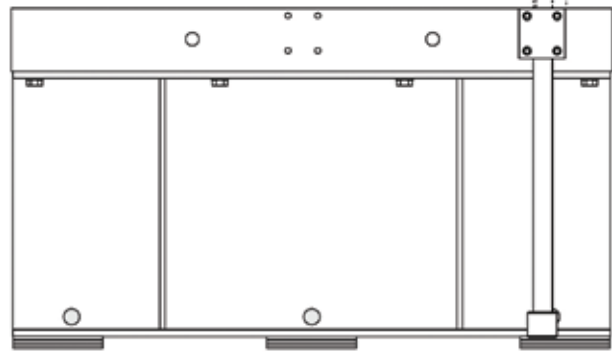




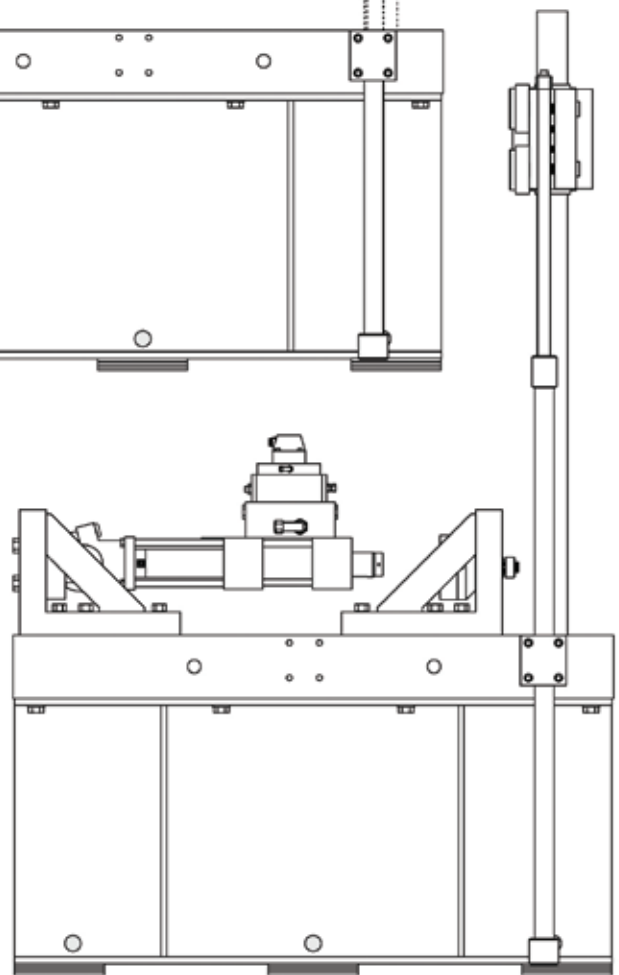
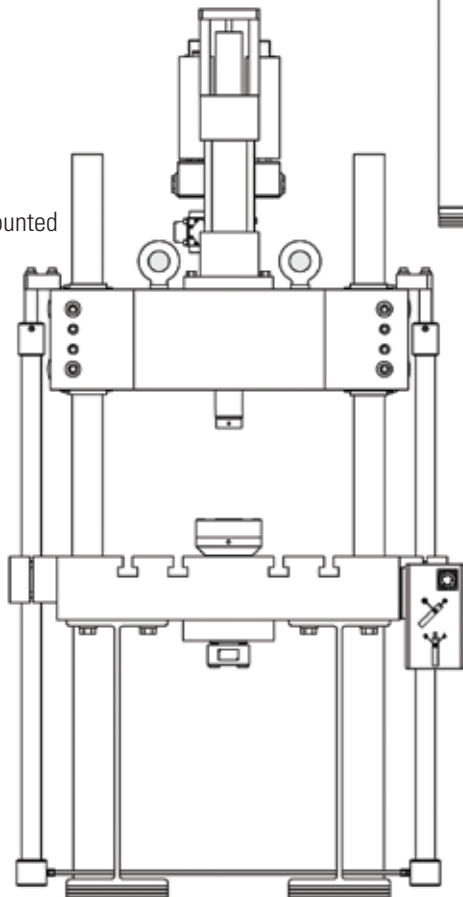
Platen mounted



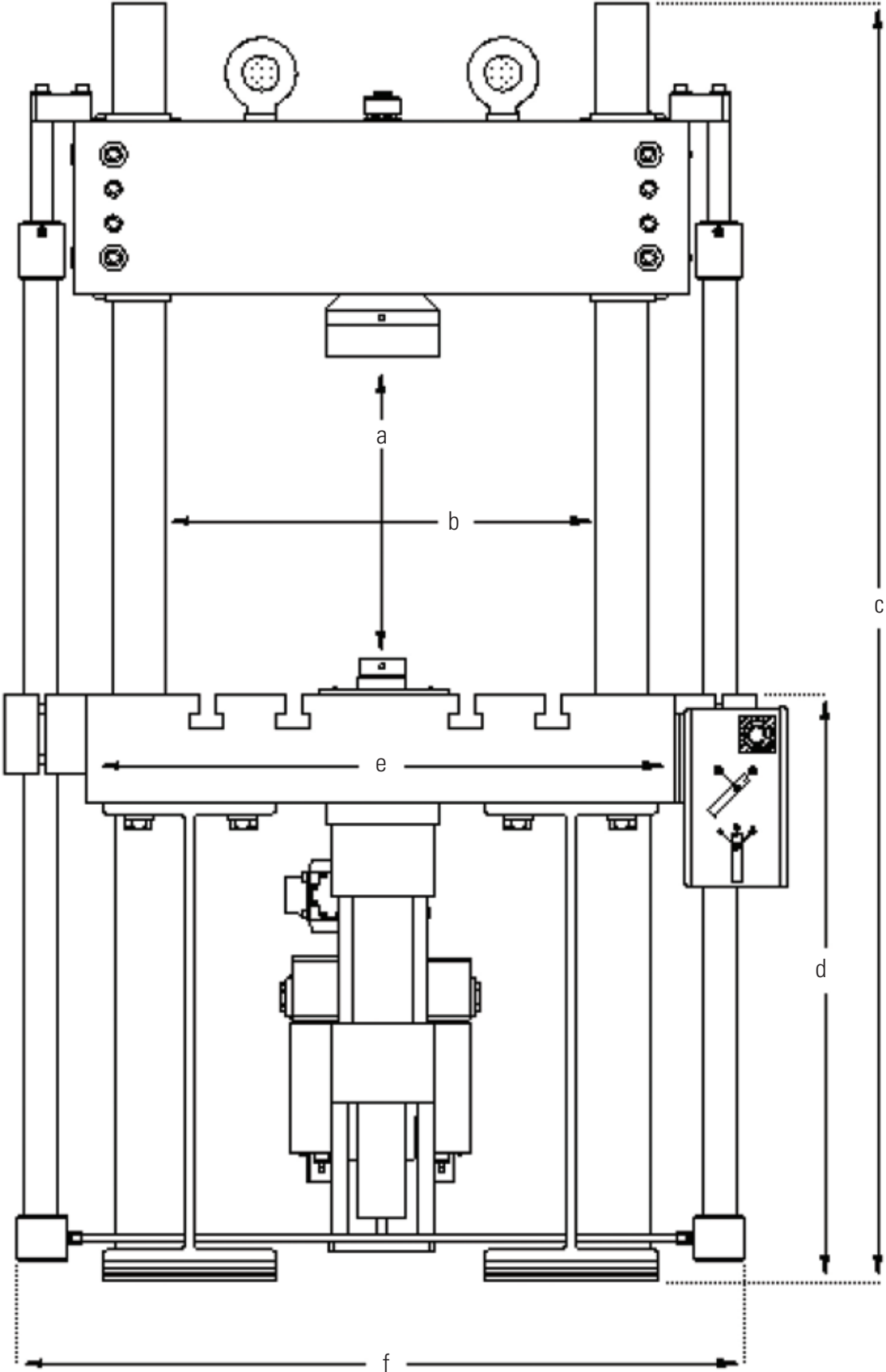
Swivel mounted



Crosshead mounted



Basic Specification



* All specifications subject to change without notice. Contact MTS to verify critical specifications.

Fatigue Ratings, Dimensions, and Weights — U.S. Customary

		Model 322.21	Model 322.31	Model 322.41
	load unit fatigue rating	22 kip	55 kip	110 kip
a	maximum specimen/grip clearance ¹	50.0 in	62.0 in	81.0 in
b	width between columns	21.0 in	25.0 in	30.0 in
c	height — with standard columns ²	98 in	118.5 in	144.75 in
d	table height	33.0 in	34.0 in	38.7 in
e	table width — side-to-side, without lifts	28.0 in	34.0 in	42.0 in
f	width — side-to-side, with lifts ³	34.0 in	40.0 in	48.0 in
	depth — front-to-back (not shown) ³	40.0 in	40.0 in	60.0 in
	width ⁴	34.0 in	40.0 in	48.0 in

Fatigue Ratings, Dimensions, and Weights — Metric

		Model 322.21	Model 322.31	Model 322.41
	load unit fatigue rating	100 kN	250 kN	500 kN
a	maximum specimen/grip clearance ¹	1270 mm	1575 mm	2057 mm
b	width between columns	533 mm	635 mm	762 mm
c	height — with standard columns ²	2489 mm	3010 mm	3677 mm
d	table height	838 mm	864 mm	984 mm
e	table width — side-to-side, without lifts	711 mm	864 mm	1067 mm
f	width — side-to-side, with lifts ³	864 mm	1016 mm	1219 mm
	depth — front-to-back (not shown) ³	1000 mm	1000 mm	1500 mm
	width ⁴	1370 kg	2050 kg	3870 kg

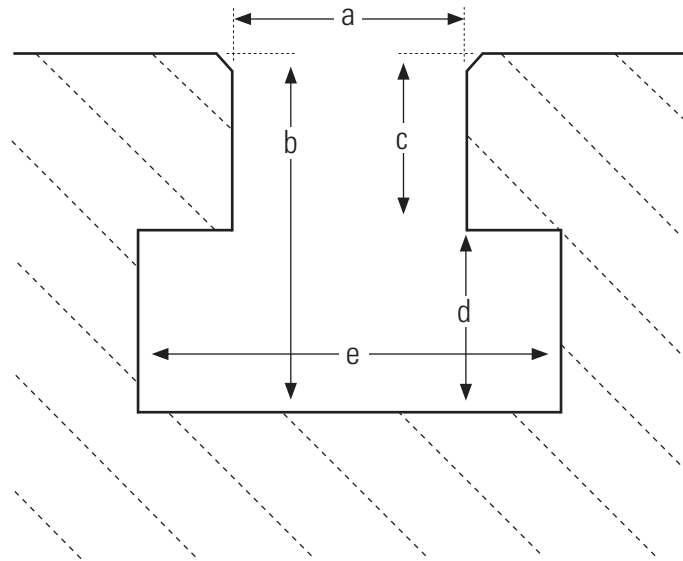
1 With a standard Series 661 Force Transducer and a fully retracted 6 in (150 mm) displacement actuator.

2 With a table mounted actuator.

3 On standard length tables. The Control Module's position can increase the table's width and depth.

4 Typical maximum weight with hydraulic locks, hydraulic lifts, and a standard dimension platen. Does not include the weight of grips or other accessories.

T-Slot And Platen Specifications



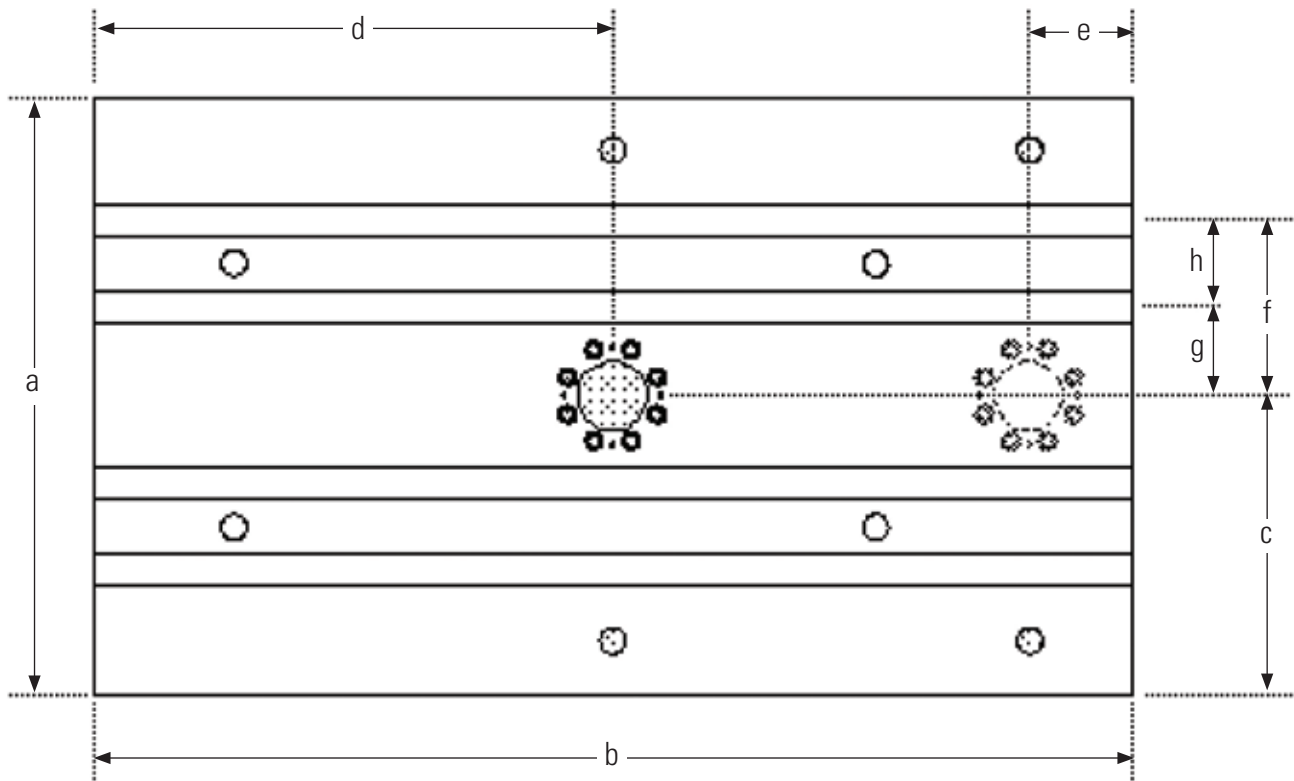
ANSI Standard B.5.1 T-Slot Dimension*

	T-bolt size	a	b	c	d	e
332.21	0.75 in	0.81 in	1.21 in	0.62 in	0.59 in	1.44 in
322.31	1 in	1.06 in	1.82 in	1.00 in	0.82 in	1.82 in
322.41	1 in	1.06 in	1.82 in	1.00 in	0.82 in	1.82 in

DIN Standard 650 T-Slot Dimension*

	T-bolt size	a	b	c	d	e
332.21	22 mm	22 mm	38 mm	22 mm	16 mm	37 mm
322.31	28 mm	28 mm	48 mm	28 mm	20 mm	46 mm
322.41	28 mm	28 mm	48 mm	28 mm	20 mm	46 mm

* minimum tolerances



T-slot Platen Dimensions — U.S. Customary

	a	b ¹	c	d	e ²	f	g	h
332.21	28.0 in	40.0 in	14.0 in	20.0 in	5.0 in	9.0 in	4.0 in	5.0 in
322.31	34.0 in	40.0 in	17.0 in	20.0 in	6.0 in	10.0 in	5.0 in	5.0 in
322.41	42.0 in	60.0 in	21.0 in	30.0 in	12.0 in	12.0 in	7.0 in	5.0 in

T-slot Table Dimensions — Metric

	a	b ¹	c	d	e ²	f	g	h
332.21	711 mm	1000 mm	355.6 mm	508.0 mm	127.0 mm	228.6 mm	101.6 mm	127.0 mm
322.31	864 mm	1000 mm	431.8 mm	508.0 mm	152.4 mm	254.0 mm	127.0 mm	127.0 mm
322.41	1067 mm	1500 mm	533.4 mm	762.0 mm	304.8 mm	304.8 mm	177.8 mm	127.0 mm

¹ larger tables available.

² distance to optional second actuator mounting position.

Stiffness Data

Deflections and Spring Rates

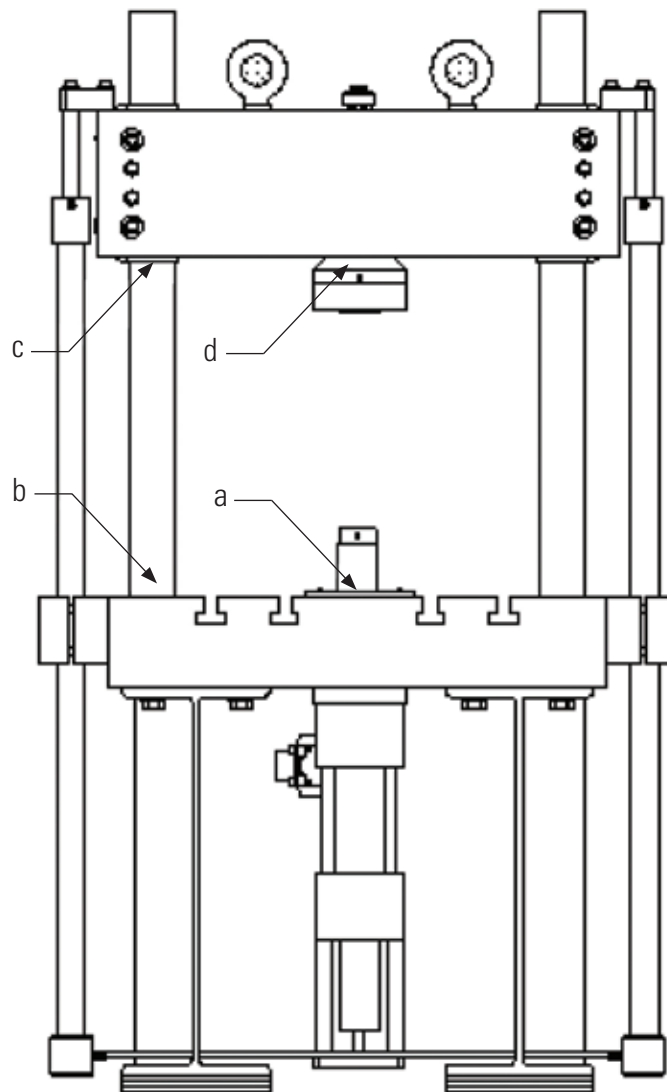
	Deflections ¹	Model 322.21 22 kip/100 kN		Model 322.31 55 kip/250 kN		Model 322.41 110 kip/500 kN	
	base	0.006 in	0.15 mm	0.007 in	0.18 mm	0.008 in	0.20 mm
a-b	columns	0.004 in	0.10 mm	0.006 in	0.20 mm	0.008 in	0.20 mm
b-c	crosshead	0.005 in	0.13 mm	0.010 in	0.20 mm	0.010 in	0.25 mm
c-d	overall frame	0.015 in	0.38 mm	0.021 in	0.53 mm	0.026 in	0.66 mm
a-d	spring rates ¹	1.5 x 10 ⁶ lb/in 2.6 x 10 ⁸ N/m		2.6 x 10 ⁶ lb/in 4.6 x 10 ⁸ N/m		4.2 x 10 ⁶ lb/in 4.2 x 10 ⁶ lb/in	

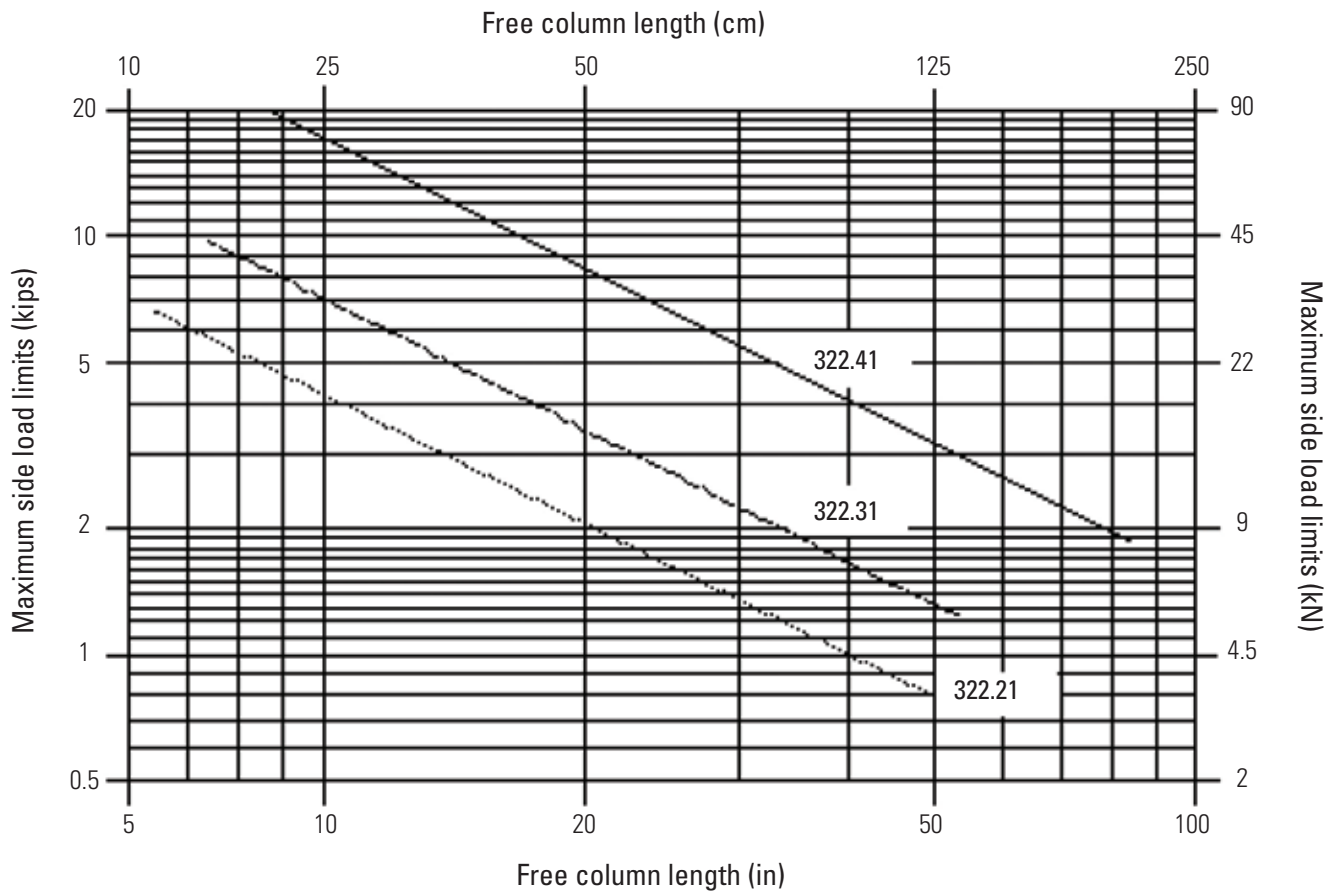
¹ Determined at each Load Unit's full fatigue rating with its crosshead raised 50 in (1270 mm) above the T-slot table.

Deflection rates can vary 20%, depending on the type of actuator and force transducer you use.

For the most accurate high frequency test results, use a Load Unit with a fatigue rating that's larger than its actuator's force rating.

(A 322.31 Load Unit with a 55 kip fatigue rating and a 22 kip actuator will be stiffer than a 322.21 Load Unit with a 22 kip fatigue rating and 22 kip actuator.)





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