

301 Series Load Frames

Designed specifically to provide fatigue or compression/ tension test capability in only 1.7 sq. ft. (.158 sq. m) of bench space. Typical applications include

- Cyclic material testing
- Application of precision force
- Fatigue testing

These fatigue rated load frames come standard with 6 inch (150 mm) stroke lengths and force ratings from 1.1 Kip (5 kN) to 10 Kip (45 kN). Advanced design, quality components, and a variety of options makes the 301 Series Load Frame your best choice for tabletop material testing applications

Features

Smooth, chrome plated columns

The 301 utilizes smooth, chrome plated columns to provide long life and easy crosshead position changes.

Infinitely adjustable crosshead

The crosshead is vertically adjustable with infinite resolution. Position of the crosshead is maintained free of backlash by friction clamp locks.

Internal displacement transducer

The actuator has a co-axially mounted LVDT in the piston rod. The design protects the LVDT and insures accurate displacement signals for the control system.

Extremely rigid construction

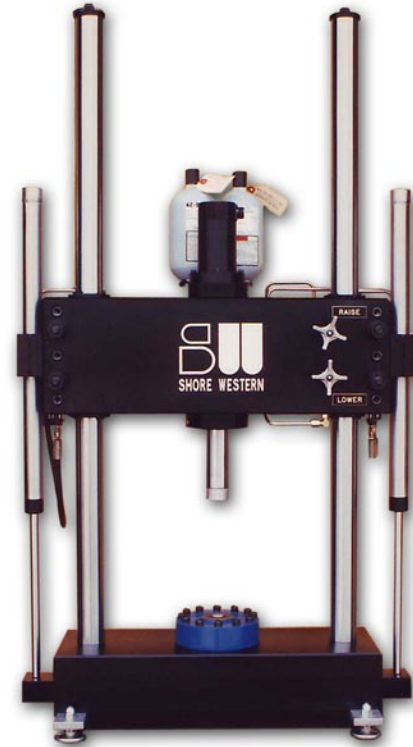
No intermediate threaded joints or compression joints are utilized and the load is transmitted directly into the crosshead during testing.

Ease of mounting

The 301 Series Load Frame requires no tie downs but can be mounted directly to a work surface or on isolation pads.

Ease of use

The actuator is mounted to the moveable crosshead and the system supplied load cell is mounted directly to fixed position metal base platen, simplifying and accelerating test setups.



Model 301 Load Frame

Options

Hydraulic crosshead controls

The standard 301 configuration uses a manual crosshead positioning system. Hydraulic lift and lock controls are also available. Located on the front of the load frame a panel controls crosshead movement. With simple controls you unlock, raise or lower and lock the crosshead. The design ensures a sudden loss of hydraulic power will not result in any unwanted crosshead motion.

Vibration isolation mounts

Vibration or dynamic testing can produce unwanted noise and vibration which can be transmitted to the laboratory environment. Isolation pads under the load frame help reduce noise and dampen vibrations transmitted to the laboratory.

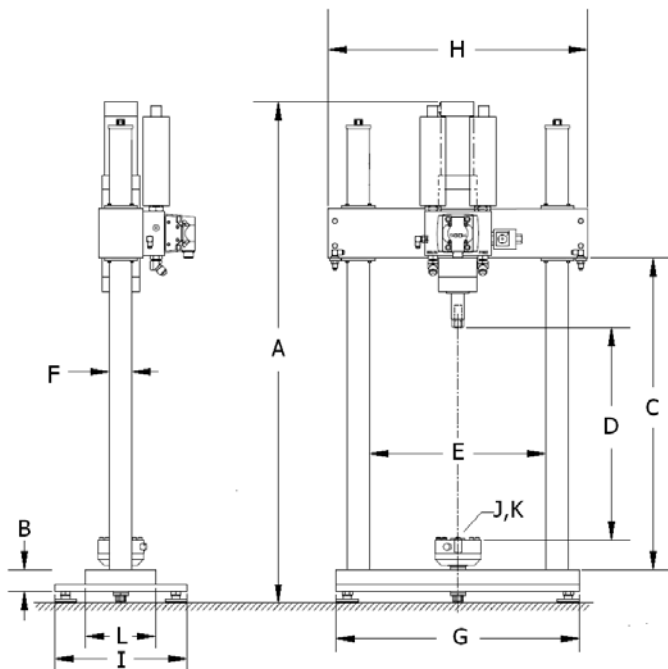
Safety enclosure

A safety enclosure can be fitted around the test area to protect the operator during destruction testing

Accessories

Choose from a wide variety of grips, fixtures, extensometers, larger power supplies and various load cell force ratings.

Dimensions/Weights	Ref	Model 301.1		Model 301.2		Model 301.3	
Column Diameter	F	1.25 in	3.2 cm	1.75 in	4.5 cm	2.00 in	5.1 cm
Column Spacing	E	8.00 in	20.3 cm	16.0 in	44.5 cm	16.0 in	45.7 cm
Crosshead Width	H	12.00 in	30.5 cm	22.0 in	55.9 cm	23.3 in	56.5 cm
Height (Overall)	A	38.5 in	97.8 cm	47.0	119.4 cm	48.0 in	121.9 cm
Max Clearance	C	13.2 in	33.5 cm	29.7 in	75.4 cm	29.7 in	75.4 cm
Specimen Length *	D	11.8 in	30.0 cm	25.0 in	63.5 cm	25.0 in	63.5 cm
Platen Height	B	1.5 in	3.8 cm	5.3 in	13.3 cm	6.3 in	15.9 cm
Platen Depth	L	12.0 in	30.5 cm	6.0 in	15.2 cm	6.0 in	15.2 cm
Base Width	G	12.0 in	30.5 cm	20.5 in	52.1 cm	22.0 in	55.9 cm
Base Depth	I	12.0 in	30.5 cm	12.0 in	30.5 cm	12.0 in	30.5 cm
Bolt Circle Diameter	K	See Drawing		3.5 in	8.9 cm	5.1 in	13.0 cm
Bolt Holes	J	1/4-20 UNC		1/4-20 UNC		3/8-16 UNC	
*Deflection Crosshead		.0015 in	.004 cm	0.008 in	0.020 cm	0.008 in	0.020 cm
Stiffness							
(lbf-in)		1.10 x 10 ⁶		6.25 x 10 ⁵		1.25 x 10 ⁶	
(N-m)		1.9 x 10 ⁸		1.1 x 10 ⁸		2.2 x 10 ⁸	
Crosshead Weight (with actuator)		30 lb	14 kg	50 lb	23 kg	70 lb	32 kg
Actuator Force		1.0/1.5 kip	4.4/6.7 kN	5.3 kip	23.6 kN	10 kip	44.5 kN
Actuator Area		.34/.55 in ²	.864/1.40 cm ²	1.77 in ²	11.40 cm ²	3.34 in ²	21.55 cm ²
Stroke		4.0 in	10.2 cm	4.0 in	10.2 cm	4.0 in	10.2 cm
Approximate Weight		110 lb	50 kg	150 lb	60 kg	200 lb	91 kg



*Specimen Length based on standard load cell, 4 inch stroke actuator (fully retracted), less grip dimensions.

Hydraulic lifts are optional on all models.

The Actuator Rod and Load Cell are concentric within .0015 @ 15in. (.002in/ft) thereafter.

Note: Service manifolds, servo valves and hydraulic power supplies are sized and selected based upon application.

Represented by:



Shore Western Manufacturing, Inc.
 225 W. Duarte Rd., Monrovia, CA 91016
 Phone (626) 357-3251 / FAX (626) 303-1582
 email sales@shorewestern.com
 www.shorewestern.com