

302 Series Load Frames

Designed specifically to provide tension-compression testing techniques as well as fatigue testing or high rate uses. The 302 Series Load Frames offer a 2-column symmetrical construction with a fixed-platen and moveable crosshead. Typical applications include

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

These freestanding fatigue rated load frames come standard with 6 inch (150 mm) stroke lengths and force ratings from 22 Kip (98 kN) through 110 Kip (489 kN) . Advanced design, quality components, and a variety of options makes the 302 Series Load Frame your best choice for your material testing applications.

Features

Smooth, chrome plated columns

The 302 utilizes two smooth, chrome plated columns to provide long life and easy crosshead position changes.

Infinitely adjustable crosshead

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

Hydraulic crosshead controls

Hydraulic lifts are standard on models 302.3 and 302.4 and they are optional on 302.2. 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.

Extremely accurate alignment

The actuator rod and load cell are concentric within .0015 inch @ 15 inches and .002in/ft thereafter.

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.



Model 302 Load Frame

Options

Hydraulic crosshead controls

Standard on models 302.3 and 302.4 and they are optional on 302.2.

Hydraulic crosshead lock

Hydraulically operated crosshead locks are available on all models.

Vibration isolation mounts

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

Safety enclosure

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

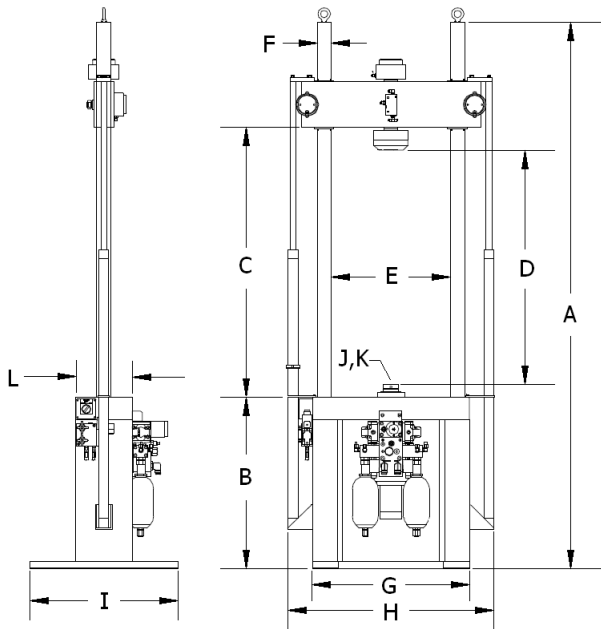
Actuator options

Different actuator displacements and valves are available, as well as custom force ratings. Service Manifolds, servo-valves and hydraulic power supplies are sized and selected based on application.

Accessories

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

DIMENSIONS/WEIGHT	REF.	MODEL 302.2		MODEL 302.3		MODEL 302.4	
Column Diameter	F	2.5 in	6.3 cm	3.0 in	7.6 cm	4.0 in	10.2 cm
Column Spacing	E	21.0 in	53.3 cm	25.0 in	63.5 cm	30.0 in	76.2 cm
Height (overall)	A	98.1 in	248.9 cm	120.0 in	304.8 cm	144.0 in	365.8 cm
Max Clearance	C	54.0 in	137.2 cm	73.0 in	185.4 cm	91.0 in	231.1 cm
Specimen Length *	D	46.0 in	116.8 cm	61.0 in	154.9 cm	80.0 in	203.2 cm
Platen Height	B	34.0 in	86.4 cm	36.0 in	91.4 cm	38.0 in	96.5 cm
Platen Depth	L	10.0 in	25.4 cm	12.0 in	30.5 cm	15.0 in	38.1 cm
Base Width	G	28.0 in	71.1 cm	40.0 in	101.6 cm	46.0 in	116.8 cm
Width (with lifts) **	H	36.0 in	91.4 cm	42.0 in	106.7 cm	49.0 in	124.5 cm
Base Depth	I	24.0 in	61.0 cm	30.0 in	76.2 cm	36.0 in	91.4 cm
Bolt Circle Diameter	K	8.0 in	20.3 cm	10.0 in	25.4 cm	13.0 in	33.0 cm
Bolt Holes (6 each)	J	1/2-13 UNC		5/8-11 UNC		3/4-10 UNC	
Deflection (max. cum.)		0.015 in	0.038 cm	0.021 in	0.053 cm	0.026 in	0.066 cm
Stiffness							
(lbf-in)		1.5 x 10 ⁶		2.6 x 10 ⁶		14.2 x 10 ⁶	
(N-m)		2.6 x 10 ⁸		4.6 x 10 ⁸		7.4 x 10 ⁸	
Force		22 Kip	100 kN	55 Kip	250 kN	110 Kip	500 kN
Approximate Weight		4500 lb	2050 kg	8000 lb	3650 kg	19000 lb	8600 kg



*Specimen length based on standard load cell, 6" stroke actuator (fully retracted), less grip dimensions.

**Hydraulic lifts optional on Model 302.2, standard on Models 302.3 & 302.4.

The actuator rod and load cell are concentric within 0.0015 in @ 15 inches of separation (0.002 in/ft thereafter).

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

Specifications subject to change without notice.

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