

Model 248 Hydraulic Actuators

The Model 248 Hydraulic Actuator is a heavy-duty, double ended, linear actuator designed specifically for vibration testing of structures and components.



Typical Applications

- High frequency, low amplitude vibration testing.
- Resonant frequency analysis requiring low harmonic distortion.
- Applications in which a heavy specimen requires static support.
- Test that may cause high moment or side load forces on the actuator.

Standard Features

- Fatigue rated design for years of reliable service in demanding applications.
- Double ended, one piece piston-rod design combines balanced dynamic performance with higher side-loading capacity.
- Hydrostatic bearings enable the actuator to withstand high side-load forces without excessive wear on the rod or bearings. The bearings are also coated with a polymer material to protect the actuator if side-load forces exceed the hydrostatic bearing capacity.
- Large diameter rod increases the strength and lateral stiffness of the actuator to better support off-center loads.

- Internal LVDT provides the displacement signal for position feedback in a closed loop servo-control application.
- Pedestal base allows the actuator to be rigidly mounted to a reaction mass or test fixture.

- Hydraulic cushions protect the end caps during full stroke, high velocity operation.

248 Actuator Options

Stroke Lengths – The 248 Actuator is available in standard stroke lengths of 50mm (2 in.), 100mm (4 in.), and 150mm (6 in.). Other lengths are available as special order.

Static Support – This special option reduces the size of an actuator required to support heavy specimens by pressurizing a chamber beneath the lower end cap with nitrogen.

248 Actuator Specifications

Model	Force Rating KN lbs		Rod Thread (Center Hole)	Rod Thread (Bolt Circle)	Hydraulic Connection
284.01	10	2,200	M27x2mm	4 holes, M12x1.75mm , equally spaced on a 57.2mm diameter bolt circle.	Pressure & Return – Pressure and return line connections depend on the servovalve. Configurations with Series 252 Servovalve Manifolds have SAE –16 fittings. Series 256 Servovalve Manifolds have SAE –20 fittings.
248.02	16	3,500		Optional 3"-12 UNC x 2.25" long male thread is available on 248.0X models for mounting TestLine vibration tables.	
248.03	28	5,500			
248.04	38	7,700			
248.05	50	11,000			
248.11	100	22,000		8 holes, M12x1.75mm , equally spaced on a 70.0mm diameter bolt circle	Drain - All 248 Actuators have a SAE –8 drain connection.
248.12	160	35,000			

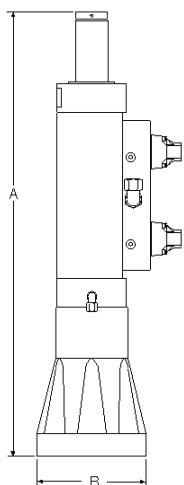
Specifications may change without notice. Please contact MTS for specifications critical to your application.

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Typical configurations for component or structural testing applications

Model	Servovalve	Close Coupled Accumulation
248.01	252.2X (qty 1 or 2)	1-2 liter (1 qt - 1/2 gal)
248.02	252.2X (qty 1 or 2)	1-2 liter (1 qt - 1/2 gal)
248.03	252.2X (qty 1 or 2)	1-2 liter (1 qt - 1/2 gal)
248.04	252.2X (qty 1 or 2), 252.0X (qty 1)	1-2 liter (1 qt - 1/2 gal)
248.05	252.2X (qty 1 or 2), 252.0X (qty 1)	1-2 liter (1 qt - 1/2 gal)
248.11	252.2X (qty 1 or 2), 252.0X (qty 1)	1-2 liter (1 qt - 1/2 gal)
248.12	252.2X (qty 1 or 2), 252.0X (qty 1)	1-2 liter (1 qt - 1/2 gal)

248 Actuator Assembly Dimensions



Model	Stroke		Length* (A)		Pedestal Base Dia. (B)	
	mm	in	mm	in	mm	in
248.0X	50	2	540.3	21.27	266.7	10.5
	100	4	765.6	30.14		
	150	6	841.8	33.14		
	250	10	1095.8	43.14		
248.1X	50	2	537.7	21.17	342.9	13.5
	100	4	775.7	30.54		
	150	6	851.9	33.54		
	250	10	1105.9	43.54		

* Dimensions are lengths with the actuator positioned at mid-stroke. Add 57mm (2.25") to the overall length for the 3"12 male thread option on the 248.0X models. 248.01 and 248.02 models are not available with 250mm (10") strokes.
Specifications subject to change without notice. Please contact MTS for specifications critical to your application.

248 Actuator Order Information

A complete servo-actuator assembly requires the actuator, a servovalve manifold, and servovalve. Servo-valves and other accessories for an actuator assembly are selected separately from other sections of the catalog.

See MTS Model 248 Product Specification number 100-016-994 for more information.

248 Actuator

Capacity

- ☐ 248.01 10kN (2,200 lbs)
- ☐ 248.02 16 kN (3,300 lbs)
- ☐ 248.03 25 kN (5,500 lbs)
- ☐ 248.04 35 kN (7,700 lbs)
- ☐ 248.05 50 kN (11,000 lbs)
- ☐ 248.11 100 kN (22,000 lbs)
- ☐ 248.12 160 kN (35,000 lbs)

Displacement

- ☐ 50 mm (2 in)
- ☐ 100 mm (4 in)
- ☐ 150 mm (6 in)
- ☐ 250 mm (10") Not available with 248.01 and .02 models

Rod Thread

- ☐ Metric Female
- ☐ English Male
(Available on 248.0X models for vibration table applications)

Base

- ☐ Pedestal Base

Servovalve Manifold

- ☐ 252.2X Two Stage Servovalve Manifold (Does not include the valve)
- ☐ 256.0X Three Stage Servovalve Manifold (Does not include the valve)

Optional Close Coupled Accumulation

- ☐ 1 Liter (1 qt)
- ☐ 2 Liter (1/2 gal)