

Model 244 Hydraulic Actuators

Series 244 Hydraulic Actuators are our most popular linear, high performance actuator for servohydraulic control applications. This actuator is fatigue rated and designed for years of trouble free operation. MTS engineers use proprietary materials and processes to minimize friction while maximizing reliability and wear resistance.



Typical Applications

- Highly dynamic fatigue testing of components.
- Structural fatigue tests.
- Vehicle durability tests.

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.
- PTFE high pressure seals are used for low friction and exceptional life in high frequency, small displacement applications. A low pressure wiper provides a secondary seal and minimizes contamination of the bearing and seals by scraping the rod.
- Bonded polymer bearings resist rod and bearing wear during high velocity operation.
- Internal LVDT provides the displacement signal for position feedback in a closed loop servocontrol application.

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

244 Actuator Options

Stroke Lengths – The 244 Actuator is available in standard stroke lengths of 150mm (6 in.) and 250mm (10 in.). Other non-standard strokes are also available.

Mounting – The 244 Actuator is most commonly configured with the optional 249 Swivel Base (see actuator accessory section).

The 244 can also be configured with a pedestal base for rigid mounting to a frame or reaction floor. It is important to determine the possible effects of side loading of the actuator when using this mounting option.

Other non-standard options include:

- Hydrostatic bearings for continuous high speed operation with high side load conditions.
- Trunnion and gimbal mounting fixtures for applications requiring a restricted range of motion.

244 Actuator Specifications

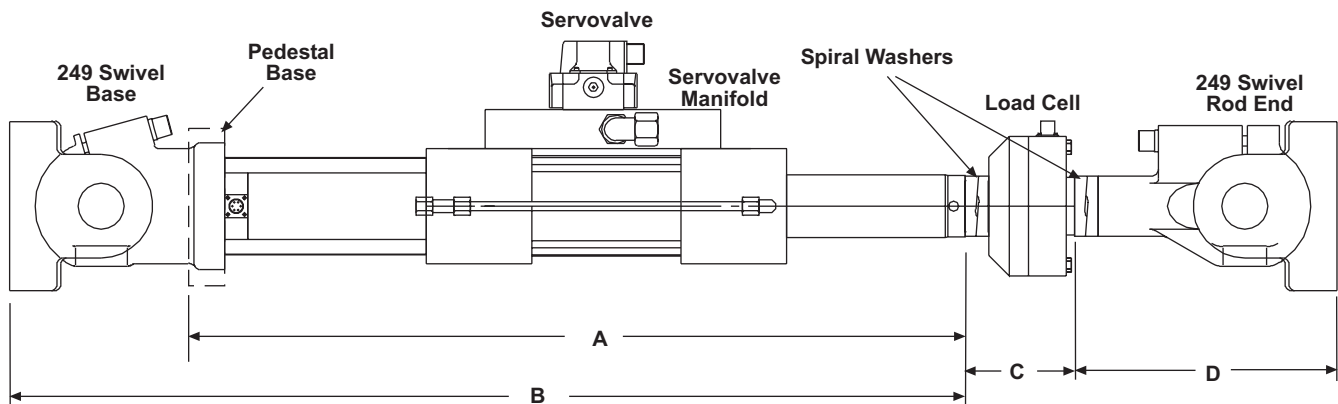
| Model | Force Rating | | Stroke | | Rod Threads | | Hydraulic Connection |
|--------|--------------|---------|------------|---------|-------------|-----------|---|
| | KN | lbs | mm | inches | Metric | English | |
| 244.11 | 15 | 3,300 | 150 250 | 6 10 | M12x1.25 | 1/2"-20 | Pressure & Return – Pressure 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. Drain – All 244 Actuators have a SAE -6 drain connection. |
| 244.12 | 25 | 5,500 | 150 250 | 6 10 | M12x1.25 | 1/2"-20 | |
| 244.21 | 50 | 11,000 | 150 250 | 6 10 | M27x2 | 1"-14 | |
| 244.22 | 100 | 22,000 | 150 250 | 6 10 | M27x2 | 1"-14 | |
| 244.23 | 150 | 35,000 | 150 250 | 6 10 | M27x2 | 1"-14 | |
| 244.31 | 250 | 55,000 | 150 250 | 6 10 | M36x2 | 1 1/2"-12 | |
| 244.41 | 500 | 110,000 | 150 250 | 6 10 | M52x2 | 2"-12 | |
| 244.51 | 1000 | 220,000 | 150 250 | 6 10 | M76x2 | 3"-12 | |

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

Model 244 Hydraulic Actuators

Typical Configurations for Component or Structural Testing Applications

| Model | Servo valve | Load Cell | Swivel | Spiral Washers |
|--------|--|--------------|--------|----------------|
| 244.11 | 252.2X (qty 1 or 2), 252.3X (qty 1) | 661.19E/F-03 | 249.12 | Optional |
| 244.12 | 252.2X (qty 1 or 2), 252.3X (qty 1) | 661.19E/F-04 | 249.12 | Optional |
| 244.21 | 252.2X (qty 1 or 2), 252.3X (qty 1) | 661.20E/F-02 | 249.20 | Optional |
| 244.22 | 252.2X (qty 1 or 2), 252.3X (qty 1) | 661.20E/F-03 | 249.23 | 601.11-11 |
| 244.23 | 252.2X (qty 1 or 2), 252.3X (qty 1) | 661.22C/D-01 | 249.23 | 601.11-11 |
| 244.31 | 252.2X (qty 1 or 2), 252.3X (qty 1), 256 (qty 1) | 661.22C/D-01 | 249.32 | 601.11-19 |
| 244.41 | 252.2X (qty 1 or 2), 252.3X (qty 1), 256 (qty 1) | 661.23E/F-01 | 249.41 | 601.11-13 |
| 244.51 | 252.2X (qty 1 or 2), 252.3X (qty 1), 256 (qty 1) | 661.31E/F-01 | 249.51 | 601.11-15 |



244 Actuator Assembly Dimensions

| Model | Stroke | | Length with Pedestal Base **(A) | | Length with Swivel Base **(B) | | Load Cell *** (C) | | Rod End Swivel *** (D) | |
|--------|--------|----|------------------------------------|-------|----------------------------------|-------|----------------------|------|---------------------------|-------|
| | mm | in | mm | in | mm | in | mm | in | mm | in |
| 244.11 | 150 | 6 | 779 | 30.66 | 868 | 34.16 | 66.5 | 2.62 | 120.7 | 4.75 |
| | 250 | 10 | 1033 | 40.66 | 1122 | 44.16 | 66.5 | 2.62 | 120.7 | 4.75 |
| 244.12 | 150 | 6 | 779 | 30.66 | 868 | 34.16 | 66.5 | 2.62 | 120.7 | 4.75 |
| | 250 | 10 | 1033 | 40.66 | 1122 | 44.16 | 66.5 | 2.62 | 120.7 | 4.75 |
| 244.21 | 150 | 6 | 777 | 30.61 | 914 | 35.98 | 95.3 | 3.75 | 196.9 | 7.75 |
| | 250 | 10 | 1031 | 40.61 | 1168 | 45.98 | 95.3 | 3.75 | 196.9 | 7.75 |
| 244.22 | 150 | 6 | 762 | 30.00 | 956 | 37.64 | 121.9 | 4.8 | 289.6 | 11.4 |
| | 250 | 10 | 1016 | 40.00 | 1210 | 47.64 | 121.9 | 4.8 | 289.6 | 11.4 |
| 244.23 | 150 | 6 | 761 | 29.96 | 955 | 37.59 | 229.4 | 9.03 | 289.6 | 11.4 |
| | 250 | 10 | 1015 | 39.96 | 1209 | 47.59 | 229.4 | 9.03 | 289.6 | 11.4 |
| 244.31 | 150 | 6 | 791 | 31.16 | 1045 | 41.16 | 235.0 | 9.25 | 387.4 | 15.25 |
| | 250 | 10 | 1045 | 41.16 | 1299 | 51.16 | 235.0 | 9.25 | 387.4 | 15.25 |
| 244.41 | 150 | 6 | 834 | 32.85 | 1177 | 46.35 | 235.0 | 9.25 | 504.7 | 19.87 |
| | 250 | 10 | 1088 | 42.85 | 1431 | 56.35 | 235.0 | 9.25 | 504.7 | 19.87 |
| 244.51 | 150 | 6 | 936 | 36.87 | 1406 | 55.37 | 350.5 | 13.8 | 699.8 | 27.55 |
| | 250 | 10 | 1190 | 46.87 | 1660 | 65.37 | 350.5 | 13.8 | 699.8 | 27.55 |

** Dimensions are lengths with the actuator positioned at mid-stroke.

*** Dimension includes spiral pre-load washers for actuators 100kN and larger.

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

Model 244 Hydraulic Actuators

244 Actuator Order Information

A complete servo-actuator assembly includes the actuator, servovalve, load cell, and swivels. The load cell and rod end swivel require attachment kits for connecting these components to the actuator. Servovalves, load cells, rod end swivels, and attachment kits for an actuator assembly are selected separately from other section of the catalog.

See [MTS Model 244 Product Specification](#) number 100-016-993 for more information.

244 Actuator

Capacity

- 244.11 15kN (3,300 lbs)
- 244.12 25 kN (5,500 lbs)
- 244.21 50 kN (11,000 lbs)
- 244.22 100 kN (22,000 lbs)
- 244.23 150 kN (35,000 lbs)
- 244.31 250 kN (55,000 lbs)
- 244.41 500 kN (110,000 lbs)
- 244.51 1000 kN (220,000 lbs)

Displacement

- 150 mm (6 in)
- 250 mm (10 in)
- 500 mm (20 in)

Rod Thread

- English
- Metric

Base

- 249 Swivel Base (Does not include the 249 Rod End Swivel)
- Pedestal Base

Servovalve Manifold

- 252.2X Two Stage Servovalve Manifold (Does not include the valve)
- 252.3X Two Stage Servovalve Manifold (Does not include the valve)
- 256.0X Three Stage Servovalve Manifold (Does not include the valve)