REX GAUGE COMPANY, INC.

Automatic Durometer Operating Stand
Model OS-AUTO

The Model OS-AUTO ASTM D2240 Type 3 automatic operating stands provide constant load, controlled rate-of-descent, and application velocity, through a geared electric motor and braking mechanism that alternately lowers the durometer onto the specimen and then raises it in preparation for the next testing cycle. The electronic timer adjusts the amount of time the durometer remains in the lowered position (dwell time), allowing timed recording of test determinations. The stand can perform high volume testing compared to hand-held or manually operated stands.

The versatile Model OS-AUTO is compatible with Rex Gauge Models 1600, 2000, 3000, 4000, DD-4 and DD-5. The Model OS-AUTO also will accommodate many durometers of other manufacturers, although a mounting adapter may be necessary.

Unlike its predecessors and competitive models, the Model OS-AUTO will accommodate ASTM D2240 Type OO, OOO and OOO-S durometers(with no weights) Types A, B, O, C, D, & DO durometers require the addition of the larger masses.

Features:

- Precision Machined Aluminum Frame
- Gloss Black Powder Coated Aluminum Base
- Heavy Duty Electric Drive Motor and Servos
- Precision Ground Stainless Steel Guide Rods
- Precise and Stable Durometer Application
- Precision Long-Reach Linear Bearings
- Smooth, Positive, Wobble Free Operation
- Stainless Steel Housing



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Model OS-AUTO Specifications

Specification	Description | Value
Durometer Types	No Mass: OO, OOO, & OOO-S Small Mass: A, B, E & O Large Mass: C, D, & DO
Overall Dimensions (D x W x H)	356 x 156 x 248 mm (14 x 6.125 x 9.75 in.)
Specimen Table Dimensions	177 x 182 mm (7 x 6 in.)
Throat Depth	83 mm (3.25 in.)
Throat Height	79 mm (3.125 in.)
Weight (Without Additional Mass)	16 kg (35 lb.)
Minimum Specimen Thickness	6 mm (0.240 in.) per ASTM D2240
Maximum Specimen Thickness	Varies with Durometer Model; ~75 mm (3 in.)
Timer Operation	0 through 9999 seconds
Power Requirements	120 VAC 60 Hz | 240 VAC 50 Hz Optional
Operating Temperature	23.0 ± 2.0 °C (73.4 ± 3.6 °F)

Mounting and Performing ASTM D2240 Test Determinations

This section outlines the procedure for performing ASTM D2240 test determinations using the Model OS-AUTO automatic operating stand and does not address those of ISO 7619-1, DIN 53 505 or other methods.

1. Obtain a copy of ASTM D2240 *Standard Test Method for Rubber Property—Durometer Hardness-05 (2010)* which is available for download at astm.org It is very important that all operators thoroughly read the 'procedure' section of this document to be assured that the operator is fully aware of the requirements for proper durometer hardness testing. Failure to follow the procedures outlined in ASTM D2240 will lead to incorrect test determinations.
2. Using the allen wrench that is provided, loosen the one screw on the front of the bracket and carefully place the gauge in the bracket clamp. Secure the gauge in the clamp by clamping on the larger diameter of the lower barrel.
3. Plug the provided power cord in to the back of the unit and then turn the power switch to the 'on' (I is depressed) position.
4. When the durometer mounting arm reaches the highest position (up delay), turn the power switch off (O is depressed).

5. Turn the durometer height knob until the bottom of the durometer is approximately one inch above the specimen.
6. Turn the power switch on. When the durometer reaches its lowest position (down delay), turn the power switch off or use the cycle switch to halt the movement.
7. If needed, adjust the durometer mounting knob and durometer height knob to ensure positive contact with the specimen.
8. Performing tests of Type A, B, E, or O requires the small mass.
   Performing tests of Type C, D, or DO scale durometer require the addition of the large mass.
   Performing tests of Type OO, OOO or OOO-S requires no mass.
   Turn the power switch on. The Model OS-AUTO raises the durometer to the up (delay) position.
9. The dwell timer on the side of the Model OS-AUTO controls how long the durometer remains at the lowermost position (0 to 9999 s), in contact with the specimen before returning to the uppermost position.
10. Adjust the dwell timer to meet your testing requirements. ASTM D2240 specifies a 1s dwell time, however this maybe adjusted to meet other requirements and reported.
11. When the durometer returns to the uppermost position it will begin the next test cycle by actuating the cycle switch located on the side of the OS-AUTO.
12. Record each reading for at least five cycles. When employing a durometer with an analogue maximum indicating hand or digital maximum reading hold feature, reset it at each up delay cycle.
13. Calculate the average or the mean (refer to ASTM D2240) of the readings to obtain the test result.

CAUTION: Turn off (cycle switch or power switch) the Model OS-AUTO only when it is in the up delay or down delay position. If the OS-AUTO is turned off while the stand is in motion, it may stall the motor. If the motor stalls or slows severely, remove any optional mass, turn the power switch off and on, then use the cycle switch to halt/resume travel until the normal cycle resumes. This may take several repetitions.

