



# EuroSID Thorax Certification Test Stand

Model Number: TF-1500-0174



## INTRODUCTION

The TF-1500-0174 EuroSID Thorax Certification Test Stand is a complete fixture for the calibration and testing of the rib components for the EuroSID-1 and ES-2 dummies.

The fixture is designed to test EuroSID-1 and ES-2 rib modules at the velocities specified for certification. Inspection tests for the rib alone and damper tests can also be performed.

## DESCRIPTION

The tower is constructed of structural steel tubing with a maximum height of 20.5 ft. The tower height itself is adjustable to a lower 10.5 ft. when the upper extension piece is removed. This allows for more flexibility in lab installations where only whole rib module testing is required.

Tests are performed by raising the free fall impactor to a specified height. Using an electromagnetic release system, the impactor is released and guided down by two cables.

Once the probe impacts the rib module, a linear potentiometer mounted within the module measures peak deflection.

Velocity measurements are made by means of an infrared velocity measurement system. This system is made up of an infrared emitter, detector, and a precision slotted vane. The slotted vane is attached to the impactor, and when dropped, the vane passes between the infrared emitter and detector generating a series of on/off pulses that can be transmitted into velocity by the use of Denton ATD's data acquisition system coupled with EuroSID-1 analysis software. An accelerometer is used to determine time zero.

Two (2) impactors with varying masses are used to perform individual tests. A 7.78 kg impactor is used for rib module and rib alone testing, and a 1.0 kg impactor is used for damper testing.

The rib linear potentiometer and accelerometer required for the test are not included.

### Standard Equipment

- Welded tower structure
- (2) impactors, 7.78 / 1.0 kg
- Infrared velocity measurement system
- Electromagnetic release
- Mounting brackets for damper and potentiometer
- Rib Module mount plate
- Rope Hoist

| Dimensions | Fixture | Work Area |
|------------|---------|-----------|
| Length     | 2.1 ft  | 5.0 ft    |
| Width      | 4.0 ft  | 5.0 ft    |
| Height     | 20.5 ft | —         |