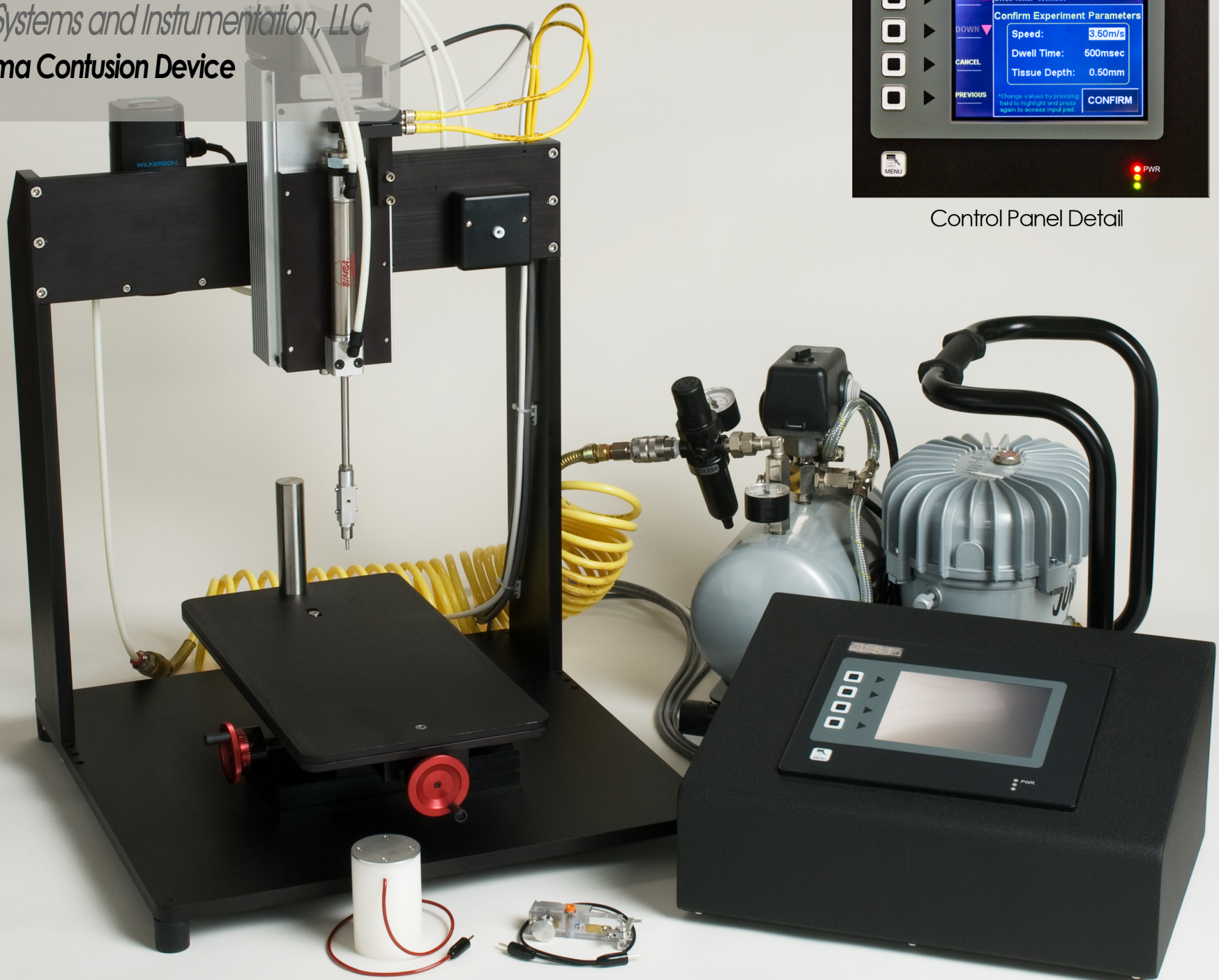


# PSI

Precision Systems and Instrumentation, LLC

## Head Trauma Contusion Device

Model TBI-0310



Control Panel Detail



# TBI-0310 Impactor

**A head trauma contusion device designed for medical research using rats and mice**

This system provides medical researchers specializing in traumatic brain injury a unique user-friendly instrument to evaluate the mechanisms underlying brain trauma. The instrument enables the application of standard contusion injury to the brain of small rodents. The amount of cortical depression is user-selectable between 0 and 3.5 mm (0.01 mm increments). The target velocity of the removable impactor tip (5.0 and 3.0 mm beveled supplied) is electronically monitored and is user-selectable between 1.5 and 5.5 m/sec (0.1m/s increments). Dwell time, defined as the amount of time the cortical tissue remains depressed at the preset depression level, is user-selectable between 50 milliseconds and 5 seconds (1 millisecond increments). The system is ready to use out of the box when combined with a **user-supplied stereotaxic frame**<sup>1</sup>. All necessary electrical components are contained within the control box. No additional computer interface is required. The display on the touch screen of the control unit guides the investigator through the injury sequence for maximum reproducibility and ease of operation. The display shows the final impact velocity, dwell time and cortical displacement after the injury sequence. This system utilizes a unique contact sensor mechanism, which is easily calibrated, that ensures accurate and reliable detection of cortical surface prior to initiating the injury sequence. This device yields increased accuracy and reproducibility in brain injury modeling.

<sup>1</sup>**Contact PSI for recommendations and details.**

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## Specifications

### Impactor

- Maximum height: 29" (736 mm)
- Desk top foot print X and Y: 18" X 18" (457mm x 457mm)
- Weight: 49 lbs (22 kg)
- Cylinder: Bimba pneumatic (compressed air)
- Power train, contact sensor, calibration bloc, control unit included
- 2 Axis manual stereotaxic frame position controller, Range 3" X 8" (276 X 203 mm)
- Motor driven Z axis, Range: 4" (102mm)
- Removable plate for stereotaxic frame, 15" X 8" (381mm X 203 mm)
- Standpost for stereotaxic frame customized to users specifications - compatible with all major brands of stereotaxic frames
- Removable impactor tip: flat, beveled edges 5.0 & 3.0 mm included - customized tips available upon request

### Control Unit

- Cabinet: 14.4" (36.6cm) X 11.5" X 7.2" (292mm X 183mm)
- Weight: 14 lbs (6.4 kg)
- Display: Color Touch Screen 4.5" X 3.5" (115mm X 90mm)
- Programmable impact depth level 0-3.5 mm
  - Default = 0.5 mm
  - Increments of 0.01 mm
- Programmable impact velocity: 1.5-5.5 meters/sec
  - Default = 3.5m/sec
  - Increments of 0.1m/sec
- Programmable impact dwell time: 50 millisecond – 5 second
  - Default = 500 millisecond
  - Increments of 1 millisecond
- Power requirement: *Specify power requirement with order*  
-120 or 240VAC, 50 or 60 Hz, 5 amps

### Air Compressor

- Jun-Air Model 3-4
- Compressor foot print X and Y: 15" X 12" (381mm X 305mm)
- Noise level: 35dB(A)/1m
- Maximum system pressure: 120 psi
- Weight: 40 lb (18kg)
- Power requirement: *Specify power requirement with order.*  
-120 or 240VAC, - 50 or 60 HZ, 2.5 amps
- Optional automatic drain for clearing receiver condensation.