

## Isotonic Transducer

Cat. No. 7006

### General

The 7006 Isotonic Transducer basically consists of a carbonfibre lever arm which pivots on the shaft of a Hall-effect rotary motion transducer of original design.

The arm is balanced by an adjustable counterweight of tungsten alloy.

**It is possible to carry out experiments on extremely small muscle fibres**, which can be held under a tension of as little as 100-200 mg so that minimal force and consequent displacement alterations can be recorded.

The lever arm balancing is provided by a tungsten alloy counterweight which can be shifted by turning its knurled section.

This load is monitored by the counterweight rim moving along a scale calibrated in grams.



The picture shows an Isotonic Transducer (left) & an Isometric Transducer (right), see separate datasheet

### Also available from Ugo Basile:

- Tissue Baths, 1, 2, 4-chambers
- Digital Recorder DataCapsule-Evo
- Electrodes & Stimulators

### Main Features

- Ugo Basile Isotonic Transducer is specially designed for investigating isotonic contractions in isolated organs, particularly smooth muscle, amphibian hearts, etc.
- An Isotonic Transducer is basically a displacement meter under constant load, whereas an Isometric transducer measures changes in force at constant length

## Isotonic Transducer Specifications

<b>Voltage Output</b>	300 $\mu$ V per mm displacement of lever arm tip
<b>Linearity</b>	$\pm$ 2% to $\pm$ 15° rotation
<b>Excitation Voltage</b>	6 $\div$ 15V
<b>Excitation Current</b>	20mA (constant in the range 6 $\div$ 15V)
<b>Operating Range</b>	$\pm$ 15° about the centre
<b>Lever Arm Length</b>	10cm
<b>Lever Arm Travel</b>	6cm
<b>Breakaway Torque</b>	less than 0.1g x cm
<b>Moment of Inertia</b>	35 g x cm <sup>2</sup>
<b>Overall Dimensions</b>	16.5x5.5x11cm (excl. removable handle)
<b>Weight</b>	0.35Kg
<b>Shipping Weight</b>	1.60Kg
<b>Packing</b>	29x26x29cm

## Compatibility

**Before ordering, check the connection compatibility** of your amplifier/recording system.

The Isometric & Isotonic Transducers are normally supplied with a connector designed for Ugo Basile Data-Capsule-Evo Recorder (see datasheet).

If the customer wishes to make use of other recording apparatus, the transducers can be supplied with appropriate connectors on request: we will be glad to provide transducer with different connectors, if available, or to provide wiring information and instruction.

## Ordering Information

**7006** Isotonic Transducer

## Bibliography

- O. E. Kiroglu et alia: "The effects of thiol modulators on nitrergic nerve- and S-nitrosothiols-induced relaxation in duodenum" *J. of Basic and Clinical Physiol. & Pharmacol.* 0 (0): 1-8, 2013
- M. Bucci et alia: "Cross-talk between toll-like receptor 4 (TLR4) and proteinase-activated receptor 2 (PAR2) is involved in vascular function" *Br. J. Pharmacol.* 168 (2): 411-420, 2013
- C. Jelen et alia: "Bone scaffolds with homogeneous and discrete gradient mechanical properties" *Materials Science & Engineering: C* 33 (1): 28-36, 2013
- M. Volta et alia: "Pharmacological profile and antiparkinsonian properties of the novel nociceptin/orphanin FQ receptor antagonist 1-[1-cyclooctylmethyl-5-(1-hydroxy-1-methyl-ethyl)-1,2,3,6-tetrahydropyridin-4-yl]-3-ethyl-1,3-dihydro-benzoimidazol-2-one (GF-4)" *Peptides* 31:1194-1204, 2010
- P.U. Ertug: "Protective effect of quercetin, a polyphenolic compound, on mouse corpus cavernosum" *Fundamental & Clinical Pharmacology* 24: 223-232, 2010
- O. Desire et alia: "Antispasmodic and antioxidant activities of fractions and bioactive constituent davidigenin isolated from *Mascarenhasia arborescens*" *J. Ethnopharmacology. J. Pharmacol.* Accepted: May 2010, 2004
- D. Currò et alia: "Voltage-gated calcium channels involved in the inhibitory motor responses and asoactive intestinal polypeptide release in the rat gastric fundus" *Eur. J. Pharmacol.* 628: 207-213, 2010
- C. Belloli et alia: "Adrenergic Regulation of Vascular Smooth Muscle Tone in Calf Digital Artery" *J. Vet. Pharmacol. Therap.* 27:4: 247-254, 2004
- F. Carpi et alia: "Electromechanical Characterisation of Dielectric Elastomer Planar Actuators: Comparative Evaluation of Different Electrode materials and Different Counterloads" *Sensors and Actuators.* 107: 85-95, 2003
- P. Tucci et alia: "Cyclo-Oxygenase- and Capsaicin-Sensitive Afferent Fibres Affect Beta-Adrenoceptor-Evoked Response in the Rat Urinary Bladder" *Pharmacology* 64: 57-62, 2002
- P.C. Moser et alia: "SL65.0155, A Novel 5-Hydroxytryptamine4 Receptor Partial Agonist with Potent Cognition-Enhancing Properties" *J. Pharmacol. Exper. Therap.* 302:2: 731-741, 2002
- P. Tucci et alia: "Effects of Natural Tachykinins on Ovine Lower Urinary Tract Smooth Muscle" *J. Autonomic Pharmacol.* 21:2: 79-84, 2001
- C.M.Q. Jesus-Morais et alia: "Yangambin, a Lignan Obtained from *Ocotea duckei*, Differentiates Putative PAF Receptor Subtypes in the Gastrointestinal Tract of Rats" *Planta Med.* 66:4: 211-216, 2000