



## Isometric Transducers

Cat. No. 7003 /7004/7005 & 7010

### General

The force exerted on a hollow carbon fibre beam is converted into proportional electric signal via strain-gauges conveniently wired in Wheatstone bridge circuit.

The three models 7003-7004-7005 cover the range from 0 to 50 g (see table on the facing page). The high sensitivity 7010 is designed for the mg range.

### Model Selection

The transducers are of robust construction and can withstand forces of up to 5-10 times the rated value. It is possible to use 7003 which is generally used for trachea rings or artery strips, where forces of 5-10 grams are involved, by operating at minimum amplifier sensitivity. However, the cantilever will deflect with a load of the mentioned magnitude

Generally speaking, it is advisable to use a stiff transducer, operating at high amplifier sensitivity, and use the most sensitive transducer only when the forces involved are very small.



**ISOTONIC TRANSDUCER**  
see separate leaflet

### Main Features

- Ugo Basile transducers have been designed for precise measurement of force in muscular preparations under isometric conditions.
- An Isometric Transducer measures changes in force at constant length whereas an Isotonic Transducer is basically a displacement meter under constant load.

## Isometric Transducer Specifications

Model	7010	7003	7004	7005
<b>Electrical</b>				
Excitation Voltage (max.)	6V	6V	6V	6V
Excitation Voltage (typical)	3V	3V	3V	3V
Sensitivity ( $\mu V$ per g per V)	110	70	25	10
Non linearity & Hysteresis	+/-3%	+/-3%	+/-3%	+/-3%
<b>Mechanical</b>				
<b>Force Range</b>	<b>0-800 mg</b>	<b>0-2 mg</b>	<b>0-10 mg</b>	<b>0-50 mg</b>
Overload Rating	5g	20g	50g	200g
Moment of Inertia	7gcm <sup>2</sup>	7gcm <sup>2</sup>	7gcm <sup>2</sup>	7gcm <sup>2</sup>
Lever Arm Displacement	0,5 mm/g	0,3 mm/g	0,1 mm/g	0,06 mm/g
Weight	270 g	270 g	270 g	270 g
Shipping Weight	900 g	900 g	900 g	900 g

## Compatibility

The Isometric & Isotonic Transducers are normally supplied with a connector designed for UGO BASILE Unirecord 7050 & Gemini 7070 (see note below).

If the customer wishes to make use of other recording apparatus, the transducers can be supplied with appropriate connectors on request.

An optional DC Power Supply (single or multiple channel) is available for connecting the Isometric Transducer to amplifier/recording systems where excitation voltage is not available at the input connector. Quotations on request.

### IMPORTANT NOTE :

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

The grey plastic connector mounted on the Transducers manufactured before 1990 (RTG 18) has been replaced by a cylindrical, all metal model of ECTA. Adaptors are available.

## Bibliography

### Isometric Transducers 7003, 7004, 7005

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