

## isometric force transducer



it50 is a transducer for measuring isometric contraction (defined as contraction of tissue without change in length).

it50 allows studying contractile properties of isolated tissues, such as aorta, trachea and papillary muscles during drug exposure or electrical stimulation.

It is designed for use with our tissue bath systems:

- » **emkaBATH4** modular tissue bath system,
- » **emkaBATH2** compact tissue bath benchtop,
- » or any other model



### Robust, rugged design

it50 is a robust and rugged isometric transducer for measuring forces in the range 0-50g.

Its stainless steel body contains four solid-state gauges wired as a Wheatstone bridge.

It comes with a DIN or a LEMO connector.

### In the emkaBATH setups

The same it50 is used for setups with manual and automated tissue tensioning.

The force must be measured at a 90° angle from the long axis (the hole on the transducer body must face upwards).

The upper tissue hook is connected to the it50 transducer via a swivel, which permits rotatory movement.

### Specifications

force range	0 to 50 g
displacement	0.89 mm/50g
sensitivity@ Vcc=5V	0.1 mV/g
excitation voltage	10 V DC
full scale output	5mV
maximum accepted overload	100g (0.1N)
combined error (linearity, hysteresis, repeatability, temperature)	<0.2%
temperature drift	<0.03% / °C
temperature range	-10 to 70°C
input impedance	1000 Ω
output impedance	1000 Ω
dimensions	cylinder: 10mm, 80mm length

### References

- emkaBATH\_IT\_50** with connector for **emkaBATH2** or 4  
**USB\_IT\_50** with connector for **emka usbAMP**  
**IT\_50** with connector for **emka analog amplifier**

