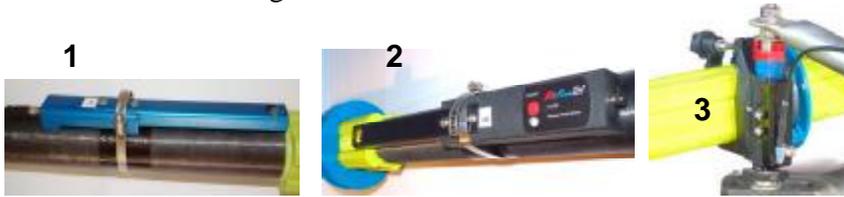
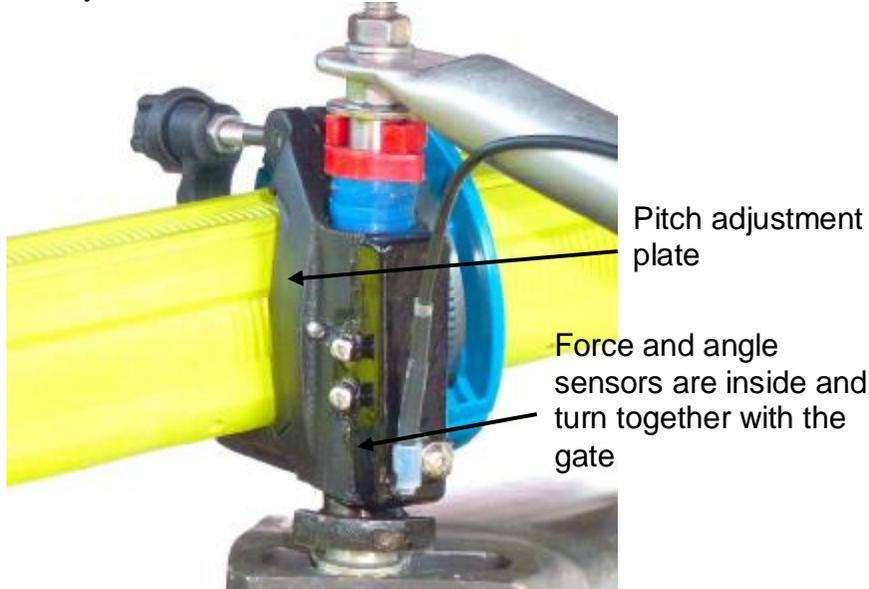


Instrumented Gate

BioRow Ltd. offers a wide selection of sensors for force measurement in rowing:

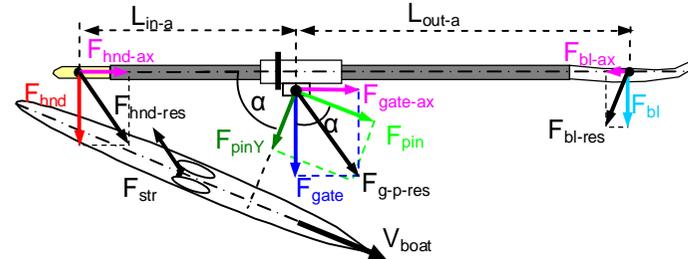


1. Our standard wired [Handle force transducer](#) is light, reliable and quick to setup. It is very useful, when large number of rowers needs to be measured quickly and rigging settings should not be disturbed.
2. [Wireless handle force unit](#) provides the same advantages as its wired analogue plus it is equipped with 3D accelerometer and gyro, which are useful for determining oar handling skills. Also, it can also be used in canoe and kayak.
3. [Instrumented Gate](#) is good for long-term monitoring of rowing technique, because it works as a normal gate and does not create any hassles for rowers. Also, it can be used in a race situation.



The advantage of BioRow Instrumented Gate is that it measures force in a perpendicular direction relative to the oar, i.e. the sensor

rotates together with the oar and gate (see Rowing Biomechanics Newsletter 2010/03 on www.biorow.com). If the pin force measured, as it is arranged in some other systems (the sensor is fixed relative to the boat), the accuracy suffers, because only part of the force is measured at the angles different from the perpendicular to the boat. Also, an unproductive axial force transferred through the oar shaft can be read as a propulsive force at sharp catch angles.



Therefore, **BioRow Instrumented Gate provides the most accurate determination of the productive power of rower.**

The BioRow Instrumented Gate has the same dimensions as the standard rowing gate and can easily replace it. The oar pitch angle can be quickly adjusted with removable plates, which can be done even at the pontoon without removing the gate from the pin.

The BioRow Instrumented Gate can be supplied in 1D version (measures force in one direction perpendicular to the oar) or in 2D version (also measures the force along the oar shaft), which can be useful for advanced evaluation of rower's skills and research purposes.

Specifications of BioRow Instrumented Gate v 2012

| | |
|--|---------------|
| Extra mass compare to the standard gate | 50g, |
| Pitch adjustment | 0-8 deg |
| Maximal measured force, sculling gate | 1500N |
| Maximal measured force, sweep gate | 2250N |
| Accuracy of the force measurement, better than | ±0.5% |
| Range of measured angle, more than | 150 deg |
| Accuracy of the angle measurement, better than | ±0.2% |
| Price 1D version | 550 UK pounds |
| Price 2D version | 650 UK pounds |

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