

Abstract

The invention relates to a force determination apparatus 110, 510, 610 comprising (i) a contact section 111 configured to contact at least a portion of a first object, (ii) a flexible section 112 connected to the contact section, wherein the flexible section is configured to
5 yield when a force acts at least partially on the first object and/or on the contact section, (iii) a measuring head 113, 114, 511, 611 configured to measure a measurement value of a measured variable that correlates with the yielding of the flexible section, and (iv) a force determination device configured to determine, based on the measurement value of the measured variable, a force value of the force acting at least partially on the first object
10 and/or on the contact section. The invention further relates to a system 200 with at least three measurement value determination apparatuses, wherein the system is configured to spatially align the first object with the second object based on three measurement values, in particular force values. This allows a high resolution to be achieved over a large measuring range.

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(Fig. 1)