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Abstract

Test element analysis system for the analytical investigation of a sample, in particular of a body liquid of human beings or animals, comprising test elements (2) with a carrier film (5) and a test field (7) fixed to the flat side (6) of the carrier film (5), the test field (7) containing a reagent system the reaction of which with the sample (21) leads to an optically measurable change in the detection zone (24) which is characteristic for the analysis, and an evaluation instrument with a measuring device for measuring the optically measurable change. In order to obtain a very high measuring accuracy and an easy handling at the same time, the carrier film (5) of the test element (2) comprises a light guide layer (26), the detection zone (24) of the test field (7) is in optical contact to the light guide layer (26) in a coupling out zone (33), enabling the coupling out of light from the light guide layer (26) to the detection zone (24), the primary light (29) of the light emitter (16) is coupled into the entry surface (31) in the light guide layer (26) in such a manner that a light guide section (32) of the light path of the primary light (29) runs between the entry surface and the detection zone (24) inside the carrier film (5), and the secondary light is reflected from the detection zone (24) into the light guide layer (26) in such a manner that a light guide section (34) of the light path of the secondary light runs between the detection zone (24) and the detector (17) inside the light guide layer (26).

(Fig. 3)