The study of the dynamic properties of interfacial layers at liquid-liquid interfaces is an important topic due to its relevance for many technological processes involving multiphase multicomponent systems, such as emulsions, liquid films and foams. Our purpose is taking a step toward the advancement of the knowledge on the stability and evolution of the above-mentioned complex systems. To this end we pursue reliable measurement values for the physical interfacial properties of single liquid-fluid interfaces [1]. In the presentation, we show the progress concerning the design, realisation and features of a capillary-pressure tensiometer for the measurement and for the visual observation of nanolitre-sized water drops in a hydrocarbon matrix. Measurements results are illustrated for drops oscillating up to 150-Hz frequency [2].

Fig.1.- Typical image of an oscillating drop at frequency $f = 26.0$ Hz, selected from a sequence of digital frames acquired with a time-resolution of 2.0 ms, at 20 ms intervals