

**METHOD FOR DETERMINING OR MONITORING A PREDETERMINED FILL LEVEL,
A PHASE BOUNDARY OR A DENSITY OF A MEDIUM**

Abstract

The invention relates to a method and an apparatus for determining or monitoring a predetermined fill level, a phase boundary or a density of a medium in a container with an oscillatable unit, wherein the oscillatable unit is placed at the height of the predetermined fill level; wherein the oscillatable unit is excited to oscillate successively with discrete exciter frequencies following one another in a frequency scanning operation (sweep) within a predeterminable frequency band in the working range of the oscillatable unit; wherein the corresponding oscillations of the oscillatable unit are received in the form of received signals; wherein that exciter frequency is ascertained in the frequency scanning operation, at which the oscillatable unit oscillates with an oscillation frequency, which has a predetermined phase shift between the transmission signal and the received signal; and wherein the transmitting/receiving unit (S/E) excites the oscillatable unit to oscillate with the ascertained oscillation frequency.

(Fig. 1)