

Title (en)  
ARRANGEMENT AND FIELD DEVICE FOR PROCESS MEASUREMENT TECHNOLOGY

Title (de)  
ANORDNUNG UND FELDGERÄT DER PROZESSMESSTECHNIK

Title (fr)  
DISPOSITIF ET APPAREIL DE TERRAIN DE LA TECHNIQUE DE MESURE DE PROCESSUS

Publication  
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Application  
**EP 16704442 A 20160215**

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Abstract (en)  
[origin: WO2016142127A1] Disclosed is an arrangement comprising an ultrasonic transducer and a damping element with a longitudinal axis L, which damping element connects the ultrasonic transducer to a housing or measuring tube wall, wherein the transducer has an attachment comprising a surface in contact with a medium, from which surface ultrasonic signals are emitted into a gaseous or liquid medium, and the damping element has at least two annular grooves and an annular mass segment arranged therebetween. The invention is characterised in that the damping element has a first characteristic frequency  $f_a$  at which the annular mass segment performs an axial movement parallel to the longitudinal direction of the damping element, wherein this first characteristic frequency is the highest characteristic frequency in the event that there are a plurality of characteristic frequencies at which the annular mass segment performs an axial movement parallel to the longitudinal direction of the damping element, and in that the damping element has a second characteristic frequency  $f_r$ , at which the annular mass segment performs a rotational movement, wherein this second characteristic frequency is the lowest characteristic frequency in the event that there are a plurality of characteristic frequencies at which the annular mass segment performs an axial movement parallel to the longitudinal direction of the damping element, and wherein the ratio of the first characteristic frequency  $f_a$  to the second characteristic frequency  $f_r$  is less than 0.75. Also disclosed is a field device for process measurement technology.

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