

Title (en)
BUBBLE DETECTOR IN A FLOW METERING APPARATUS.

Title (de)
BLASENDETEKTOR IN EINEM DURCHFLUSSMESSGERÄT.

Title (fr)
DETECTEUR DE BULLES DANS UN DEBITMETRE.

Publication
EP 0042400 A4 19820422 (EN)

Application
EP 81900165 A 19801124

Priority
• US 10304079 A 19791213
• US 10305779 A 19791213

Abstract (en)
[origin: WO8101655A1] In a flow metering apparatus (10) a bubble detector for detecting bubble formation in tubing (16) subject to deformation from internal fluid pressure includes a light source (60) and a first light detector (61). The light detector is positioned on the opposite side of the tubing from the light source such that the light transmitted through the tubing to the detector is dependent on the presence of fluid in the tubing and on the shape of the lumen of the tubing. A control circuit (100) responsive to the output of the detector interrupts operation of the metering apparatus (10) when the light transmitted through the tubing falls below a predetermined minimum level. False interruptions resulting from deformation of the tubing by pressure changes in the fluid are prevented by forming members (90, 91) which engage the wall of the tubing (16) adjacent the light source (60) and light detector (61). For improved sensitivity a second light detector (100) is positioned at an angle to the light path between the light source (60) and the first detector (61) so as to receive increased light from the light source in the absence of the Focusing effect of fluid in the tubing. Intensity control means (102) responsive to the output of the light source decreases the intensity of the light source (60) with increased incident light at the second detector (100) to increase the responsiveness of the bubble detector to the absence of fluid in the tubing.

IPC 1-7
A61M 5/14

IPC 8 full level
A61M 5/36 (2006.01)

CPC (source: EP)
A61M 5/365 (2013.01)

Citation (search report)
• FR 1449713 A 19660819
• FR 2067572 A5 19710820 - AURA
• FR 2135014 A5 19721208 - LUCAS INDUSTRIES LTD
• GB 2009453 A 19790613 - BAXTER TRAVENOL LAB

Designated contracting state (EPC)
AT CH DE FR GB NL SE

DOCDB simple family (publication)
WO 8101655 A1 19810625; EP 0042400 A1 19811230; EP 0042400 A4 19820422

DOCDB simple family (application)
US 8001571 W 19801124; EP 81900165 A 19801124