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(54) **METHOD FOR PRODUCING A PRESSURE SENSOR WITH AN OPTICAL FIBER ON THE MEASURING DIAPHRAGM FOR DETECTING DEFLECTIONS**

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See application file for complete search history.

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(57) **ABSTRACT**

A vortex flowmeter having a measuring tube through which a medium can flow, a bluff body in the measuring tube and a pressure sensor in the effective range of the bluff body. The pressure sensor has a deflectable measuring diaphragm for determining the pressure in the medium neighboring the measuring diaphragm, at least one optical fiber being arranged on and/or in the measuring diaphragm for detecting the deflection of the measuring diaphragm. The optical fiber is at least partially effectively connected to the measuring diaphragm along its length so that a deflection of the measuring diaphragm caused by the medium pressure leads to an extension and/or compression of the optical fiber. The pressure sensor has a pocket that can be deflected by the pressure of the medium and which surrounds the measuring diaphragm and optical fiber to protect them from the medium. The measuring diaphragm is deflected with the pocket.

4 Claims, 5 Drawing Sheets

