

27 AUG 2002

2002051654



162162

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

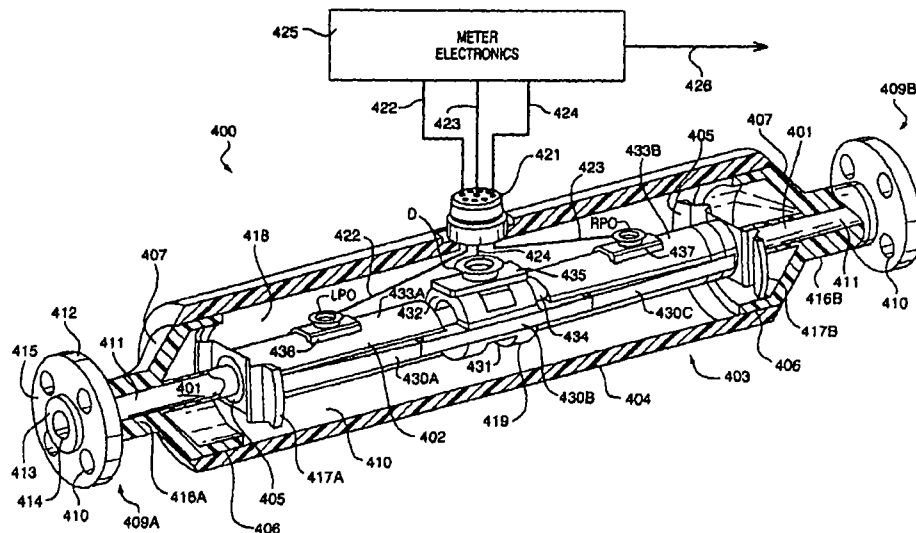
(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
7 September 2001 (07.09.2001)

PCT

(10) International Publication Number
WO 01/65213 A1

- (51) International Patent Classification⁷: G01F 1/84 (74) Agents: DUFT, Donald, M. et al.; Chrisman, Bynum & Johnson, P.C., 1900 Fifteenth Street, Boulder, CO 80302 (US).
- (21) International Application Number: PCT/US01/01032
- (22) International Filing Date: 11 January 2001 (11.01.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/516,861 2 March 2000 (02.03.2000) US
- (71) Applicant: MICRO MOTION, INC. [US/US]; 7070 Winchester Circle, Boulder, CO 80301 (US).
- (72) Inventors: LANHAM, Gregory, Treat; 1249 3rd Avenue, Longmont, CO 80501 (US). PANKRATZ, Anthony; 4477 Camino Perdido, Golden, CO 80403 (US).
- (81) Designated States (national): AU, BR, CA, CN, ID, IN, JP, KR, MX, PL, RU, SG.
- (84) Designated States (regional): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS FOR AND A METHOD OF FABRICATING A CORIOLIS FLOWMETER FORMED PRIMARILY OF PLASTIC



WO 01/65213 A1

(57) Abstract: Apparatus for and a method of fabricating a Coriolis flowmeter made primarily of plastic. The Coriolis flowmeter of the invention makes extensive use of plastic and injection molding. All embodiments (100, 200, 300, 400, 500, 600) have a dynamically active structure including at least one flow tube (101, 102, 201, 301, 401, 555, 601, 602) that is formed of plastic by the use of injection molding. Other embodiments include balance bar (202, 302, 402), plastic flanges (104, 412, 501, 609, 611) and/or a plastic case (103, 403), and/or plastic brace bars (110, 210, 310, 405, 520, 521), and/or plastic bobbins for pick offs (LPO, RPO) and a driver (D), and/or plastic mounting surfaces (435, 436, 437) on a balance bar or flow tube for mounting the plastic bobbins of the pick offs and a driver. The injection molding process used to fabricate subject Coriolis flowmeter include the steps forming a material flow path core (706) using a core mold (702), placing the formed material flow path core into a wrapper mold (900) having a cavity (928, 929) whose surfaces define the exterior surface of the plastic Coriolis flowmeter structure to be formed, injecting low temperature metal or soluble material into the cavity of the wrapper mold, removing the plastic Coriolis flowmeter structure from the wrapper mold, and removing the material flow path core from the plastic Coriolis flowmeter by melting the low temperature metal core or by dissolving the soluble material using hot water.



ACTION