

Title (en)

Method and device for the determination of the erosion caused by cavitation of fluid-traversed components

Title (de)

Verfahren und Vorrichtung zum Bestimmen der kavitationsbedingten Erosion in fluiddurchströmten Komponenten

Title (fr)

Procédure et dispositif pour la détermination de l'érosion occasionnée par la cavitation d'éléments traversés par un écoulement de fluides

Publication

**EP 0554640 B1 19961204 (DE)**

Application

**EP 92810090 A 19920207**

Priority

EP 92810090 A 19920207

Abstract (en)

[origin: EP0554640A1] Cavitation-caused erosion in fluid-traversed components such as a pump (1) can be derived by detecting the vibration of the pump casing. The cavitation-caused fluid-propagated sound is transmitted to the pump casing and is detected by means of a sensor (7b) of a solid-propagated sound measuring device (7a), is amplified in a signal processing unit (10), is filtered and digitised and transmitted to a computer (11). Further measured-data registration appliances such as the outlet pressure measuring appliance (6), the suction pressure measuring appliance (8), the fluid temperature measuring appliance (9) or the rotational speed measuring appliance (4) make it possible for the computer (11) to calculate, for example, the flow rate or the relationship between the flow rate and the erosion rate. The values determined can be displayed via the output unit (13), the output unit (13) activating an alarm, for example, when a limit value which can be preset via the input unit (12) is exceeded, for example. <IMAGE>

IPC 1-7

**F04D 29/66**

IPC 8 full level

**F04D 29/66** (2006.01)

CPC (source: EP US)

**F04D 15/0088** (2013.01 - EP US); **F04D 29/669** (2013.01 - EP US); **F05D 2260/821** (2013.01 - EP US)

Citation (examination)

PATENT ABSTRACTS OF JAPAN vol. 11, no. 94 (M-574)25. Marz 1987 & JP-A-61 244 896 (SHIPBUILD RES. ASSOC. JAPAN) 32 Oktober 1986

Cited by

DE19854383A1; CN112067283A; EP2148119A3; ITBS20090186A1; CN101876323A; CN103576640A; EP0742372A1; CN108087314A; EP0904818A1; US5974887A; DE19744990C1; EP0908212A1; US6398510B1; US8186393B2; WO2017001090A1

Designated contracting state (EPC)

CH DE FR GB LI

DOCDB simple family (publication)

**EP 0554640 A1 19930811**; **EP 0554640 B1 19961204**; DE 59207622 D1 19970116; US 5332356 A 19940726

DOCDB simple family (application)

**EP 92810090 A 19920207**; DE 59207622 T 19920207; US 307893 A 19930111