

Title (en)  
IMPROVED MANDREL HAVING AN EDDY CURRENT PROBE

Publication  
**EP 0148454 B1 19890308 (EN)**

Application  
**EP 84115488 A 19841214**

Priority  
• US 56710283 A 19831230  
• US 56710483 A 19831230  
• US 56710783 A 19831230

Abstract (en)  
[origin: EP0148454A2] An improved fluid mandrel having an eddy current probe generally comprises a probe body which is detachably connectable to the bottom of a fluid mandrel on one end, and a source of hydraulic fluid on the other end. The probe body includes a pair of sensing coils which are separated along the longitudinal axis of the body by a distance approximately equal to the thickness of the metallic structure desired to be detected. The invention finds application in performing expansions which eliminate the clearance, e.g., by interference fit, between heat exchange tubes extending through the baffle plates in nuclear steam generators; the sensing coils of the probe are longitudinally spaced the same distance as the thickness of the baffle plates in order to generate a sharp and unambiguous electronic signal indicative of the relative positions of the mandrel and the baffle plate. Also disclosed is a method of controlling the expansion swaging force considering the tube material properties.

IPC 1-7  
**B21D 39/06**; **B21D 39/20**

IPC 8 full level  
**B21D 39/20** (2006.01); **C21D 7/12** (2006.01)

CPC (source: EP)  
**B21D 39/203** (2013.01); **C21D 7/12** (2013.01)

Cited by  
FR2666408A1; KR101223090B1

Designated contracting state (EPC)  
BE CH DE FR GB IT LI SE

DOCDB simple family (publication)  
**EP 0148454 A2 19850717**; **EP 0148454 A3 19851106**; **EP 0148454 B1 19890308**; DE 3476974 D1 19890413; ES 539069 A0 19861216; ES 8702186 A1 19861216

DOCDB simple family (application)  
**EP 84115488 A 19841214**; DE 3476974 T 19841214; ES 539069 A 19841226