Title (en)
LIQUID USAGE MONITORING

Title (de)
ÜBERWACHUNG EINES FLÜSSIGKEITSVERBRAUCHES

Title (fr)
CONTROLE D'UTILISATION DE LIQUIDE

Publication
EP 1390204 B1 20041229 (EN)

Application
EP 02739405 A 20020523

Priority
• GB 0113095 A 20010530
• US 0216548 W 20020523

Abstract (en)
[origin: WO02096653A1] A method and apparatus for monitoring usage of liquids of high value or sensitive nature which are applied in repeated small controlled volumes are provided by monitoring and recording parameters including the number of applications, purging, priming and cleaning steps and the usage of liquid supply and circulation pumps. The monitored parameters present a record of the total liquid usage. The recorded usage of the liquid pumps can be cross-checked with the volumes indicated by the other parameters so as to highlight any disagreement between the respective indications of total liquid volumes employed, thereby alerting the user to possible operating problems and permitting prompt remedial action to be taken.

IPC 1-7
B41J 2/165

IPC 8 full level
B41J 2/165 (2006.01); **B41J 2/175** (2006.01); **B41J 29/38** (2006.01); **B41J 29/46** (2006.01); **G08C 15/00** (2006.01)

CPC (source: EP)
B41J 2/165 (2013.01); **B41J 2/175** (2013.01); **B41J 2/17566** (2013.01)

Cited by
US8944119B2; US11284333B2; US11711745B2; US10529219B2; USRE48951E; US9824569B2; US11272815B2; US11903537B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
WO 02096653 A1 20021205; AT E285899 T1 20050115; CN 1551833 A 20041201; DE 60202463 D1 20050203; DE 60202463 T2 20060622; EP 1390204 A1 20040225; EP 1390204 B1 20041229; ES 2235051 T3 20050701; GB 0113095 D0 20010718; JP 2004529795 A 20040930; TW 572833 B 20040121

DOCDB simple family (application)
US 0216548 W 20020523; AT 02739405 T 20020523; CN 02811085 A 20020523; DE 60202463 T 20020523; EP 02739405 A 20020523; ES 02739405 T 20020523; GB 0113095 A 20010530; JP 2002593148 A 20020523; TW 91111467 A 20020529