

Title (en)  
ION ELUTING UNIT AND DEVICE PROVIDED WITH SAME

Title (de)  
IONENABGEBENDE EINHEIT UND VORRICHTUNG DAMIT

Title (fr)  
UNITE D'ELUTION IONIQUE ET SON DISPOSITIF

Publication  
**EP 1580313 A4 20071226 (EN)**

Application  
**EP 03774027 A 20031114**

Priority  
• JP 0314549 W 20031114  
• JP 2002335778 A 20021119

Abstract (en)  
[origin: WO2004046447A1] A laundry machine (1) in which metal ions produced by an ion eluting unit (100) can be input into water at the last rinsing step. The time for the last rinsing step at which metal ions are input is longer than that for the step at which no metal ions are input. When metal ions are input, in the rinsing step, a strong flow time and a weak flow time are provided, or a strong flow time and a rest time are provided. If any imbalance during drying rotation of the washing tub (30) after metal ion input is detected, a processing different from that carried out if an imbalance is detected when no metal ions are input is carried out.

IPC 8 full level  
**D06F 33/02** (2006.01); **D06F 39/08** (2006.01); **D06F 35/00** (2006.01); **D06F 37/20** (2006.01)

CPC (source: EP KR US)  
**D06F 33/38** (2020.02 - KR); **D06F 33/48** (2020.02 - KR); **D06F 35/003** (2013.01 - KR); **D06F 35/008** (2013.01 - EP KR US);  
**D06F 33/38** (2020.02 - EP US); **D06F 33/48** (2020.02 - EP US); **D06F 35/003** (2013.01 - EP US); **D06F 2103/04** (2020.02 - EP KR US);  
**D06F 2103/06** (2020.02 - EP KR US); **D06F 2103/26** (2020.02 - EP KR US); **D06F 2105/58** (2020.02 - EP KR US)

Citation (search report)  
• [YD] JP 2001276484 A 20011009 - TOTO LTD  
• [Y] JP H06269592 A 19940927 - TOSHIBA CORP  
• [XY] JP 2002113288 A 20020416 - MITSUBISHI RAYON CO  
• [Y] CH 662804 A5 19871030 - MUELLER PAUL  
• [E] WO 2004003280 A1 20040108 - SHARP KK [JP], et al  
• [Y] EP 0668388 A1 19950823 - WHIRLPOOL CO [US]  
• [E] WO 2004011710 A1 20040205 - SHARP KK [JP], et al  
• [A] EP 0781881 A1 19970702 - FAGOR S COOP [ES]  
• [A] US 6032494 A 20000307 - TANIGAWA MASANOBU [JP], et al  
• See references of WO 2004046447A1

Cited by  
EP1616989A4; EP1785518A1; EP2027930A4; EP3299505A1; IT201600094671A1; US7905121B2; US11578453B2; US8282027B2;  
US11639571B2; WO2007057077A1

Designated contracting state (EPC)  
DE ES IT SE

DOCDB simple family (publication)  
**EP 1580313 A1 20050928; EP 1580313 A4 20071226; EP 1580313 B1 20111221**; AU 2003284554 A1 20040615; AU 2003284554 B2 20080717;  
AU 2003284554 B9 20080814; CN 100519899 C 20090729; CN 101481862 A 20090715; CN 101481862 B 20120718; CN 1738938 A 20060222;  
EP 2050855 A1 20090422; EP 2050855 B1 20121226; ES 2377061 T3 20120322; ES 2398868 T3 20130322; JP 2004166938 A 20040617;  
JP 4017504 B2 20071205; KR 100873545 B1 20081211; KR 20050075428 A 20050720; KR 20060116261 A 20061114; MY 137523 A 20090227;  
MY 149233 A 20130731; TW 200422472 A 20041101; TW I254757 B 20060511; US 2006130533 A1 20060622; WO 2004046447 A1 20040603

DOCDB simple family (application)  
**EP 03774027 A 20031114**; AU 2003284554 A 20031114; CN 200380108978 A 20031114; CN 200810179580 A 20031114;  
EP 09000028 A 20031114; ES 03774027 T 20031114; ES 09000028 T 20031114; JP 0314549 W 20031114; JP 2002335778 A 20021119;  
KR 20057008898 A 20050518; KR 20067022786 A 20061031; MY PI20034419 A 20031118; MY PI20071908 A 20031118;  
TW 92132410 A 20031119; US 53524705 A 20051214