

Title (en)
IMPROVED MR DEVICE

Title (de)
VERBESSERTE MAGNETORHEOLOGISCHE VORRICHTUNG

Title (fr)
DISPOSITIF MAGNETORHEOLOGIQUE AMELIORE

Publication
EP 1559119 B1 20070919 (EN)

Application
EP 03796366 A 20031106

Priority
• US 0335605 W 20031106
• US 28876902 A 20021106
• US 28907102 A 20021106

Abstract (en)
[origin: WO2004044931A2] Magnetorheological devices, including damping devices, rotary devices, and haptic systems constructed with said devices are disclosed. The devices contain dry magnetically-responsive particles, or MR fluids containing the magnetically responsive particles. The magnetically soft particles characterized by a single process yield population of atomized particles having a cumulative 10 %, 50 % and 90 % by volume, fraction within specified size, i.e., D10 of from 2 up to and including a D10 of 5 µm, a D50 8 µm up to and including a D50 of 15 µm, a D90 of 25 µm up to and including a D90 of 40 µm, and characterized by a least squares regression of log normal particles size against cumulative volume % fraction of greater than or equal to 0.77.

IPC 8 full level
C10M 171/00 (2006.01); **F16F 9/53** (2006.01); **H01F 1/44** (2006.01)

CPC (source: EP KR)
C10M 171/001 (2013.01 - EP); **H01F 1/44** (2013.01 - KR); **H01F 1/447** (2013.01 - EP); **C10M 2201/05** (2013.01 - EP); **C10M 2201/06** (2013.01 - EP); **C10M 2201/061** (2013.01 - EP); **C10M 2201/062** (2013.01 - EP); **C10M 2201/066** (2013.01 - EP); **C10M 2201/105** (2013.01 - EP); **C10M 2201/14** (2013.01 - EP); **C10M 2203/1006** (2013.01 - EP); **C10M 2205/0285** (2013.01 - EP); **C10M 2207/021** (2013.01 - EP); **C10M 2207/0225** (2013.01 - EP); **C10M 2207/10** (2013.01 - EP); **C10M 2207/125** (2013.01 - EP); **C10M 2207/126** (2013.01 - EP); **C10M 2207/128** (2013.01 - EP); **C10M 2207/16** (2013.01 - EP); **C10M 2207/2835** (2013.01 - EP); **C10M 2207/289** (2013.01 - EP); **C10M 2213/00** (2013.01 - EP); **C10M 2213/062** (2013.01 - EP); **C10M 2219/044** (2013.01 - EP); **C10M 2219/066** (2013.01 - EP); **C10M 2219/068** (2013.01 - EP); **C10M 2219/106** (2013.01 - EP); **C10M 2223/00** (2013.01 - EP); **C10M 2223/04** (2013.01 - EP); **C10M 2223/045** (2013.01 - EP); **C10N 2010/12** (2013.01 - EP); **C10N 2020/06** (2013.01 - EP); **C10N 2040/185** (2020.05 - EP)

Cited by
CN109074926A; WO2024003055A1

Designated contracting state (EPC)
DE FR GB IT SE

DOCDB simple family (publication)
WO 2004044931 A2 20040527; **WO 2004044931 A3 20040715**; DE 60316461 D1 20071031; DE 60316461 T2 20080626; EP 1559119 A2 20050803; EP 1559119 B1 20070919; JP 2006505957 A 20060216; KR 20050065633 A 20050629

DOCDB simple family (application)
US 0335605 W 20031106; DE 60316461 T 20031106; EP 03796366 A 20031106; JP 2004551901 A 20031106; KR 20057007345 A 20050428