

Title (en)
Improved cyclonic chamber for air filtration devices

Title (de)
Verbesserte Zyklonkammer für Luftfilterungsvorrichtung

Title (fr)
Chambre cyclonique améliorée pour dispositifs de filtration d'air

Publication
EP 2308360 B1 20150624 (EN)

Application
EP 10251559 A 20100907

Priority
US 57640409 A 20091009

Abstract (en)
[origin: EP2308360A2] A cyclonic chamber (1) for use in air filtration devices (2). The chamber (1) includes an apex (3) opposite a base (4) with sidewalls (5) extending therebetween. The cyclonic chamber (1) is preferably parabolic in cross-section or tubular with a hemi-spherical cap. The base (4) contains an outflow passage (12) and a conical filter (9) extending therefrom. An inflow passage (13) is provided proximate the apex (13). The inflow and outflow passages (13,12) are parallel but not aligned. The chamber interior is smooth. The smooth interior and offset relationship of the inflow and outflow passages (13,12) causes air to take a cyclonic path between the inflow passage (13) and the filter (9). Debris in the airstream is pushed outward - away from the filter (9) - by centripetal force. Eddies form proximate the base (4). Debris escapes the airstream there, where it either remains or, depending upon the chamber's orientation relative to gravity, falls back into the airflow where it is again directed away from the filter (9).

IPC 8 full level
A47L 5/24 (2006.01); **A47L 9/16** (2006.01)

CPC (source: EP)
A47L 5/24 (2013.01); **A47L 9/1608** (2013.01); **A47L 9/165** (2013.01); **A47L 9/1666** (2013.01); **B04C 2009/004** (2013.01)

Cited by
CN106998973A; US10506904B2; US11857142B2; US11666193B2; US10750913B2; US11517166B2; US11766156B2; US11445878B2; WO2016008049A1; US10314447B2; US11766157B2; US10702113B2; US11779174B2; US9661964B2; US10405710B2; US10441121B2; US10136778B2; US10251519B2; US10842330B2; US11730327B2; US11771280B2; US10165912B2; US11006799B2; US11122943B2; US11627849B2; US10537216B2; US10722086B2; US10765278B2; US11445875B2; US11737621B2; US9888817B2; US10117550B1; US10149585B2; US10219662B2; US10219661B2; US10219660B2; US10362911B2; US10478030B2; US10624510B2; US11192122B2; US11389038B2; US10631693B2; US11013384B2; US11903546B2; US11903547B1; US11910983B2; US11918168B2; US11963652B2; US11986145B2; US11992167B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)
EP 2308360 A2 20110413; **EP 2308360 A3 20140226**; **EP 2308360 B1 20150624**; CN 102038464 A 20110504; CN 102038464 B 20131225; HK 1153369 A1 20120330; JP 2011078757 A 20110421; JP 5649390 B2 20150107

DOCDB simple family (application)
EP 10251559 A 20100907; CN 201010231608 A 20100715; HK 11107716 A 20110725; JP 2010217836 A 20100908