

Title (en)

Vacuum cleaner, cyclone separator and cyclone for vacuum cleaner

Title (de)

Staubsauger sowie Zyklonabscheidevorrichtung und Zyklon für einen Staubsauger

Title (fr)

Aspirateur, séparateur cyclonique et cyclone pour aspirateur

Publication

EP 1656872 A2 20060517 (DE)

Application

EP 05020201 A 20050916

Priority

DE 102004056076 A 20041112

Abstract (en)

A cyclone (42) located upstream of the filter element (56) includes a dip (or riser) pipe (48) connecting them (42, 56). The filter element is above the cyclone and in a variant, the pipe (48) widens like a funnel, above the cyclone. More than one cyclone may be included. A mechanical cleaning system is provided for the filter; this is electrically- or pneumatically operated. The cyclone design is elaborated and claimed separately.

IPC 8 full level

A47L 9/16 (2006.01); **A47L 9/20** (2006.01)

CPC (source: EP)

A47L 9/102 (2013.01); **A47L 9/1608** (2013.01); **A47L 9/1666** (2013.01); **A47L 9/20** (2013.01)

Citation (examination)

- US 2566153 A 19510828 - ACHESON LOUIS K
- JP 2004121621 A 20040422 - TOSHIBA TEC KK

Cited by

WO2011151219A1; WO2017171596A1; CN108497996A; CN102917628A; CN113171029A; EP3701848A1; CN116272184A; EP2581017A1; US2013091810A1; CN103040412A; AU2012238315B2; EP4212075A1; EP3549505A4; US7867304B2; WO2018153281A1; WO2008014797A1; US7861367B2; US8142554B2; US11648500B2; EP1913857A3; EP2789396A1; EP3524358A1; WO2014173481A1; WO2020173735A1; US8186005B2; US10470632B2; US10736475B2; US10786126B2; US11357370B2; US11432690B2; US7976614B2; US9084946B2; US11197593B2; US11465087B2; US11759067B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1656872 A2 20060517; **EP 1656872 A3 20070502**; DE 102004056076 A1 20060518

DOCDB simple family (application)

EP 05020201 A 20050916; DE 102004056076 A 20041112