SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B04 CENTRIFUGAL APPARATUS OR MACHINES FOR CARRYING-OUT PHYSICAL OR CHEMICAL PROCESSES

B04C **APPARATUS USING FREE VORTEX FLOW, e.g. CYCLONES** (exhaust or silencing apparatus for machines or engines having means for removing solid constituents of exhaust, using inertial or centrifugal separators F01N 3/037; cyclonic type combustion apparatus F23)

Note(s)

This subclass covers apparatus for separating, mixing or like treating in which centrifugal effects are generated by free vortex flow, otherwise than by rotary bowls, rotors or curved passages.

1/00 Apparatus in which the main direction of flow follows a flat spiral

3/00 Apparatus in which the axial direction of the vortex remains unchanged

3/02 • with heating or cooling, e.g. quenching, means
3/04 • Multiple arrangement thereof
3/06 • Construction of inlets or outlets to the vortex chamber

5/00 Apparatus in which the axial direction of the vortex is reversed

5/02 • Construction of inlets by which the vortex flow is generated
5/04 • • Tangential inlets
5/06 • • Axial inlets
5/08 • Vortex chamber constructions
5/081 • • Shapes or dimensions
5/085 • • with wear-resisting arrangements
5/087 • • with flexible gas-tight walls
5/10 • • with perforated walls
5/103 • • Bodies or members, e.g. bulkheads, guides, in the vortex chamber (cores B04C 5/107)
5/107 • • Cores; Devices for inducing an air-core in hydrocyclones (forming part of the outlet pipe B04C 5/13)
5/12 • Construction of the overflow ducting, e.g. diffusing or spiral exits
5/13 • • formed as a vortex finder and extending into the vortex chamber; Discharge from vortex finder otherwise than at the top of the cyclone; Devices for controlling the overflow
5/14 • Construction of the underflow ducting; Apex constructions; Discharge arrangements
5/15 • • with swinging flaps or revolving sluices; Sluices; Check-valves
5/16 • • with variable-size outlets from the underflow ducting
5/18 • • with auxiliary fluid assisting discharge
5/181 • • Bulkheads or central bodies in the discharge opening
5/185 • • Dust collectors
5/187 • • • forming an integral part of the vortex chamber
5/20 • with heating or cooling, e.g. quenching, means
5/22 • with cleaning means
5/23 • • using liquids
5/24 • Multiple arrangement thereof
5/26 • • for series flow
5/28 • • for parallel flow
5/30 • • Recirculation constructions in or with cyclones which accomplish a partial recirculation of the medium, e.g. by means of conduits

7/00 Apparatus not provided for in group B04C 1/00, B04C 3/00 or B04C 5/00; Multiple arrangements not provided for in one of the groups B04C 1/00, B04C 3/00, or B04C 5/00; Combinations of apparatus covered by two or more of the groups B04C 1/00, B04C 3/00, or B04C 5/00

9/00 Combinations with other devices, e.g. fans (with filters for separating particles from gases or vapour B01D 50/00; with dry electrostatic precipitation for separating particles from gases or vapour B03C 3/15)

11/00 Accessories, e.g. safety or control devices, not otherwise provided for