

CPC**COOPERATIVE PATENT CLASSIFICATION****B03D**

FLOTATION; DIFFERENTIAL SEDIMENTATION([sedimentation in general B01D 21/00](#) ; in combination with other separation of solids [B03B](#); sink-float separation [B03B 5/28](#) ; detergents, soaps [C11D](#))

WARNING

The following groups are not complete: [B03D 1/023](#), see also [B03D 1/02 B03D 1/025](#), see also [B03D 1/02 B03D 1/026](#), see also [B03D 1/02 B03D 1/028](#), see also [B03D 1/02 B03D 1/082](#), see also [B03D 1/08 B03D 1/085](#), see also [B03D 1/08 B03D 1/087](#), see also [B03D 1/08 B03D 1/1406](#), see also [B03D 1/14 B03D 1/1443](#), see also [B03D 1/14 B03D 1/145](#), see also [B03D 1/14 B03D 1/1456](#), see also [B03D 1/14 B03D 1/1462](#), see also [B03D 1/14 B03D 1/1468](#), see also [B03D 1/14 B03D 1/1475](#), see also [B03D 1/14 B03D 1/1487](#), see also [B03D 1/14 B03D 1/1493](#), see also [B03D 1/14 B03D 1/242](#), see also [B03D 1/24 B03D 1/247](#), see also [B03D 1/24](#)]

B03D 1/00

Flotation([conditioning for flotation, general arrangement of plan B03B](#))

NOTE

In groups [B03D 1/001](#) to [B03D 1/018](#) , in the absence of an indication to the contrary, classification is made in the last appropriate place.

- [B03D 1/001](#) . Flotation agents([conditioners B03B 1/00](#))
- [B03D 1/002](#) .. Inorganic compounds
- [B03D 1/004](#) .. Organic compounds
- [B03D 1/0043](#) ... {modified so as to contain a polyether group}
- [B03D 1/0046](#) ... {containing silicon}
- [B03D 1/006](#) ... Hydrocarbons
- [B03D 1/008](#) ... containing oxygen
- [B03D 1/01](#) ... containing nitrogen
- [B03D 1/011](#) {Quaternary ammonium compounds}
- [B03D 1/012](#) ... containing sulfur
- [B03D 1/014](#) ... containing phosphorus
- [B03D 1/016](#) ... Macromolecular compounds
- [B03D 1/018](#) .. Mixtures of inorganic and organic compounds
- [B03D 1/02](#) . Froth-flotation processes
- [B03D 1/021](#) .. {for treatment of phosphate ores}
- [B03D 1/023](#) .. {Carrier flotation; Flotation of a carrier material to which the target material attaches}
- [B03D 1/025](#) .. {adapted for the flotation of fines}
- [B03D 1/026](#) .. {Using an immiscible liquid in place of a gas for flotation}
- [B03D 1/028](#) .. {Control and monitoring of flotation processes; computer models therefor}

- B03D 1/04 .. by varying ambient atmospheric pressure
- B03D 1/06 .. differential
- B03D 1/08 . Subsequent treatment of concentrated product([froth dispersion B01D 19/02](#))
- B03D 1/082 .. {of the froth product, e.g. washing}
- B03D 1/085 .. {of the feed, e.g. conditioning, de-sliming}
- B03D 1/087 .. {of the sediment, e.g. regrinding}
- B03D 1/10 .. Removing adhering liquid from separated materials([processes or devices capable of general use B01D](#))
- B03D 1/12 . Agent recovery
- B03D 1/14 . Flotation machines([devices for feeding measured quantities of reagents B01J 4/02](#) ; [flotation apparatus for enzymology or microbiology C12M 1/09](#))
- B03D 1/1406 .. {with special arrangement of a plurality of flotation cells, e.g. positioning a flotation cell inside another}
- B03D 1/1412 .. {with baffles, e.g. at the wall for redirecting settling solids}
- B03D 1/1418 .. {using centrifugal forces}
- B03D 1/1425 ... {air-sparged hydrocyclones}
- B03D 1/1431 .. {Dissolved air flotation machines}
- B03D 1/1437 .. {using electroflotation([waste water treatment using electroflotation C02F 1/465](#))}
- B03D 1/1443 .. {Feed or discharge mechanisms for flotation tanks}
- B03D 1/145 ... {Feed mechanisms for reagents([devices for feeding measured quantities of reagents B01J 4/02](#))}
- B03D 1/1456 ... {Feed mechanisms for the slurry}
- B03D 1/1462 ... {Discharge mechanisms for the froth}
- B03D 1/1468 ... {Discharge mechanisms for the sediments}
- B03D 1/1475 ... {Flotation tanks having means for discharging the pulp, e.g. as a bleed stream}
- B03D 1/1481 .. {with a plurality of parallel plates}
- B03D 1/1487 .. {Means for cleaning or maintenance}
- B03D 1/1493 .. {with means for establishing a specified flow pattern}
- B03D 1/16 .. with impellers; Subaeration machines{([mixing gases or vapours with liquids B01F 3/04](#))}
- B03D 1/18 ... without air supply
- B03D 1/20 ... with internal air pumps
- B03D 1/22 ... with external blowers
- B03D 1/24 .. Pneumatic{([mixing gases or vapours with liquids B01F 3/04](#))}
- B03D 1/242 ... {Nozzles for injecting gas into the flotation tank}
- B03D 1/245 ... {Injecting gas through perforated or porous area}
- B03D 1/247 ... {Mixing gas and slurry in a device separate from the flotation tank, i.e. reactor-separator type}
- B03D 1/26 ... Air lift machines
- B03D 3/00 Differential sedimentation**
- B03D 3/02 . Coagulation

B03D 3/04	. . assisted by vibrations
B03D 3/06	. Flocculation
B03D 2201/00	Specified effects produced by the flotation agents (use of substances as emulsifying, wetting, dispersing or foam-producing agents B01F 17/00)
B03D 2201/002	. Coagulants and Flocculants
B03D 2201/005	. Dispersants
B03D 2201/007	. Modifying reagents for adjusting pH or conductivity
B03D 2201/02	. Collectors
B03D 2201/04	. Frothers
B03D 2201/06	. Depressants
B03D 2203/00	Specified materials treated by the flotation agents; specified applications (paper pulp processing D21F 1/70 , de-inking of paper pulp D21B 1/325)
B03D 2203/001	. Agricultural products, food, biogas, algae
B03D 2203/003	. Biotechnological applications, e.g. separation or purification of enzymes, hormones, vitamins, viruses
B03D 2203/005	. Fine and commodity chemicals
B03D 2203/006	. Oil well fluids, oil sands, bitumen
B03D 2203/008	. Water purification, e.g. for process water recycling(waste water treatment C02F 1/24)
B03D 2203/02	. Ores
B03D 2203/025	. . Precious metal ores
B03D 2203/04	. . Non-sulfide ores
B03D 2203/06	. . . Phosphate ores
B03D 2203/08	. . . Coal ores, fly ash or soot
B03D 2203/10	. . . Potassium ores