

SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING

F03 MACHINES OR ENGINES FOR LIQUIDS; WIND, SPRING, OR WEIGHT MOTORS; PRODUCING MECHANICAL POWER OR A REACTIVE PROPULSIVE THRUST, NOT OTHERWISE PROVIDED FOR

F03B MACHINES OR ENGINES FOR LIQUIDS (machines or engines for liquids and elastic fluids F01; positive-displacement engines for liquids F03C; positive-displacement machines for liquids F04)

Note(s)

- This subclass covers:
 - engines, other than of positive-displacement type, driven by liquids;
 - machines, other than of positive-displacement type, for liquids.
- Attention is drawn to the Notes preceding class F01, especially as regards the definition of "reaction type".

Subclass index

TURBINES: IMPULSE; REACTION.....	1/00, 3/00
MACHINES OR ENGINES: NON-BLADED ROTOR TYPE; WATER WHEELS; ENDLESS-CHAIN TYPE.....	5/00, 7/00, 9/00
PARTS OR DETAILS OF ABOVE KINDS.....	1/00, 3/00, 11/00
ADAPTATIONS OR COMBINATIONS.....	13/00
CONTROLLING.....	15/00
OTHER MACHINES OR ENGINES.....	17/00

1/00	Engines of impulse type, i.e. turbines with jets of high-velocity liquid impinging on bladed or like rotors, e.g. Pelton wheels; Parts or details peculiar thereto [1, 2006.01]	9/00	Endless-chain type machines or engines [1, 2006.01]
1/02	• Buckets; Bucket-carrying rotors [1, 2006.01]	11/00	Parts or details not provided for in, or of interest apart from, groups F03B 1/00-F03B 9/00 (controlling F03B 15/00) [1, 2006.01]
1/04	• Nozzles (in general B05B); Nozzle-carrying members [1, 2006.01]	11/02	• Casings [1, 2006.01]
3/00	Machines or engines of reaction type; Parts or details peculiar thereto [1, 2006.01]	11/04	• for diminishing cavitation or vibration, e.g. balancing [1, 2006.01]
3/02	• with radial flow at high-pressure side and axial flow at low-pressure side of rotors, e.g. Francis turbines [1, 2006.01]	11/06	• Bearing arrangements [1, 2006.01]
3/04	• with substantially axial flow throughout rotors, e.g. propeller turbines [1, 2006.01]	11/08	• for removing foreign matter, e.g. mud [1, 2006.01]
3/06	• with adjustable blades, e.g. Kaplan turbines [1, 2006.01]	13/00	Adaptations of machines or engines for special use; Combinations of machines or engines with driving or driven apparatus (if the apparatus aspects are predominant, see the relevant places for such apparatus, e.g. H02K 7/18); Power stations or aggregates (hydraulic-engineering aspects E02B; incorporating only machines or engines of positive-displacement type F03C) [1, 2006.01]
3/08	• with pressure/velocity transformation exclusively in rotors [1, 2006.01]	13/02	• Adaptations for drilling wells [1, 2006.01]
3/10	• characterised by having means for functioning alternatively as pumps or turbines [1, 2006.01]	13/04	• Adaptations for use in dentistry [1, 2006.01]
3/12	• Blades; Blade-carrying rotors [1, 2006.01]	13/06	• Stations or aggregates of water-storage type (turbines characterised by having means for functioning alternatively as pumps F03B 3/10) [1, 2006.01]
3/14	• Rotors having adjustable blades [1, 2006.01]	13/08	• Machine or engine aggregates in dams or the like; Conduits therefor [1, 2006.01]
3/16	• Stators [1, 2006.01]	13/10	• Submerged units incorporating electric generators or motors [1, 2006.01]
3/18	• Stator blades; Guide conduits or vanes, e.g. adjustable [1, 2006.01]	13/12	• characterised by using wave or tide energy [1, 2006.01]
5/00	Machines or engines characterised by non-bladed rotors, e.g. serrated, using friction [1, 2006.01]	13/14	• using wave energy [4, 2006.01]
7/00	Water wheels [1, 2006.01]		

F03B

- 13/16 • • • using the relative movement between a wave-operated member and another member [4, 2006.01]
- 13/18 • • • • wherein the other member is fixed, at least at one point, with respect to the sea bed or shore [4, 2006.01]
- 13/20 • • • • wherein both members are movable relative to the sea bed or shore [4, 2006.01]
- 13/22 • • • using the flow of water resulting from wave movements, e.g. to drive a hydraulic motor or turbine [4, 2006.01]
- 13/24 • • • to produce a flow of air, e.g. to drive an air turbine [4, 2006.01]
- 13/26 • • using tide energy [4, 2006.01]
- 15/00 Controlling** (controlling in general G05) [1, 2006.01]
- 15/02 • by varying liquid flow [1, 2006.01]
- 15/04 • • of turbines (rotors having adjustable blades F03B 3/06, F03B 3/14; adjustable guide vanes F03B 3/18; specially adapted for turbines with jets of high-velocity liquid impinging on bladed or like rotors F03B 15/20) [1, 2006.01]

- 15/06 • • • Regulating, i.e. acting automatically [1, 2006.01]
- 15/08 • • • • by speed, e.g. by measuring electric frequency or liquid flow [1, 2006.01]
- 15/10 • • • • • without retroactive action [1, 2006.01]
- 15/12 • • • • • with retroactive action [1, 2006.01]
- 15/14 • • • • by or of water level [1, 2006.01]
- 15/16 • • • • by power output [1, 2006.01]
- 15/18 • • • • for safety purposes, e.g. preventing overspeed [1, 2006.01]
- 15/20 • • specially adapted for turbines with jets of high-velocity liquid impinging on bladed or like rotors (nozzles F03B 1/04) [1, 2006.01]
- 15/22 • • • for safety purposes [1, 2006.01]
- 17/00 Other machines or engines** [1, 2006.01]
- 17/02 • using hydrostatic thrust [1, 2006.01]
- 17/04 • • Alleged perpetua mobilia [1, 2006.01]
- 17/06 • using liquid flow, e.g. of swinging-flap type [1, 2006.01]