

ECLA EUROPEAN CLASSIFICATION

- F15C FLUID-CIRCUIT ELEMENTS PREDOMINANTLY USED FOR COMPUTING OR CONTROL PURPOSES** (transducers [F15B5/00](#), [N: [F15B21/00](#)]; fluid dynamics in general [F15D](#); computer comprising fluid elements [G06D](#), [G06G](#); [N: electric control by means of electro-hydraulic or electro-pneumatic amplifiers [G05B7/02](#)])
- F15C1/00 Circuit elements having no moving parts**
- F15C1/00B** . [N: for punched-card machines (punched-card machines [G06K](#)); for typewriters (typewriters [B41J](#)); for keyboards; for conveying cards or tape; for conveying through tubes (transport through tubes [B65G51/00](#), [B65G53/00](#)); for computers (non-electric computers [G06C](#), [G06D](#), [G06G](#)); for dc-ac transducers for information processing (dc-ac converters [H02M](#)); for signal transmission (telegraphic apparatus [H04L](#))]
- F15C1/00C** . [N: for controlling engines, turbines, compressors (starting, speed regulation, temperature control or the like) (control of internal-combustion piston engines [F02D](#); of turbines [F01D](#), [F02C](#); of fans [F04D27/00](#); speedometers [G01P](#))]
- F15C1/00D** . [N: for process regulation, (e.g. chemical processes, in boilers or the like); for machine tool control (e.g. sewing machines, automatic washing machines); for liquid level control; for controlling various mechanisms; for alarm circuits; for ac-dc transducers for control purposes (automatic washing machines [D06F33/00](#); electric regulation of mechanical working machines [B23Q35/00](#), [G05B19/00](#); data processing machines for controlling production processes [G06F15/46](#); valve-controlled servomotors [F15B9/08](#); thread feeding devices for sewing machines [D05B51/00](#); special provisions on lathes [B23B25/00](#), [B23Q](#); non-electric signal transmission [G08C23/00](#))] [C9802]
- F15C1/00E** . [N: for measurement technics, e.g. measuring from a distance; for detection devices, e.g. for presence detection; for sorting measured properties (testing); for gyrometers; for analysis; for chromatography (fluid information or impulse transducers [F15B5/00](#); postal sorting according to size [B07C1/10](#); dial gauges, spherometers [G01B3/22](#), [G01B5/22](#); gyroscopic apparatus [G01C19/00](#); viscosimeters [G01N11/00](#); speed measurement, flowmeters [G01P](#))]
- F15C1/00F** . [N: for aeronautics; for rockets (drives, controls); for satellites; for air cushion vehicles; for controlling vessels or torpedoes (injectors [F04F5/00](#); aircraft control by jet reaction [B64C15/00](#); air pressure regulation in aircraft [B64D13/04](#); instruments adapted to be mounted in aircraft [B64D43/00](#))]
- F15C1/00G** . [N: for indicating devices for fluid signals (output arrangements in electronic computers [G06F3/14](#); luminous advertising [G09F13/00](#); name or number plates with interchangeable characters [G09F7/00](#); fluid operating means for indicating or recording members in measuring instruments [G01D5/42](#); fluid information or pulse transducers for converting variations of fluid pressure into other physical quantities [F15B5/00B](#))]
- F15C1/00H** . [N: Other applications, e.g. for air conditioning, medical applications, other than in respirators, derricks for underwater separation of materials by coanda effect, weapons]
- F15C1/02** . Details, [N: e.g. special constructional devices for circuits with fluid elements, such as resistances, capacitive circuit elements; devices preventing reaction coupling in

composite elements (servomotor systems adapted for maintaining constant speed [F15B11/05](#)); Switch boards; Programme devices (hydraulic programme control [F15B21/02](#))

- F15C1/04 . . Means for controlling fluid streams to fluid devices, e.g. by electric signals [N: or other signals, no mixing taking place between the signal and the flow to be controlled (fluid information or pulse transducers [F15B5/00](#); electric regulation with electro-fluid amplifiers [G05B7/02](#); fluid operating means for indicating or recording members in measuring instruments [G01D5/42](#); distribution or supply devices for servomotors with electrically-controlled pilot valves [F15B13/043](#)]

- F15C1/06 . . Constructional details; Selection of specified materials [N: Constructional realisation of one single element; Canal shapes; Jet nozzles; Assembling an element with other devices, only if the element forms the main part ([F15C5/00](#) takes precedence)]

Note

Group [F15C1/22](#) takes precedence over groups [F15C1/08](#) to [F15C1/20](#).

- F15C1/08 . Boundary-layer devices, e.g. wall-attachment amplifiers [N: coanda effect (fluid oscillators of pulse generators [F15B21/12](#))]

- F15C1/10 . . for digital operation, e.g. to form a logical flip-flop, OR-gate, NOR-gate, [N: AND-gate; Comparators; Pulse generators]

- F15C1/12 . . . Multiple arrangements thereof for performing operations of the same kind, e.g. majority gates, identity gates [N: (static stores [G11C25/00](#)); Counting circuits; Sliding registers]

- F15C1/14 . Stream-interaction devices; Momentum-exchange devices, e.g. operating by exchange between two orthogonal fluid jets; [N: Proportional amplifiers]

- F15C1/14B . . [N: for digital operation, e.g. to form a logical flip-flop, OR-gate, NOR-gate, AND-gate ([F15C1/10](#) takes precedence)]

- F15C1/14C . . [N: multiple arrangements thereof, forming counting circuits, sliding registers, integration circuits or the like ([F15C1/12](#) take precedence)]

- F15C1/16 . Vortex devices, i.e. devices in which use is made of the pressure drop associated with vortex motion in a fluid [N: (vortex chambers [F15D1/00D](#); vortex chambers as resistances [F15C1/02](#); vortex chambers associated with amplifiers for improving the switching time by interaction [F15C1/14](#))]

- F15C1/18 . Turbulence devices, i.e. devices in which a controlling stream will cause a laminar flow to become turbulent; [N: Diffusion amplifiers]

- F15C1/20 . Direct-impact devices i.e., devices in which two collinear opposing power streams are impacted

- F15C1/22 . Oscillators

F15C3/00 Circuit elements having moving parts (valves, construction of valves [F16K](#))

Note

Group [F15C3/16](#) takes precedence over groups [F15C3/02](#) to [F15C3/14](#).

- F15C3/00B . [N: using fluid droplets or similar deformable bodies (using solid balls [F15C3/06](#))]

- F15C3/00C . [N: using loose plates or foils (using diaphragms [F15C3/04](#))]

- F15C3/00D . [N: using a spiral spring which allows fluid bass upon deformation (using reeds [F15C3/08](#))]
- F15C3/02 . using spool valves
- F15C3/04 . using diaphragms ([N: using loose plates or foils [F15C3/00C](#)]; connection of valves to inflatable elastic bodies [B60C29/00](#))
- F15C3/06 . using balls [N: or pill-shaped disks (using fluid drops or similar deformable bodies [F15C3/00B](#))]
- F15C3/08 . using reeds [N: (using spiral springs [F15C3/00D](#))]
- F15C3/10 . using nozzles or jet pipes [N: (fluid information or pulse transducers [F15B5/00](#))]
- F15C3/12 . . the nozzle or jet pipe being movable
- F15C3/14 . . the jet the nozzle being intercepted by a flap
- F15C3/16 . Oscillators

- F15C4/00** **Circuit elements characterised by their special functions**

- F15C5/00** **Manufacture of fluid circuit elements; Manufacture of assemblages of such elements** [N: integrated circuits]

- F15C7/00** **Hybrid elements, i.e. circuit elements having features according to groups [F15C1/00](#) and [F15C3/00](#)**