

CPC COOPERATIVE PATENT CLASSIFICATION

F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING (NOTE omitted)

ENGINEERING IN GENERAL

F15 FLUID-PRESSURE ACTUATORS; HYDRAULICS OR PNEUMATICS IN GENERAL

F15C FLUID-CIRCUIT ELEMENTS PREDOMINANTLY USED FOR COMPUTING OR CONTROL PURPOSES (transducers [F15B 5/00](#), {[F15B 21/00](#)}; fluid dynamics in general [F15D](#); computer comprising fluid elements [G06D](#), [G06G](#); {electric control by means of electro-hydraulic or electro-pneumatic amplifiers [G05B 7/02](#)})

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

- | | | | |
|-------------|---|--------------|---|
| 1/00 | Circuit elements having no moving parts | 1/006 | • {for aeronautics; for rockets (drives, controls); for satellites; for air cushion vehicles; for controlling vessels or torpedoes (injectors F04F 5/00 ; aircraft control by jet reaction B64C 15/00 ; air pressure regulation in aircraft B64D 13/04 ; instruments adapted to be mounted in aircraft B64D 43/00)} |
| 1/001 | • {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 B65G 51/00 , B65G 53/00); 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)} | 1/007 | • {for indicating devices for fluid signals (output arrangements in electronic computers G06F 3/14 ; luminous advertising G09F 13/00 ; name or number plates with interchangeable characters G09F 7/00 ; fluid operating means for indicating or recording members in measuring instruments G01D 5/42 ; fluid information or pulse transducers for converting variations of fluid pressure into other physical quantities F15B 5/003)} |
| 1/002 | • {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 F04D 27/00 ; speedometers G01P)} | 1/008 | • {Other applications, e.g. for air conditioning, medical applications, other than in respirators, derricks for underwater separation of materials by coanda effect, weapons} |
| 1/003 | • {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 D06F 33/00 ; electric regulation of mechanical working machines B23Q 35/00 , G05B 19/00 ; valve-controlled servomotors F15B 9/08 ; thread feeding devices for sewing machines D05B 51/00 ; special provisions on lathes B23B 25/00 , B23Q ; non-electric signal transmission G08C 23/00)} | 1/02 | • Details {, 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 F15B 11/05); Switch boards; Programme devices (hydraulic programme control F15B 21/02)} |
| 1/005 | • {for measurement techniques, 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 F15B 5/00 ; postal sorting according to size B07C 1/10 ; dial gauges, spherometers G01B 3/22 , G01B 5/22 ; gyroscopic apparatus G01C 19/00 ; viscosimeters G01N 11/00 ; speed measurement, flowmeters G01P)} | 1/04 | • . Means for controlling fluid streams to fluid devices, e.g. by electric signals {or other signals, no mixing taking place between the signal and the flow to be controlled (fluid information or pulse transducers F15B 5/00 ; electric regulation with electro-fluid amplifiers G05B 7/02 ; fluid operating means for indicating or recording members in measuring instruments G01D 5/42 ; distribution or supply devices for servomotors with electrically-controlled pilot valves F15B 13/043)} |

- 1/06 . . Constructional details; Selection of specified materials {Constructional realisation of one single element; Canal shapes; Jet nozzles; Assembling an element with other devices, only if the element forms the main part ([F15C 5/00](#) takes precedence)}
- NOTE**
- Group [F15C 1/22](#) takes precedence over groups [F15C 1/08](#) - [F15C 1/20](#).
- 1/08 . Boundary-layer devices, e.g. wall-attachment amplifiers {coanda effect (fluid oscillators of pulse generators [F15B 21/12](#))}
- 1/10 . . for digital operation, e.g. to form a logical flip-flop, OR-gate, NOR-gate {, AND-gate; Comparators; Pulse generators}
- 1/12 . . . Multiple arrangements thereof for performing operations of the same kind, e.g. majority gates, identity gates {(static stores [G11C 25/00](#)); Counting circuits; Sliding registers}
- 1/14 . Stream-interaction devices; Momentum-exchange devices, e.g. operating by exchange between two orthogonal fluid jets {; Proportional amplifiers}
- 1/143 . . {for digital operation, e.g. to form a logical flip-flop, OR-gate, NOR-gate, AND-gate ([F15C 1/10](#) takes precedence)}
- 1/146 . . {multiple arrangements thereof, forming counting circuits, sliding registers, integration circuits or the like ([F15C 1/12](#) take precedence)}
- 1/16 . Vortex devices, i.e. devices in which use is made of the pressure drop associated with vortex motion in a fluid {(vortex chambers [F15D 1/0015](#); vortex chambers as resistances [F15C 1/02](#); vortex chambers associated with amplifiers for improving the switching time by interaction [F15C 1/14](#))}
- 1/18 . Turbulence devices, i.e. devices in which a controlling stream will cause a laminar flow to become turbulent {; Diffusion amplifiers}
- 1/20 . Direct-impact devices i.e., devices in which two collinear opposing power streams are impacted
- 1/22 . Oscillators
- 3/00 Circuit elements having moving parts (valves, construction of valves [F16K](#))**
- NOTE**
- Group [F15C 3/16](#) takes precedence over groups [F15C 3/02](#) - [F15C 3/14](#).
- 3/002 . {using fluid droplets or similar deformable bodies (using solid balls [F15C 3/06](#))}
- 3/005 . {using loose plates or foils (using diaphragms [F15C 3/04](#))}
- 3/007 . {using a spiral spring which allows fluid bass upon deformation (using reeds [F15C 3/08](#))}
- 3/02 . using spool valves
- 3/04 . using diaphragms ((using loose plates or foils [F15C 3/005](#)); connection of valves to inflatable elastic bodies [B60C 29/00](#))
- 3/06 . using balls {or pill-shaped disks (using fluid drops or similar deformable bodies [F15C 3/002](#))}
- 3/08 . using reeds {(using spiral springs [F15C 3/007](#))}
- 3/10 . using nozzles or jet pipes {(fluid information or pulse transducers [F15B 5/00](#))}
- 3/12 . . the nozzle or jet pipe being movable
- 3/14 . . the jet the nozzle being intercepted by a flap
- 3/16 . Oscillators
- 4/00 Circuit elements characterised by their special functions**
- 5/00 Manufacture of fluid circuit elements; Manufacture of assemblages of such elements {integrated circuits}**
- 7/00 Hybrid elements, i.e. circuit elements having features according to groups [F15C 1/00](#) and [F15C 3/00](#)**