

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

F15D FLUID DYNAMICS, i.e. METHODS OR MEANS FOR INFLUENCING THE FLOW OF GASES OR LIQUIDS

NOTE

This subclass comprises boundary-layer control and other arrangements and methods, not provided for in other classes, for influencing the flow of fluids relative to constraining surfaces and after leaving these surfaces, e.g. producing or removing turbulence, deflecting jets, guiding flow through bends in conduits, affecting distribution of fluid in a conduit, reducing fluid friction.

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	Influencing flow of fluids	1/0095	. {by means of injecting jet pulses of fluid wherein the injected fluid is taken from the fluid and re-injected again, e.g. synthetic jet actuators (F15D 1/008 takes precedence)}
1/0005	. {Baffle plates}		
1/001	. {Flow of fluid from conduits such as pipes, sleeves, tubes, with equal distribution of fluid flow over the evacuation surface}	1/02	. in pipes or conduits
1/0015	. {Whirl chambers}	1/025	. . {by means of orifice or throttle elements}
1/002	. {by influencing the boundary layer (F15D 1/06 and F15D 1/12 take precedence)}	1/04	. . Arrangements of guide vanes in pipe elbows or duct bends; Construction of pipe conduit elements for elbows with respect to flow, e.g. for reducing losses of flow
1/0025	. . {using passive means, i.e. without external energy supply}		
1/003	. . . {comprising surface features, e.g. indentations or protrusions (F15D 1/0055, F15D 1/006 take precedence)}	1/06	. . by influencing the boundary layer {(use of materials, e.g. to reduce surface friction C09K 3/00)}
1/0035	. . . . {in the form of riblets}	1/065	. . . {Whereby an element is dispersed in a pipe over the whole length or whereby several elements are regularly distributed in a pipe}
1/004	. . . . . {oriented essentially parallel to the direction of flow}	1/08	. of jets leaving an orifice
1/0045	. . . . . {oriented essentially perpendicular to the direction of flow}	1/10	. around bodies of solid material
1/005	. . . . . {in the form of dimples}	1/12	. . by influencing the boundary layer {(use of materials, e.g. to reduce surface friction C09K 3/00)}
1/0055	. . . {comprising apertures in the surface, through which fluid is withdrawn from or injected into the flow}		
1/006	. . . {comprising moving surfaces, wherein the surface, or at least a portion thereof is moved or deformed by the fluid flow}	1/14	. Diverting flow into alternative channels
1/0065	. . {using active means, e.g. supplying external energy or injecting fluid}		
1/007	. . . {comprising surfaces being moved by external supplied energy}		
1/0075	. . . {comprising electromagnetic or electrostatic means for influencing the state of the fluid, e.g. for ionising the fluid or for generating a plasma}		
1/008	. . . {comprising fluid injection or suction means}		
1/0085	. . {Methods of making characteristic surfaces for influencing the boundary layer}		
1/009	. {by means of vortex rings}		