

Symbol	Typ	Titel
F	Sektion	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
F15	Untersektion	ENGINEERING IN GENERAL
F15	Klasse	FLUID-PRESSURE ACTUATORS; HYDRAULICS OR PNEUMATICS IN GENERAL
F15B	Unterklasse	SYSTEMS ACTING BY MEANS OF FLUIDS IN GENERAL; FLUID-PRESSURE ACTUATORS, e.g. SERVOMOTORS; DETAILS OF FLUID-PRESSURE SYSTEMS, NOT OTHERWISE PROVIDED FOR (motors, turbines, compressors, blowers, pumps F01 to F04; fluid dynamics F15D; fluid clutches or brakes F16D; fluid springs F16F; fluid gearing F16H; pistons, cylinders, packing F16J; valves, taps, cocks, actuating-floats F16K; safety valves with auxiliary fluid operation of the main valve F16K 17/10; fluid-operating means for valves F16K 31/12; pipes, pipe joints F16L; lubricating F16N)
F15B 1/00	Hauptgruppe	Installations or systems with accumulators; Supply reservoir or sump assemblies
F15B 1/02	1-Punkt Untergruppe	. Installations or systems with accumulators (devices damping pulsations or vibrations in fluids for use in, or in connection with, pipes or pipe systems F16L 55/04)
F15B 1/027	2-Punkt Untergruppe	.. having accumulator charging devices (control of fluid pressure in general G05D 16/00) [6]
F15B 1/033	3-Punkt Untergruppe	... with electrical control means [6]
F15B 1/04	2-Punkt Untergruppe	... Accumulators (connection of valves to inflatable elastic bodies B60C 29/00)
F15B 1/08	3-Punkt Untergruppe	... using a gas cushion; Gas charging devices; Indicators or floats therefor [6]
F15B 1/10	4-Punkt Untergruppe	.... with flexible separating means [6]
F15B 1/12	5-Punkt Untergruppe	..... attached at their periphery (F15B 1/16 takes precedence) [6]
F15B 1/14	6-Punkt Untergruppe	..... by means of a rigid annular supporting member [6]
F15B 1/16	5-Punkt Untergruppe	..... in the form of a tube [6]
F15B 1/18	5-Punkt Untergruppe	..... Anti-extrusion means [6]
F15B 1/20	6-Punkt Untergruppe	..... fixed to the separating means [6]
F15B 1/22	4-Punkt Untergruppe	.... Liquid port constructions [6]
F15B 1/24	4-Punkt Untergruppe	.... with rigid separating means, e.g. pistons [6]
F15B 1/26	1-Punkt Untergruppe	. Supply reservoir or sump assemblies [6]
F15B 3/00	Hauptgruppe	Intensifiers or fluid-pressure converters, e.g. pressure exchangers; Conveying pressure from one fluid system to another, without contact between the fluids
F15B 5/00	Hauptgruppe	Transducers converting variations of physical quantities, e.g. expressed by variations in positions of members, into fluid-pressure variations or vice versa; Varying fluid pressure as a function of variations of a plurality of fluid pressures or variations of other quantities (F15B 9/00 takes precedence; for measuring or controlling G01 , G05) <u>Fluid-pressure actuator systems (systems peculiar to the control of a particular machine or apparatus covered in a single other class, see the class for such machine or apparatus)</u>
F15B 7/00	Hauptgruppe	Systems in which the movement produced is definitely related to the output of a volumetric pump ; Telemotors
F15B 7/02	1-Punkt Untergruppe	. Systems with continuously-operating input and output apparatus
F15B 7/04	1-Punkt Untergruppe	. in which the ratio between pump stroke and motor stroke varies with the resistance against the motor (in brake-actuating systems for motor vehicles B60T)
F15B 7/06	1-Punkt Untergruppe	. Details (F15B 15/00 takes precedence)

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F15B 7/08	2-Punkt Untergruppe	... Input units; Master units
F15B 7/10	2-Punkt Untergruppe	... Compensation of the liquid content in a system (F15B 7/08 takes precedence; pressure-maintaining arrangements for brake master cylinders B60T 11/228) [5]
F15B 9/00	Hauptgruppe	Servomotors with follow-up action, i.e. in which the position of the actuated member conforms with that of the controlling member
F15B 9/02	1-Punkt Untergruppe	. with servomotors of the reciprocatable or oscillatable type
F15B 9/03	2-Punkt Untergruppe	... with electrical control means
F15B 9/04	2-Punkt Untergruppe	... controlled by varying the output of a pump with variable capacity
F15B 9/06	2-Punkt Untergruppe	... controlled by means using a fluid jet
F15B 9/07	3-Punkt Untergruppe	... with electrical control means
F15B 9/08	2-Punkt Untergruppe	... controlled by valves affecting the fluid feed or the fluid outlet of the servomotor (F15B 9/06 takes precedence)
F15B 9/09	3-Punkt Untergruppe	... with electrical control means
F15B 9/10	3-Punkt Untergruppe	... in which the controlling element and the servomotor each controls a separate member, these members influencing different fluid passages or the same passage
F15B 9/12	3-Punkt Untergruppe	... in which both the controlling element and the servomotor control the same member influencing a fluid passage and are connected to that member by means of a differential gearing
F15B 9/14	1-Punkt Untergruppe	. with rotary servomotors
F15B 9/16	1-Punkt Untergruppe	. Systems essentially having two or more interacting servomotors
F15B 9/17	2-Punkt Untergruppe	... with electrical control means
F15B 11/00	Hauptgruppe	Servomotor systems without provision for follow-up action (F15B 3/00 takes precedence)
F15B 11/02	1-Punkt Untergruppe	. Systems essentially incorporating special features for controlling the speed or the actuating force or speed of an output member
F15B 11/024	2-Punkt Untergruppe	... by means of differential connection of the servomotor lines, e.g. regenerative circuits [6]
F15B 11/028	2-Punkt Untergruppe	... for controlling the actuating force (F15B 11/024 takes precedence) [6]
F15B 11/032	3-Punkt Untergruppe	... by means of fluid-pressure converters (fluid-pressure converters per se F15B 3/00) [6]
F15B 11/036	3-Punkt Untergruppe	... by means of servomotors having a plurality of working chambers (servomotors per se F15B 15/00) [6]
F15B 11/04	2-Punkt Untergruppe	... for controlling the speed (F15B 11/024 takes precedence) [6]
F15B 11/042	3-Punkt Untergruppe	... by regulating means in feed line (F15B 11/046 , F15B 11/05 take precedence) [6]
F15B 11/044	3-Punkt Untergruppe	... by regulating means in return line (F15B 11/046 , F15B 11/05 take precedence) [6]
F15B 11/046	3-Punkt Untergruppe	... depending on the position of the working member [6]
F15B 11/048	4-Punkt Untergruppe	.... with deceleration control [6]
F15B 11/05	3-Punkt Untergruppe	... specially adapted to maintain constant speed, e.g. pressure-compensated, load-responsive
F15B 11/06	1-Punkt Untergruppe	. involving features specific to the use of a compressible medium, e.g. air, steam
F15B 11/064	2-Punkt Untergruppe	... with devices for saving the compressible medium [6]
F15B 11/068	2-Punkt Untergruppe	... with valves for gradually putting pneumatic systems under pressure [6]

Symbol	Typ	Titel
F15B 11/072	2-Punkt Untergruppe	... Combined pneumatic-hydraulic systems [6]
F15B 11/076	3-Punkt Untergruppe	... with pneumatic drive or displacement and speed control or stopping by hydraulic braking [6]
F15B 11/08	1-Punkt Untergruppe	. with only one servomotor
F15B 11/10	2-Punkt Untergruppe	... in which the servomotor position is a function of the pressure
F15B 11/12	2-Punkt Untergruppe	... providing distinct intermediate positions; with step-by-step action
F15B 11/13	3-Punkt Untergruppe	... using chambers of predetermined volume [6]
F15B 11/15	2-Punkt Untergruppe	... with special provision for automatic return
F15B 11/16	1-Punkt Untergruppe	. with two or more servomotors
F15B 11/17	2-Punkt Untergruppe	... using two or more pumps [6]
F15B 11/18	2-Punkt Untergruppe	... used in combination for obtaining stepwise operation of a single controlled member
F15B 11/20	2-Punkt Untergruppe	... controlling several interacting or sequentially-operating members (fluid distribution or supply devices for the control of two or more servomotors F15B 13/06)
F15B 11/22	2-Punkt Untergruppe	... Synchronisation of the movement of two or more servomotors
F15B 13/00	Hauptgruppe	Details of servomotor systems (F15B 15/00 takes precedence)
F15B 13/01	1-Punkt Untergruppe	. Locking-valves or other detent devices (associated with the actuator F15B 15/26)
F15B 13/02	1-Punkt Untergruppe	. Fluid distribution or supply devices characterised by their adaptation to the control of servomotors (multiple-way valves F16K 11/00)
F15B 13/04	2-Punkt Untergruppe	... for use with a single servomotor
F15B 13/042	3-Punkt Untergruppe	... operated by fluid pressure
F15B 13/043	4-Punkt Untergruppe	.... with electrically-controlled pilot valves
F15B 13/044	3-Punkt Untergruppe	... operated by electrically-controlled means, e.g. solenoids, torque-motors
F15B 13/06	2-Punkt Untergruppe	... for use with two or more servomotors
F15B 13/07	3-Punkt Untergruppe	... in distinct sequence
F15B 13/08	3-Punkt Untergruppe	... Assemblies of units, each for the control of a single servomotor only
F15B 13/10	1-Punkt Untergruppe	. Special arrangements for operating the actuated device without using fluid pressure, e.g. for emergency use
F15B 13/12	1-Punkt Untergruppe	. Special measures for increasing the sensitivity of the system
F15B 13/14	1-Punkt Untergruppe	. Special measures for giving the operator by sense of touch the immediate response of the actuated device
F15B 13/16	1-Punkt Untergruppe	. Special measures for feedback
F15B 15/00	Hauptgruppe	Fluid-actuated devices for displacing a member from one position to another (motors for continuous movement F01 to F03); Gearing associated therewith
F15B 15/02	1-Punkt Untergruppe	. Mechanical layout characterised by the means for converting the movement of the fluid-actuated element into movement of the finally-operated member
F15B 15/04	2-Punkt Untergruppe	... with oscillating cylinder
F15B 15/06	2-Punkt Untergruppe	... for mechanically converting rectilinear movement into non-rectilinear movement
F15B 15/08	1-Punkt Untergruppe	. characterised by the construction of the motor unit (pistons, cylinders, packing F16J)

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F15B 15/10	2-Punkt Untergruppe	... the motor being of diaphragm type (connection of valves to inflatable elastic bodies B60C 29/00; diaphragms, bellows F16J 3/00)
F15B 15/12	2-Punkt Untergruppe	... of the oscillating-vane or curved-cylinder type
F15B 15/14	2-Punkt Untergruppe	... of the straight-cylinder type
F15B 15/16	3-Punkt Untergruppe	... of the telescopic type
F15B 15/17	3-Punkt Untergruppe	... of differential-piston type
F15B 15/18	1-Punkt Untergruppe	. Combined units comprising both motor and pump
F15B 15/19	1-Punkt Untergruppe	. Pyrotechnical actuators [3]
F15B 15/20	1-Punkt Untergruppe	. Other details
F15B 15/22	2-Punkt Untergruppe	... for accelerating or decelerating the stroke
F15B 15/24	2-Punkt Untergruppe	... for restricting the stroke
F15B 15/26	2-Punkt Untergruppe	... Locking mechanisms
F15B 15/28	2-Punkt Untergruppe	... Means for indicating the position, e.g. end of stroke [4]
F15B 17/00	Hauptgruppe	Combinations of telemotor and servomotor systems
F15B 17/02	1-Punkt Untergruppe	. in which a telemotor operates the control member of a servomotor
F15B 18/00	Hauptgruppe	Parallel arrangements of independent servomotor systems
F15B 19/00	Hauptgruppe	Testing fluid-pressure systems or apparatus, so far as not provided for elsewhere
F15B 20/00	Hauptgruppe	Safety arrangements; Applications of safety devices (safety devices in general F16P); Emergency measures
F15B 21/00	Hauptgruppe	Common features; Fluid-pressure systems, or details thereof, not covered by any preceding group
F15B 21/02	1-Punkt Untergruppe	. Servomotor systems with programme control derived from a store or timing device; Control devices therefor
F15B 21/04	1-Punkt Untergruppe	. Special measures taken in connection with the properties of the fluid, e.g. for venting, compensating for changes of viscosity, cooling, filtering, preventing churning
F15B 21/06	1-Punkt Untergruppe	. Use of special fluids, e.g. liquid metal; Special adaptations of fluid-pressure systems, or control of elements therefor, to the use of such fluids
F15B 21/08	1-Punkt Untergruppe	. Servomotor systems incorporating electrically- operated control means (F15B 21/02 takes precedence)
F15B 21/10	1-Punkt Untergruppe	. Delay devices or arrangements (associated with fluid motors or actuators F15B 15/22)
F15B 21/12	1-Punkt Untergruppe	. Fluid oscillators or pulse generators (fluid oscillators predominantly used for computing or control purposes F15C 1/22 , F15C 3/16)
F15B 21/14	1-Punkt Untergruppe	. Energy-recuperation means (for vehicles B60T 1/10) [6]