

Symbol	Typ	Titel
F	Sektion	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
F16	Klasse	ENGINEERING ELEMENTS OR UNITS; GENERAL MEASURES FOR PRODUCING AND MAINTAINING EFFECTIVE FUNCTIONING OF MACHINES OR INSTALLATIONS ; THERMAL INSULATION IN GENERAL
F16J	Unterklasse	PISTONS; CYLINDERS; PRESSURE VESSELS IN GENERAL; SEALINGS
F16J 1/00	Hauptgruppe	Pistons; Trunk pistons; Plungers (bellows pistons F16J 3/06; piston-rings or seats therefor F16J 9/00; rotary pistons, e.g. for "Wankel" type engines, F01C; specific for combustion engines, i.e. constructed to withstand high temperature or modified for guiding, igniting, vaporising, or otherwise treating the charge, F02F; pistons specially adapted for reciprocating-piston liquid engines F03C 1/28; for pumps F04B; floats F16K 33/00) [1, 2006.01]
F16J 1/01	1-Punkt Untergruppe	. characterised by the use of particular materials (F16J 1/02 takes precedence) [3, 2006.01]
F16J 1/02	1-Punkt Untergruppe	. Bearing surfaces [1, 2006.01]
F16J 1/04	1-Punkt Untergruppe	. Resilient guiding parts, e.g. skirts, particularly for trunk pistons [1, 2006.01]
F16J 1/06	2-Punkt Untergruppe	.. with separate expansion members; Expansion members [1, 2006.01]
F16J 1/08	1-Punkt Untergruppe	. Constructional features providing for lubrication [1, 2006.01]
F16J 1/09	1-Punkt Untergruppe	. with means for guiding fluids (F16J 1/08 takes precedence) [3, 2006.01]
F16J 1/10	1-Punkt Untergruppe	. Connection to driving members [1, 2006.01]
F16J 1/12	2-Punkt Untergruppe	.. with piston-rods, i.e. rigid connections [1, 2006.01]
F16J 1/14	2-Punkt Untergruppe	.. with connecting-rods, i.e. pivotal connections [1, 2006.01]
F16J 1/16	3-Punkt Untergruppe	... with gudgeon-pin; Gudgeon-pins [1, 2006.01]
F16J 1/18	4-Punkt Untergruppe	.... Securing of gudgeon-pins [1, 2006.01]
F16J 1/20	3-Punkt Untergruppe	... with rolling contact, other than in ball or roller bearings [1, 2006.01]
F16J 1/22	3-Punkt Untergruppe	... with universal joint, e.g. ball-joint [1, 2006.01]
F16J 1/24	2-Punkt Untergruppe	.. designed to give the piston some rotary movement about its axis [1, 2006.01]
F16J 3/00	Hauptgruppe	Diaphragms; Bellows; Bellows pistons (connection of valves to inflatable elastic bodies B60C 29/00; bellows or the like used in instruments G12B 1/04; diaphragms for electromechanical transducers H04R 7/00) [1, 2006.01]
F16J 3/02	1-Punkt Untergruppe	. Diaphragms [2, 2006.01]
F16J 3/04	1-Punkt Untergruppe	. Bellows [2, 2006.01]
F16J 3/06	1-Punkt Untergruppe	. Bellows pistons [2, 2006.01]
F16J 7/00	Hauptgruppe	Piston-rods, i.e. rods rigidly connected to the piston (connecting-rods or like links pivoted at both ends F16C 7/00) [1, 2006.01]
F16J 9/00	Hauptgruppe	Piston-rings, seats therefor; Ring sealings of similar construction in general (other sealings between pistons and cylinders F16J 3/06, F16J 15/16; tools for mounting or removing piston-rings or the like B25B; piston sealing arrangements on brake master cylinders B60T 11/236) [1, 2, 5, 2006.01]
F16J 9/02	1-Punkt Untergruppe	. L-section rings [1, 2006.01]
F16J 9/04	1-Punkt Untergruppe	. Helical rings [1, 2006.01]
F16J 9/06	1-Punkt Untergruppe	. using separate springs expanding the rings; Springs therefor [1, 2006.01]

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F16J 9/08	1-Punkt Untergruppe	. with expansion obtained by pressure of the medium [1, 2006.01]
F16J 9/10	1-Punkt Untergruppe	. Special members for adjusting the rings [1, 2006.01]
F16J 9/12	1-Punkt Untergruppe	. Details [1, 2006.01]
F16J 9/14	2-Punkt Untergruppe	.. Joint-closures [1, 2006.01]
F16J 9/16	3-Punkt Untergruppe	... obtained by stacking of rings [1, 2006.01]
F16J 9/18	3-Punkt Untergruppe	... with separate bridge-elements [1, 2006.01]
F16J 9/20	2-Punkt Untergruppe	... Rings with special cross-section (L-section rings F16J 9/02); Oil-scraping rings [1, 2006.01]
F16J 9/22	2-Punkt Untergruppe	.. Rings for preventing wear of grooves or like seatings [1, 2006.01]
F16J 9/24	2-Punkt Untergruppe	.. Members preventing rotation of rings in grooves [1, 2006.01]
F16J 9/26	1-Punkt Untergruppe	. characterised by the use of particular materials [3, 2006.01]
F16J 9/28	2-Punkt Untergruppe	.. of non-metals [3, 2006.01]
F16J 10/00	Hauptgruppe	Engine or like cylinders (pressure vessels in general F16J 12/00; cylinders for engines or other apparatus of particular kinds, see the appropriate subclasses, e.g. for combustion engines F02F); Features of hollow, e.g. cylindrical, bodies in general [3, 2006.01]
F16J 10/02	1-Punkt Untergruppe	. Cylinders designed to receive moving pistons or plungers [3, 2006.01]
F16J 10/04	2-Punkt Untergruppe	.. Running faces; Liners [3, 2006.01]
F16J 12/00	Hauptgruppe	Pressure vessels in general (covers therefor F16J 13/00; for particular applications, see the relevant subclasses, e.g. B01J, F17C, G21C) [3, 2006.01]
F16J 13/00	Hauptgruppe	Covers or similar closure members for pressure vessels in general (for engine or like cylinders F16J 10/00; sealings F16J 15/02; covers for box-like containers B65D 43/00; devices for securing or retaining closure members B65D 45/00; closures for containers not otherwise provided for B65D 51/00; manholes, covers for large containers B65D 90/10; gates or closures for large containers B65D 90/54; for vessels for containing or storing compressed, liquefied or solidified gases F17C 13/06; steam boilers F22B) [1, 2006.01]
F16J 13/02	1-Punkt Untergruppe	. Detachable closure members; Means for tightening closures (F16J 13/16, F16J 13/22 take precedence) [1, 3, 2006.01]
F16J 13/04	2-Punkt Untergruppe	.. attached with a bridge member [1, 2006.01]
F16J 13/06	2-Punkt Untergruppe	.. attached only by clamps along the circumference [1, 2006.01]
F16J 13/08	2-Punkt Untergruppe	.. attached by one or more members actuated to project behind a part or parts of the frame (similar constructions for doors or windows E05C 9/00) [1, 2006.01]
F16J 13/10	2-Punkt Untergruppe	.. attached by means of a divided ring [1, 2006.01]
F16J 13/12	2-Punkt Untergruppe	.. attached by wedging action by means of screw-thread, interrupted screw-thread, bayonet closure, or the like [1, 2006.01]
F16J 13/14	2-Punkt Untergruppe	.. attached exclusively by spring action or elastic action [1, 2006.01]
F16J 13/16	1-Punkt Untergruppe	. Pivoted closures (F16J 13/22 takes precedence) [1, 3, 2006.01]
F16J 13/18	2-Punkt Untergruppe	.. pivoted directly on the frame [1, 2006.01]
F16J 13/20	2-Punkt Untergruppe	.. mounted by mobile fastening on swinging arms [1, 2006.01]
F16J 13/22	1-Punkt Untergruppe	. with movement parallel to the plane of the opening [3, 2006.01]

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F16J 13/24	1-Punkt Untergruppe	. with safety devices, e.g. to prevent opening prior to pressure release [3, 2006.01]
F16J 15/00	Hauptgruppe	Sealings [1, 5, 2006.01]
F16J 15/02	1-Punkt Untergruppe	. between relatively-stationary surfaces (F16J 15/46, F16J 15/48 take precedence) [1, 2006.01]
F16J 15/04	2-Punkt Untergruppe	... without packing between the surfaces, e.g. with ground surfaces, with cutting edge [1, 2006.01]
F16J 15/06	2-Punkt Untergruppe	... with solid packing compressed between sealing surfaces [1, 2006.01]
F16J 15/08	3-Punkt Untergruppe	... with exclusively metal packing [1, 2006.01]
F16J 15/10	3-Punkt Untergruppe	... with non-metallic packing [1, 2006.01]
F16J 15/12	4-Punkt Untergruppe	.... with metal reinforcement or covering [1, 2006.01]
F16J 15/14	2-Punkt Untergruppe	... by means of granular or plastic material, or fluid [1, 2006.01]
F16J 15/16	1-Punkt Untergruppe	. between relatively-moving surfaces (F16J 15/50, F16J 15/52 take precedence; bellows pistons F16J 3/06; piston-rings or ring sealings of similar construction F16J 9/00) [1, 2, 2006.01]
F16J 15/18	2-Punkt Untergruppe	... with stuffing-boxes for elastic or plastic packings [1, 2006.01]
F16J 15/20	3-Punkt Untergruppe	... Packing materials therefor [1, 2006.01]
F16J 15/22	4-Punkt Untergruppe	.... shaped as strands, ropes, threads, ribbons, or the like [1, 2006.01]
F16J 15/24	3-Punkt Untergruppe	... with radially or tangentially compressed packing [1, 2006.01]
F16J 15/26	2-Punkt Untergruppe	... with stuffing-boxes for rigid sealing rings [1, 2006.01]
F16J 15/28	3-Punkt Untergruppe	... with sealing rings made of metal [1, 2006.01]
F16J 15/30	3-Punkt Untergruppe	... with sealing rings made of carbon [1, 2006.01]
F16J 15/32	2-Punkt Untergruppe	... with elastic sealings, e.g. O-rings [1, 2006.01, 2016.01]
F16J 15/3204	3-Punkt Untergruppe	... with at least one lip [2016.01]
F16J 15/3208	4-Punkt Untergruppe	.... provided with tension elements, e.g. elastic rings [2016.01]
F16J 15/3212	5-Punkt Untergruppe	.... with metal springs [2016.01]
F16J 15/3216	4-Punkt Untergruppe	.... supported in a direction parallel to the surfaces [2016.01]
F16J 15/322	4-Punkt Untergruppe	.... supported in a direction perpendicular to the surfaces [2016.01]
F16J 15/3224	4-Punkt Untergruppe	.... capable of accommodating changes in distances or misalignment between the surfaces, e.g. able to compensate for defaults of eccentricity or angular deviations [2016.01]
F16J 15/3228	4-Punkt Untergruppe	.... formed by deforming a flat ring [2016.01]
F16J 15/3232	4-Punkt Untergruppe	.... having two or more lips [2016.01]
F16J 15/3236	5-Punkt Untergruppe	.... with at least one lip for each surface, e.g. U-cup packings [2016.01]
F16J 15/324	3-Punkt Untergruppe	... Arrangements for lubrication or cooling of the sealing itself [2016.01]
F16J 15/3244	3-Punkt Untergruppe	... with hydrodynamic pumping action [2016.01]
F16J 15/3248	3-Punkt Untergruppe	... provided with casings or supports [2016.01]
F16J 15/3252	4-Punkt Untergruppe with rigid casings or supports [2016.01]

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F16J 15/3256	5-Punkt Untergruppe comprising two casing or support elements, one attached to each surface, e.g. cartridge or cassette seals [2016.01]
F16J 15/326	6-Punkt Untergruppe	..... with means for detecting or measuring relative rotation of the two elements [2016.01]
F16J 15/3264	6-Punkt Untergruppe	..... the elements being separable from each other [2016.01]
F16J 15/3268	3-Punkt Untergruppe	... Mounting of sealing rings [2016.01]
F16J 15/3272	4-Punkt Untergruppe	.... the rings having a break or opening, e.g. to enable mounting on a shaft otherwise than from a shaft end [2016.01]
F16J 15/3276	4-Punkt Untergruppe	.... with additional static sealing between the sealing, or its casing or support, and the surface on which it is mounted [2016.01]
F16J 15/328	3-Punkt Untergruppe	... Manufacturing methods specially adapted for elastic sealings (moulding B29C) [2016.01]
F16J 15/3284	3-Punkt Untergruppe	... characterised by their structure; Selection of materials [2016.01]
F16J 15/3288	4-Punkt Untergruppe	.... Filamentary structures, e.g. brush seals [2016.01]
F16J 15/3292	4-Punkt Untergruppe	.... Lamellar structures [2016.01]
F16J 15/3296	3-Punkt Untergruppe	... Arrangements for monitoring the condition or operation of elastic sealings (F16J 15/326 takes precedence); Arrangements for control of elastic sealings, e.g. of their geometry or stiffness [2016.01]
F16J 15/34	2-Punkt Untergruppe	.. with slip-ring pressed against a more or less radial face on one member [1, 2006.01]
F16J 15/36	3-Punkt Untergruppe	... connected by a diaphragm to the other member [1, 2006.01]
F16J 15/38	3-Punkt Untergruppe	... sealed by a packing [1, 2, 2006.01]
F16J 15/40	2-Punkt Untergruppe	... by means of fluid [1, 2006.01]
F16J 15/42	3-Punkt Untergruppe	... kept in sealing position by centrifugal force [1, 2006.01]
F16J 15/43	3-Punkt Untergruppe	... kept in sealing position by magnetic force [6, 2006.01]
F16J 15/44	1-Punkt Untergruppe	. Free-space packings [1, 2006.01]
F16J 15/447	2-Punkt Untergruppe	.. Labyrinth packings [3, 2006.01]
F16J 15/453	3-Punkt Untergruppe	... characterised by the use of particular materials [3, 2006.01]
F16J 15/46	1-Punkt Untergruppe	. with packing ring expanded or pressed into place by fluid pressure, e.g. inflatable packings (connection of valves to inflatable elastic bodies B60C 29/00; specially adapted for tube connections F16L) [1, 2006.01]
F16J 15/48	2-Punkt Untergruppe	.. influenced by the pressure within the member to be sealed [1, 2006.01]
F16J 15/50	1-Punkt Untergruppe	. between relatively-movable members, by means of a sealing without relatively-moving surfaces, e.g. fluid-tight sealings for transmitting motion through a wall [1, 2006.01]
F16J 15/52	2-Punkt Untergruppe	.. by means of sealing bellows or diaphragms (connection of valves to inflatable elastic bodies B60C 29/00) [1, 2006.01]
F16J 15/53	1-Punkt Untergruppe	. using magnetic means [6, 2006.01]
F16J 15/54	1-Punkt Untergruppe	. Other sealings for rotating shafts [1, 2006.01]
F16J 15/56	1-Punkt Untergruppe	. Other sealings for reciprocating rods [1, 2006.01]