

Symbol	Typ	Titel
<b>F</b>	<b>Sektion</b>	<b>SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING</b>
<b>F02</b>	<b>Klasse</b>	<b>COMBUSTION ENGINES (cyclically operating valves therefor, lubricating, exhausting, or silencing engines F01); HOT-GAS OR COMBUSTION-PRODUCT ENGINE PLANTS</b>
<b>F02C</b>	<b>Unterklasse</b>	<b>GAS-TURBINE PLANTS; AIR INTAKES FOR JET-PROPULSION PLANTS; CONTROLLING FUEL SUPPLY IN AIR-BREATHING JET-PROPULSION PLANTS (construction of turbines F01D; jet-propulsion plants F02K; construction of compressors or fans F04; combustion apparatus in which combustion takes place in a fluidised bed of fuel or other particles F23C 10/00; generating combustion products of high pressure or high velocity F23R; using gas turbines in compression refrigeration plants F25B 11/00; using gas-turbine plants in vehicles, <u>see</u> the relevant vehicle classes)</b>
<b>F02C 1/00</b>	<b>Hauptgruppe</b>	<b>Gas-turbine plants characterised by the use of hot gases or unheated pressurised gases, as the working fluid (by the use of combustion products F02C 3/00, F02C 5/00) [3]</b>
F02C 1/02	1-Punkt Untergruppe	. the working fluid being an unheated pressurised gas [3]
F02C 1/04	1-Punkt Untergruppe	. the working fluid being heated indirectly [3]
F02C 1/05	2-Punkt Untergruppe	. . characterised by the type or source of heat, e.g. using nuclear or solar energy [3]
F02C 1/06	3-Punkt Untergruppe	. . . using reheated exhaust gas (F02C 1/08 takes precedence) [3]
F02C 1/08	2-Punkt Untergruppe	. . Semi-closed cycles [3]
F02C 1/10	2-Punkt Untergruppe	. . Closed cycles [3]
<b>F02C 3/00</b>	<b>Hauptgruppe</b>	<b>Gas-turbine plants characterised by the use of combustion products as the working fluid ( generated by intermittent combustion F02C 5/00)</b>
F02C 3/02	1-Punkt Untergruppe	. using exhaust-gas pressure in a pressure exchanger to compress combustion-air (pressure exchangers <u>per se</u> F04F 11/02)
F02C 3/04	1-Punkt Untergruppe	. having a turbine driving a compressor (power transmission arrangements F02C 7/36; control of working fluid flow F02C 9/16) [5]
F02C 3/045	2-Punkt Untergruppe	. . having compressor and turbine passages in a single rotor (F02C 3/073 takes precedence) [3]
F02C 3/05	3-Punkt Untergruppe	. . . the compressor and the turbine being of the radial flow type [3]
F02C 3/055	2-Punkt Untergruppe	. . the compressor being of the positive-displacement type [3]
F02C 3/06	2-Punkt Untergruppe	. . the compressor comprising only axial stages (F02C 3/10 takes precedence) [3]
F02C 3/067	3-Punkt Untergruppe	. . . having counter-rotating rotors (F02C 3/073 takes precedence) [3]
F02C 3/073	3-Punkt Untergruppe	. . . the compressor and turbine stages being concentric [3]
F02C 3/08	2-Punkt Untergruppe	. . the compressor comprising at least one radial stage (F02C 3/10 takes precedence) [3]
F02C 3/09	3-Punkt Untergruppe	. . . of the centripetal type [3]
F02C 3/10	2-Punkt Untergruppe	. . with another turbine driving an output shaft but not driving the compressor
F02C 3/107	2-Punkt Untergruppe	. . with two or more rotors connected by power transmission [5]
F02C 3/113	3-Punkt Untergruppe	. . . with variable power transmission between rotors [5]

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F02C 3/13	2-Punkt Untergruppe	. . having variable working fluid interconnections between turbines or compressors or stages of different rotors [5]
F02C 3/14	1-Punkt Untergruppe	. characterised by the arrangement of the combustion chamber in the plant (combustion chambers <u>per se</u> F23R) [3]
F02C 3/16	2-Punkt Untergruppe	. . the combustion chambers being formed at least partly in the turbine rotor
F02C 3/20	1-Punkt Untergruppe	. using a special fuel, oxidant, or dilution fluid to generate the combustion products [3]
F02C 3/22	2-Punkt Untergruppe	. . the fuel or oxidant being gaseous at standard temperature and pressure (F02C 3/28 takes precedence) [3]
F02C 3/24	2-Punkt Untergruppe	. . the fuel or oxidant being liquid at standard temperature and pressure [3]
F02C 3/26	2-Punkt Untergruppe	. . the fuel or oxidant being solid or pulverulent, e.g. in slurry or suspension
F02C 3/28	3-Punkt Untergruppe	. . . using a separate gas producer for gasifying the fuel before combustion [3]
F02C 3/30	2-Punkt Untergruppe	. . Adding water, steam or other fluids to the combustible ingredients or to the working fluid before discharge from the turbine (heating of air intakes to prevent icing F02C 7/047) [3]
F02C 3/32	1-Punkt Untergruppe	. Inducing air flow by fluid jet, e.g. ejector action [3]
F02C 3/34	1-Punkt Untergruppe	. with recycling of part of the working fluid, i.e. semi-closed cycles with combustion products in the closed part of the cycle [3]
F02C 3/36	1-Punkt Untergruppe	. Open cycles [3]
<b>F02C 5/00</b>	<b>Hauptgruppe</b>	<b>Gas-turbine plants characterised by the working fluid being generated by intermittent combustion</b>
F02C 5/02	1-Punkt Untergruppe	. characterised by the arrangement of the combustion chamber in the plant (combustion chambers <u>per se</u> F23R) [3]
F02C 5/04	2-Punkt Untergruppe	. . the combustion chambers being formed at least partly in the turbine rotor
F02C 5/06	1-Punkt Untergruppe	. the working fluid being generated in an internal-combustion gas generator of the positive-displacement type having essentially no mechanical power output (internal-combustion engines with prolonged expansion using exhaust gas turbines F02B)
F02C 5/08	2-Punkt Untergruppe	. . the gas generator being of the free-piston type
F02C 5/10	1-Punkt Untergruppe	. the working fluid forming a resonating or oscillating gas column, i.e. the combustion chambers having no positively actuated valves, e.g. using Helmholtz effect [3]
F02C 5/11	2-Punkt Untergruppe	. . using valveless combustion chambers [3]
F02C 5/12	1-Punkt Untergruppe	. the combustion chambers having inlet or outlet valves, e.g. Holzwarth gas-turbine plants
<b>F02C 6/00</b>	<b>Hauptgruppe</b>	<b>Plural gas-turbine plants; Combinations of gas-turbine plants with other apparatus (aspects predominantly concerning such apparatus, <u>see</u> the relevant classes for the apparatus); Adaptations of gas-turbine plants for special use [3]</b>
F02C 6/02	1-Punkt Untergruppe	. Plural gas-turbine plants having a common power output [3]
F02C 6/04	1-Punkt Untergruppe	. Gas-turbine plants providing heated or pressurised working fluid for other apparatus, e.g. without mechanical power output (F02C 6/18 takes precedence) [3]
F02C 6/06	2-Punkt Untergruppe	. . providing compressed gas (F02C 6/10 takes precedence) [3]
F02C 6/08	3-Punkt Untergruppe	. . . the gas being bled from the gas-turbine compressor [3]

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F02C 6/10	2-Punkt Untergruppe	. . supplying working fluid to a user, e.g. a chemical process, which returns working fluid to a turbine of the plant [3]
F02C 6/12	3-Punkt Untergruppe	. . . Turbochargers, i.e. plants for augmenting mechanical power output of internal-combustion piston engines by increase of charge pressure [3]
F02C 6/14	1-Punkt Untergruppe	. Gas-turbine plants having means for storing energy, e.g. for meeting peak loads [3]
F02C 6/16	2-Punkt Untergruppe	. . for storing compressed air [3]
F02C 6/18	1-Punkt Untergruppe	. using the waste heat of gas-turbine plants outside the plants themselves, e.g. gas-turbine power heat plants (using waste heat as source of energy for refrigeration plants F25B 27/02) [3]
F02C 6/20	1-Punkt Untergruppe	. Adaptations of gas-turbine plants for driving vehicles [3]
<b>F02C 7/00</b>	<b>Hauptgruppe</b>	<b>Features, component parts, details or accessories, not provided for in, or of interest apart from, groups F02C 1/00-F02C 6/00; Air intakes for jet-propulsion plants (controlling F02C 9/00) [3]</b>
F02C 7/04	1-Punkt Untergruppe	. Air intakes for gas-turbine plants or jet-propulsion plants [3]
F02C 7/042	2-Punkt Untergruppe	. . having variable geometry [3]
F02C 7/045	2-Punkt Untergruppe	. . having provisions for noise suppression [3]
F02C 7/047	2-Punkt Untergruppe	. . Heating to prevent icing [3]
F02C 7/05	2-Punkt Untergruppe	. . having provisions for obviating the penetration of damaging objects or particles [3]
F02C 7/052	3-Punkt Untergruppe	. . . with dust-separation devices [3]
F02C 7/055	3-Punkt Untergruppe	. . . with intake grids, screens or guards [3]
F02C 7/057	2-Punkt Untergruppe	. . Control or regulation (conjointly with fuel supply control F02C 9/50, with nozzle area control F02K 1/16) [3]
F02C 7/06	1-Punkt Untergruppe	. Arrangement of bearings (bearings F16C); Lubricating (of engines in general F01M) [3]
F02C 7/08	1-Punkt Untergruppe	. Heating air supply before combustion, e.g. by exhaust gases
F02C 7/10	2-Punkt Untergruppe	. . by means of regenerative heat-exchangers
F02C 7/105	3-Punkt Untergruppe	. . . of the rotary type (rotary heat exchangers <u>per se</u> F28D) [3]
F02C 7/12	1-Punkt Untergruppe	. Cooling of plants (of component parts, <u>see</u> the relevant subclasses, e.g. F01D; cooling of engines in general F01P)
F02C 7/14	2-Punkt Untergruppe	. . of fluids in the plant
F02C 7/141	3-Punkt Untergruppe	. . . of working fluid (F02C 3/30 takes precedence) [3]
F02C 7/143	4-Punkt Untergruppe	. . . . before or between the compressor stages [3]
F02C 7/16	2-Punkt Untergruppe	. . characterised by cooling medium
F02C 7/18	3-Punkt Untergruppe	. . . the medium being gaseous, e.g. air
F02C 7/20	1-Punkt Untergruppe	. Mounting or supporting of plant; Accommodating heat expansion or creep
F02C 7/22	1-Punkt Untergruppe	. Fuel supply systems
F02C 7/224	2-Punkt Untergruppe	. . Heating fuel before feeding to the burner [3]
F02C 7/228	2-Punkt Untergruppe	. . Dividing fuel between various burners [3]

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F02C 7/232	2-Punkt Untergruppe	. . Fuel valves; Draining valves or systems (valves in general F16K) [3]
F02C 7/236	2-Punkt Untergruppe	. . Fuel delivery systems comprising two or more pumps [3]
F02C 7/24	1-Punkt Untergruppe	. Heat or noise insulation (air intakes having provisions for noise suppression F02C 7/045; turbine exhaust heads, chambers, or the like F01D 25/30; silencing nozzles of jet-propulsion plants F02K 1/00) [3]
F02C 7/25	2-Punkt Untergruppe	. . Fire protection or prevention (in general A62) [3]
F02C 7/26	1-Punkt Untergruppe	. Starting; Ignition
F02C 7/262	2-Punkt Untergruppe	. . Restarting after flame-out [3]
F02C 7/264	2-Punkt Untergruppe	. . Ignition [3]
F02C 7/266	3-Punkt Untergruppe	. . . Electric (sparking plugs H01T) [3]
F02C 7/268	2-Punkt Untergruppe	. . Starting drives for the rotor [3]
F02C 7/27	3-Punkt Untergruppe	. . . Fluid drives (turbine starters F02C 7/277) [3]
F02C 7/272	4-Punkt Untergruppe	. . . . generated by cartridges [3]
F02C 7/275	3-Punkt Untergruppe	. . . Mechanical drives [3]
F02C 7/277	4-Punkt Untergruppe	. . . . the starter being a turbine [3]
F02C 7/28	1-Punkt Untergruppe	. Arrangement of seals
F02C 7/30	1-Punkt Untergruppe	. Preventing corrosion in gas-swept spaces
F02C 7/32	1-Punkt Untergruppe	. Arrangement, mounting, or driving, of auxiliaries
F02C 7/36	1-Punkt Untergruppe	. Power transmission between the different shafts of the gas-turbine plant, or between the gas-turbine plant and the power user (F02C 7/32 takes precedence; couplings for transmitting rotation F16D; gearing in general F16H) [3]
<b>F02C 9/00</b>	<b>Hauptgruppe</b>	<b>Controlling gas-turbine plants; Controlling fuel supply in air-breathing jet-propulsion plants ( controlling air intakes F02C 7/057; controlling turbines F01D; controlling compressors F04D 27/00 ) [3]</b>
F02C 9/16	1-Punkt Untergruppe	. Control of working fluid flow (F02C 9/48 takes precedence; control of air-intake flow F02C 7/057) [3]
F02C 9/18	2-Punkt Untergruppe	. . by bleeding, by-passing or acting on variable working fluid interconnections between turbines or compressors or their stages [3, 5]
F02C 9/20	2-Punkt Untergruppe	. . by throttling; by adjusting vanes [3]
F02C 9/22	3-Punkt Untergruppe	. . . by adjusting turbine vanes [3]
F02C 9/24	2-Punkt Untergruppe	. . Control of the pressure level in closed cycles [3]
F02C 9/26	1-Punkt Untergruppe	. Control of fuel supply (F02C 9/48 takes precedence; fuel valves F02C 7/232) [3]
F02C 9/28	2-Punkt Untergruppe	. . Regulating systems responsive to plant or ambient parameters, e.g. temperature, pressure, rotor speed ( F02C 9/30-F02C 9/38, F02C 9/44 take precedence) [3]
F02C 9/30	2-Punkt Untergruppe	. . characterised by variable fuel pump output [3]
F02C 9/32	2-Punkt Untergruppe	. . characterised by throttling of fuel (F02C 9/38 takes precedence) [3]
F02C 9/34	3-Punkt Untergruppe	. . . Joint control of separate flows to main and auxiliary burners [3]
F02C 9/36	2-Punkt Untergruppe	. . characterised by returning of fuel to sump (F02C 9/38 takes precedence) [3]

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F02C 9/38	2-Punkt Untergruppe	. . characterised by throttling and returning of fuel to sump [3]
F02C 9/40	2-Punkt Untergruppe	. . specially adapted to the use of a special fuel or a plurality of fuels [3]
F02C 9/42	2-Punkt Untergruppe	. . specially adapted for the control of two or more plants simultaneously [3]
F02C 9/44	2-Punkt Untergruppe	. . responsive to the speed of aircraft, e.g. Mach number control, optimisation of fuel consumption [3]
F02C 9/46	2-Punkt Untergruppe	. . Emergency fuel control [3]
F02C 9/48	1-Punkt Untergruppe	. Control of fuel supply conjointly with another control of the plant (with nozzle section control F02K 1/17) [3]
F02C 9/50	2-Punkt Untergruppe	. . with control of working fluid flow [3]
F02C 9/52	3-Punkt Untergruppe	. . . by bleeding or by-passing the working fluid [3]
F02C 9/54	3-Punkt Untergruppe	. . . by throttling the working fluid, by adjusting vanes [3]
F02C 9/56	2-Punkt Untergruppe	. . with power transmission control [3]
F02C 9/58	3-Punkt Untergruppe	. . . with control of a variable-pitch propeller [3]

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