

# CPC COOPERATIVE PATENT CLASSIFICATION

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

### ENGINES OR PUMPS

## F02 COMBUSTION ENGINES (cyclically operating valves therefor, lubricating, exhausting, or silencing engines F01); HOT-GAS OR COMBUSTION-PRODUCT ENGINE PLANTS

## F02W INDEXING SCHEME RELATING TO TURBINES; GAS TURBINES

### NOTE

This subclass constitutes an internal scheme for indexing only, associated with subclasses [F01D](#), [F01K](#), [F02C](#) and [F02K](#), relating to turbines and gas turbines

- 2746/00** Indexing scheme associated with former IdT class **46F**
- 2746/00006 . Turbines; Gas turbines
  - 2746/00013 . . Turbines with combustion chamber whose inlet and outlet open and close periodically; Explosion turbines
  - 2746/00019 . . Methods for improving the efficiency, special cycles, refrigeration by means of turbines, gas turbine plants with heat pumps (**R02C746/00F8 takes precedence**), indirect heating by circulation of an auxiliary fluid ([gas turbine plants comprising separators for ashes consisting of matters put in circulation and being used at the same time for heat transfer R02C746/00F30N](#))
  - 2746/00026 . . . using combustion gas, gas turbines functioning by means of exhaust gas
  - 2746/00032 . . . using magnetohydrodynamic generators
  - 2746/00039 . . Turbines with special provisions for the compression of fuel gas or of its components, plants in which the compressor and the turbine form a unit, groups of compression of charge or complement for gas turbine cycles, compression by shock waves ([burners with pulsatory combustion R02C746/00F1, R02C746/00F30N6](#))
  - 2746/00046 . . . Compression in the rotor for the turbine blades, turbines also functioning as compressor, cell compressors ([plants with cellular wheel R02C746/00F40A](#))
  - 2746/00052 . . Turbines using a single driven special gas, use of catalysts, use of oxyhydric gas or detonating gas, use of air or liquid oxygen, using of gas generating cartridges, use of compressed air tanks, air turbines, provisions for preventing the formation of snow or frost in the turbine, turbines for hand-held tools
  - 2746/00059 . . Turbines using mixtures of gas and steam as driving medium, also if the gas and steam currents only mix after the turbine, water injection
  - 2746/00065 . . Turbines using an auxiliary liquid
  - 2746/00072 . . . the auxiliary liquid making a to-and-fro movement
  - 2746/00078 . . . the auxiliary liquid being circulated in a close circuit
  - 2746/00085 . . Turbines using several gases or steams with separate action (**R02C746/00F13 takes precedence**)
  - 2746/00092 . . Turbines other than those according to groups **R02C746/00F1 - R02C746/00F15**, counter-rotating turbines
  - 2746/00098 . . . Turbines using fluid friction
  - 2746/00105 . . . Special kinds of reaction turbines; Turbines with blades having channels passing through the rotor
  - 2746/00111 . . . Explosion turbines, i.e. internal combustion
  - 2746/00118 . . . Turbines with saw-tooth or ratchet-wheel shaped rotor
  - 2746/00125 . . . Propeller and similar turbines driven by reaction, e.g. fluids issuing from the rotor
  - 2746/00131 . . . Turbines with radial entry ([gas turbines driven by exhaust gas R02C746/00F5A](#))
  - 2746/00138 . . Cooling
  - 2746/00144 . . . Cooling of gas; Cooling of oil
  - 2746/00151 . . Components and control; Inversion of rotation; Turbines with forward and reverse rotation
  - 2746/00157 . . . Blades and blade carrying members
  - 2746/00164 . . . . Turbine rotors, e.g. multistage; Assembly; Shafts
  - 2746/00171 . . . Safety and control devices; Test benches
  - 2746/00177 . . . Starting devices, e.g. quick-starting devices
  - 2746/00184 . . . . using starting cartridges
  - 2746/0019 . . . Elements specifically intended for combustion turbines, pulverulent and solid fuel turbines; Separation of ashes
  - 2746/00197 . . . . Fuel supply and feeding devices, e.g. pre-processing of fuel, pumps, valves, draining of the fuel system
  - 2746/00203 . . . . Combustion chambers with admission valves, control, scavenging and filling
  - 2746/0021 . . Plants with specific use of turbines; Construction of power stations with gas turbines
  - 2746/00217 . . . Plants comprising a turbine of a special kind, plants with cellular wheel; Grouping of the various parts of a plant
  - 2746/00223 . . . Turbo-compressor plants for providing compressed air or gases, hot gases or steam, control of these plants
  - 2746/0023 . . . Propulsion plants, e.g. marine turbines

- 2746/00236 . . . . Turbine plants for gas-turbine locomotives
- 2746/00243 . . . . Control of the gas turbines in propulsion plants, e.g. for ships or turbo-propulsion  
([control of gas turbines in general](#) **R02C746/00F30**, [control of fuel supply](#) **R02C746/00F45** - **R02C746/00F48**)
- 2746/0025 . . . . Gas turbine plants for marine propulsion
- 2746/00256 . . . Turbines supplied by other gas generators than those consisting in a combination of combustion chambers and axial or centrifugal compressors
- 2746/00263 . . . . Turbines supplied by piston gas generators
- 2746/00269 . . . . . Plants consisting of pistons gas generators, e.g. with free pistons bringing a driving gas to separately assembled turbines, control of such plants
- 2746/00276 . . . . . Plants consisting of a piston gas generator forming a unit with a turbine
- 2746/00282 . . . . Turbines supplied by other gas generators than those according to group **R02C746/00F40D1**
- 2746/00289 . . Control systems for the fuel supply to the combustors of gas turbines plants ([control of gas turbines in general](#) **R02C746/00F30A**, [control of gas turbines in propulsion plants except for the jet propulsion](#) **R02C746/00F40C2**, [fuel supply systems](#) **R02C746/00F30N1**)
- 2746/00296 . . . using a fuel pump with adjustable flow (**R02C746/00F45C** - **R02C746/00F45F** take precedence)
- 2746/00302 . . . . with control according to one parameter
- 2746/00309 . . . . . with control according to one or several speeds
- 2746/00315 . . . . . with control according to one or several pressures
- 2746/00322 . . . . . with control according to one or several temperatures
- 2746/00328 . . . . with control according to two parameters
- 2746/00335 . . . . . with control according to one or several speeds and of one or several pressures
- 2746/00342 . . . . . with control according to one or several speeds and of one or several temperatures
- 2746/00348 . . . . . with control according to one or several pressures and of one or several temperatures
- 2746/00355 . . . . with control according to at least three parameters
- 2746/00361 . . . . . with control according to one or several speeds, of one or several pressures and of one or several temperatures
- 2746/00368 . . . using a fuel pump with adjustable flow and at least one adjustable valve between pump and burners (**R02C746/00F45F** takes precedence)
- 2746/00375 . . . . with control according to one parameter
- 2746/00381 . . . . . with control according to one or several speeds
- 2746/00388 . . . . . with control according to one or several pressures
- 2746/00394 . . . . . with control according to one or several temperatures
- 2746/00401 . . . . with control according to two parameters
- 2746/00407 . . . . . with control according to one or several speeds and of one or several pressures
- 2746/00414 . . . . . with control according to one or several speeds and of one or several temperatures
- 2746/00421 . . . . . with control according to one or several pressures and of one or several temperatures
- 2746/00427 . . . . with control according to at least three parameters
- 2746/00434 . . . . . with control according to one or several speeds, of one or several pressures and of one or several temperatures
- 2746/0044 . . . . using a fuel pump with adjustable flow and at least one adjustable by-pass valve (**R02C746/00F45F** takes precedence)
- 2746/00447 . . . . with control according to one parameter
- 2746/00453 . . . . . with control according to one or several speeds
- 2746/0046 . . . . . with control according to one or several pressures
- 2746/00467 . . . . . with control according to one or several temperatures
- 2746/00473 . . . . with control according to two parameters
- 2746/0048 . . . . . with control according to one or several speeds and of one or several pressures
- 2746/00486 . . . . . with control according to one or several speeds and of one or several temperatures
- 2746/00493 . . . . . with control according to one or several pressures and of one or several temperatures
- 2746/005 . . . . with control according to at least three parameters
- 2746/00506 . . . . . with control according to one or several speeds, of one or several pressures and of one or several temperatures
- 2746/00513 . . . using a fuel pump with adjustable flow and at least one adjustable valve between pump and burners, and also at least one adjustable by-pass valve
- 2746/00519 . . . . with control according to one parameter
- 2746/00526 . . . . . with control according to one or several speeds
- 2746/00532 . . . . . with control according to one or several pressures
- 2746/00539 . . . . . with control according to one or several temperatures
- 2746/00546 . . . . with control according to two parameters
- 2746/00552 . . . . . with control according to one or several speeds and of one or several pressures
- 2746/00559 . . . . . with control according to one or several speeds and of one or several temperatures
- 2746/00565 . . . . . with control according to one or several pressures and of one or several temperatures
- 2746/00572 . . . . with control according to at least three parameters
- 2746/00578 . . . . . with control according to one or several speeds, of one or several pressures and of one or several temperatures
- 2746/00585 . . . using a fuel pump with non-adjustable flow and at least one adjustable valve between pump and burners (**R02C746/00F45J** takes precedence)
- 2746/00592 . . . . with control according to one parameter
- 2746/00598 . . . . . with control according to one or several speeds

- 2746/00605 . . . . with control according to one or several pressures
- 2746/00611 . . . . with control according to one or several temperatures
- 2746/00618 . . . . with control according to two parameters
- 2746/00625 . . . . with control according to one or several speeds and of one or several pressures
- 2746/00631 . . . . with control according to one or several speeds and of one or several temperatures
- 2746/00638 . . . . with control according to one or several pressures and of one or several temperatures
- 2746/00644 . . . . with control according to at least three parameters
- 2746/00651 . . . . with control according to one or several speeds, of one or several pressures and of one or several temperatures
- 2746/00657 . . . using a fuel pump with non-adjustable flow and at least one adjustable by-pass valve (**R02C746/00F45J takes precedence**)
- 2746/00664 . . . . with control according to one parameter
- 2746/00671 . . . . with control according to one or several speeds
- 2746/00677 . . . . with control according to one or several pressures
- 2746/00684 . . . . with control according to one or several temperatures
- 2746/0069 . . . . with control according to two parameters
- 2746/00697 . . . . with control according to one or several speeds and of one or several pressures
- 2746/00703 . . . . with control according to one or several speeds and of one or several temperatures
- 2746/0071 . . . . with control according to one or several pressures and of one or several temperatures
- 2746/00717 . . . . with control according to at least three parameters
- 2746/00723 . . . . with control according to one or several speeds, of one or several pressures and of one or several temperatures
- 2746/0073 . . . using a fuel pump with non-adjustable flow, at least one adjustable valve between pump and burners, and at least one adjustable by-pass valve
- 2746/00736 . . . . with control according to one parameter
- 2746/00743 . . . . with control according to one or several speeds
- 2746/0075 . . . . with control according to one or several pressures
- 2746/00756 . . . . with control according to one or several temperatures
- 2746/00763 . . . . with control according to two parameters
- 2746/00769 . . . . with control according to one or several speeds and of one or several pressures
- 2746/00776 . . . . with control according to one or several speeds and of one or several temperatures
- 2746/00782 . . . . with control according to one or several pressures and of one or several temperatures
- 2746/00789 . . . . with control according to at least three parameters
- 2746/00796 . . . . with control according to one or several speeds, of one or several pressures and of one or several temperatures
- 2746/00802 . . . Components and parts of control systems according to **R02C746/00F45B - R02C746/00F45J**
- 2746/00809 . . . . with control according to one parameter
- 2746/00815 . . . . with control according to one or several speeds
- 2746/00822 . . . . with control according to one or several pressures
- 2746/00828 . . . . with control according to one or several temperatures
- 2746/00835 . . . . with control according to two parameters
- 2746/00842 . . . . with control according to one or several speeds and of one or several pressures
- 2746/00848 . . . . with control according to one or several speeds and of one or several temperatures
- 2746/00855 . . . . with control according to one or several pressures and of one or several temperatures
- 2746/00861 . . . . with control according to at least three parameters
- 2746/00868 . . . . with control according to one or several speeds, of one or several pressures and of one or several temperatures
- 2746/00875 . . . . Construction of adjustable valves
- 2746/00881 . . . Control systems for the fuel supply to the main burners as well as to the after-burners of a single gas turbine, or with regulation of another adjustable component of the gas turbine (**control systems for the fuel supply only to the main burners or only to the after-burners R02C746/00F45, R02C746/00F48**)
- 2746/00888 . . . of additional fuel injection between the after-burners to ignite them, e.g. "hot-shot", programming devices for the ignition of after-burners
- 2746/00894 . . . of the fuel supply to the main burners and to the after-burners (**R02C746/00F46G takes precedence**)
- 2746/00901 . . . of the fuel supply to the main burners and to the nozzle (**R02C746/00F46G takes precedence**)
- 2746/00907 . . . of the fuel supply to the after-burners and to the nozzle (**R02C746/00F46G takes precedence**)
- 2746/00914 . . . of the fuel supply to the main burners, to the after-burners and to the nozzle
- 2746/00921 . . . of the fuel supply to the main burners and of the adjustable stator vanes of the gas turbine
- 2746/00927 . . . Systems for controlling the fuel supply to the injectors and a variable-pitch propeller driven by the gas turbine
- 2746/00934 . . . Systems for controlling the fuel supply to the injectors and the by-passing of the driving fluid
- 2746/0094 . . . Systems for controlling the fuel supply to the burners of gas turbine plants not foreseen in **R02C746/00F45 or R02C746/00F46**
- 2746/00947 . . . specially adapted to the use of a special fuel or a plurality of fuels
- 2746/00953 . . . using two pumps or more
- 2746/0096 . . . for the combined control of two gas turbine plants or more
- 2746/00967 . . . for dividing the fuel between the main burners or between the after-burners of a single gas turbine (**division of fuel between main burners and after-burners R02C746/00F46**)

## F02W

- 2746/00973 . . . specially adapted for aircraft gas turbine engines, in which the control is a function of the speed of the aircraft; Mach number control, optimisation of fuel consumption
- 2746/0098 . . . Control systems provided with an additional control system which can take over in case of a breakdown of the normal system, safety devices
- 2746/00986 . . . specially adapted for gas turbine plants with intermittent fuel injection
- 2746/00993 . . . Mechanical control devices linked to the throttle lever