| F | Sektion | SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING |
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| F01 | Untersektion | ENGINES OR PUMPS |
| F01 | Klasse | MACHINES OR ENGINES IN GENERAL (combustion engines F02; machines for liquids F03, F04); ENGINE PLANTS IN GENERAL; STEAM ENGINES |
| F01K | Unterklasse | STEAM ENGINE PLANTS; STEAM ACCUMULATORS; ENGINE PLANTS NOT OTHERWISE PROVIDED FOR; ENGINES USING SPECIAL WORKING FLUIDS OR CYCLES (gas-turbine or jet-propulsion plants F02; steam generation F22; nuclear power plants, engine arrangements therein G21D) |
| F01K 1/00 | Hauptgruppe | Steam accumulators (use of accumulators in steam engine plants F01K 3/00) |
| F01K 1/02 | 1-Punkt Untergruppe | . for storing steam otherwise than in a liquid |
| F01K 1/04 | 1-Punkt Untergruppe | . for storing steam in a liquid, e.g. Ruth type (in alkali to increase steam pressure F22B 1/20) |
| F01K 1/06 | 2-Punkt Untergruppe | Internal fittings facilitating steam distribution, steam formation, or circulation (acting during charging or discharging F01K 1/08; fittings facilitating circulation through multiple accumulators F01K 1/14) |
| F01K 1/08 | 1-Punkt Untergruppe | . Charging or discharging of accumulators with steam (peculiar to multiple accumulators F01K 1/12) |
| F01K 1/10 | 1-Punkt Untergruppe | . specially adapted for superheated steam |
| F01K 1/12 | 1-Punkt Untergruppe | . Multiple accumulators; Charging, discharging, or regulating peculiar thereto |
| F01K 1/14 | 2-Punkt Untergruppe | Circulation |
| F01K 1/16 | 1-Punkt Untergruppe | . Other safety or regulating means |
| F01K 1/18 | 2-Punkt Untergruppe | for steam pressure |
| F01K 1/20 | 1-Punkt Untergruppe | . Other steam-accumulator parts, details, or accessories |
| | | Steam engine plants |
| F01K 3/00 | Hauptgruppe | Plants characterised by the use of steam or heat accumulators, or intermediate steam heaters, therein (regenerating exhaust steam F01K 19/00) |
| F01K 3/02 | 1-Punkt Untergruppe | . Use of accumulators and specific engine types; Regulating thereof |
| F01K 3/04 | 2-Punkt Untergruppe | the engine being of multiple-inlet-pressure type |
| F01K 3/06 | 2-Punkt Untergruppe | the engine being of extraction or non-condensing type |
| F01K 3/08 | 1-Punkt Untergruppe | . Use of accumulators, the plant being specially adapted for a specific use |
| F01K 3/10 | 2-Punkt Untergruppe | for vehicle drive, e.g. for accumulator locomotives |
| F01K 3/12 | 1-Punkt Untergruppe | . having two or more accumulators |
| F01K 3/14 | 1-Punkt Untergruppe | . having both steam accumulator and heater, e.g. superheating accumulator (steam superheaters <u>per se</u> F22G |
| F01K 3/16 | 2-Punkt Untergruppe | Mutual arrangement of accumulator and heater |
| F01K 3/18 | 1-Punkt Untergruppe | . having heaters (having both steam accumulator and heater F01K 3/14; steam heaters <u>per se</u> F22) |
| F01K 3/20 | 2-Punkt Untergruppe | with heating by combustion gases of main boiler |
| F01K 3/22 | 3-Punkt Untergruppe | Controlling, e.g. starting, stopping |

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| F01K 3/24 | 2-Punkt Untergruppe | with heating by separately-fired heaters |
| F01K 3/26 | 2-Punkt Untergruppe | with heating by steam |
| F01K 5/00 | Hauptgruppe | Plants characterised by use of means for storing steam in an alkali to increase steam pressure, |
| | | e.g. of Honigmann or Koenemann type |
| F01K 5/02 | 1-Punkt Untergruppe | . used in regenerative installation |
| F01K 7/00 | Hauptgruppe | Plants characterised by the use of specific types of engine (F01K 3/02 takes precedence); Plants or engines characterised by their use of special steam systems, cycles, or processes (reciprocating-piston engines using uniflow principle F01B 17/04); Regulating means peculiar to such systems, cycles, or processes; Use of withdrawn or exhaust steam for feed-water heating |
| F01K 7/02 | 1-Punkt Untergruppe | . the engines being of multiple-expansion type (the engines being only of turbine type F01K 7/16; the engines using steam of critical or over-critical pressure F01K 7/32; the engines being of extraction or non-condensing type F01K 7/34) |
| F01K 7/04 | 2-Punkt Untergruppe | Regulating means peculiar thereto |
| F01K 7/06 | 1-Punkt Untergruppe | . the engines being of multiple-inlet-pressure type (F01K 7/02 takes precedence; the engines being only of turbine type F01K 7/16; the engines using steam of critical or over-critical pressure F01K 7/32; the engines being of extraction or non-condensing type F01K 7/34) |
| F01K 7/08 | 2-Punkt Untergruppe | Regulating means peculiar thereto |
| F01K 7/10 | 1-Punkt Untergruppe | . characterised by the engine exhaust pressure (the engines being only of turbine type F01K 7/16; the engines using steam of critical or over-critical pressure F01K 7/32; the engines being of extraction or non-condensing type F01K 7/34) |
| F01K 7/12 | 2-Punkt Untergruppe | of condensing type |
| F01K 7/14 | 3-Punkt Untergruppe | Regulating means peculiar thereto |
| F01K 7/16 | 1-Punkt Untergruppe | . the engines being only of turbine type (the engines using steam of critical or over-critical pressure F01K $^{7/32}$; the engines being of extraction or non-condensing type F01K $^{7/34}$) |
| F01K 7/18 | 2-Punkt Untergruppe | the turbine being of multiple-inlet-pressure type |
| F01K 7/20 | 3-Punkt Untergruppe | Regulating means peculiar thereto |
| F01K 7/22 | 2-Punkt Untergruppe | the turbines having inter-stage steam heating |
| F01K 7/24 | 3-Punkt Untergruppe | Regulating or safety means peculiar thereto |
| F01K 7/26 | 2-Punkt Untergruppe | the turbines having inter-stage steam accumulation |
| F01K 7/28 | 3-Punkt Untergruppe | Regulating means peculiar thereto |
| F01K 7/30 | 2-Punkt Untergruppe | the turbines using exhaust steam only |
| F01K 7/32 | 1-Punkt Untergruppe | . the engines using steam of critical or over-critical pressure |
| F01K 7/34 | 1-Punkt Untergruppe | . the engines being of extraction or non-condensing type; Use of steam for feed-water heating (feed-water heaters in general F22D) |
| F01K 7/36 | 2-Punkt Untergruppe | the engines being of positive-displacement type |
| F01K 7/38 | 2-Punkt Untergruppe | the engines being of turbine type |
| F01K 7/40 | 2-Punkt Untergruppe | Use of two or more feed-water heaters in series |
| F01K 7/42 | 2-Punkt Untergruppe | Use of desuperheaters for feed-water heating |
| F01K 7/44 | 2-Punkt Untergruppe | Use of steam for feed-water heating and another purpose |

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| F01K 9/00 | Hauptgruppe | Plants characterised by condensers arranged or modified to co-operate with the engines (by |
| | | condensers structurally combined with engines F01K 11/00; steam condensers per seF28B) |
| F01K 9/02 | 1-Punkt Untergruppe | . Arrangements or modifications of condensate or air pumps |
| F01K 9/04 | 1-Punkt Untergruppe | . with dump valves to by-pass stages |
| F01K 11/00 | Hauptgruppe | Plants characterised by the engines being structurally combined with boilers or condensers |
| F01K 11/02 | 1-Punkt Untergruppe | . the engines being turbines |
| F01K 11/04 | 1-Punkt Untergruppe | . the boilers or condensers being rotated in use |
| F01K 13/00 | Hauptgruppe | General layout or general methods of operation, of complete plants |
| F01K 13/02 | 1-Punkt Untergruppe | . Regulating, e.g. stopping or starting |
| F01K 15/00 | Hauptgruppe | Adaptations of plants for special use |
| F01K 15/02 | 1-Punkt Untergruppe | . for driving vehicles, e.g. locomotives (arrangements in vehicles, <u>see</u> the relevant vehicle classes) |
| F01K 15/04 | 2-Punkt Untergruppe | the vehicles being waterborne vessels |
| F01K 17/00 | Hauptgruppe | Use of steam or condensate extracted or exhausted from steam engine plant (for heating feedwater F01K 7/34; returning condensate to boiler F22D) |
| F01K 17/02 | 1-Punkt Untergruppe | . for heating purposes, e.g. industrial, domestic (F01K 17/06 takes precedence; domestic- or space-heating systems, e.g. central-heating systems, in general F24D 1/00, F24D 3/00, F24D 9/00) [3] |
| F01K 17/04 | 1-Punkt Untergruppe | . for specific purposes other than heating (F01K 17/06 takes precedence) |
| F01K 17/06 | 1-Punkt Untergruppe | . Returning energy of steam, in exchanged form, to process, e.g. use of exhaust steam for drying solid fuel of plant |
| F01K 19/00 | Hauptgruppe | Regenerating or otherwise treating steam exhaust from steam engine plant (plants characterised by use of means for storing steam in an alkali to increase steam pressure F01K 5/00; returning condensate to boiler F22D) |
| F01K 19/02 | 1-Punkt Untergruppe | . Regenerating by compression |
| F01K 19/04 | 2-Punkt Untergruppe | in combination with cooling or heating |
| F01K 19/06 | 2-Punkt Untergruppe | in engine cylinder |
| F01K 19/08 | 2-Punkt Untergruppe | compression done by injection apparatus, jet blower, or the like |
| F01K 19/10 | 1-Punkt Untergruppe | . Cooling exhaust steam other than by condenser; Rendering exhaust steam invisible |
| F01K 21/00 | Hauptgruppe | Steam engine plants not otherwise provided for |
| F01K 21/02 | 1-Punkt Untergruppe | . with steam generation in engine cylinders |
| F01K 21/04 | 1-Punkt Untergruppe | . using mixtures of steam and gas; Plants generating or heating steam by bringing water or steam into direct contact with hot gas (direct-contact steam generators in general F22B) |
| F01K 21/06 | 1-Punkt Untergruppe | . Treating live steam, other than thermodynamically, e.g. for fighting deposits in engine |
| F01K 23/00 | Hauptgruppe | Plants characterised by more than one engine delivering power external to the plant, the engines being driven by different fluids |
| F01K 23/02 | 1-Punkt Untergruppe | . the engine cycles being thermally coupled |
| F01K 23/04 | 2-Punkt Untergruppe | condensation heat from one cycle heating the fluid in another cycle |
| F01K 23/06 | 2-Punkt Untergruppe | combustion heat from one cycle heating the fluid in another cycle |
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| F01K 23/10 | 3-Punkt Untergruppe | with exhaust fluid of one cycle heating the fluid in another cycle |
| F01K 23/12 | 1-Punkt Untergruppe | . the engines being mechanically coupled (F01K 23/02 takes precedence) |
| F01K 23/14 | 2-Punkt Untergruppe | including at least one combustion engine |
| F01K 23/16 | 2-Punkt Untergruppe | all the engines being turbines (F01K 23/14 takes precedence) |
| F01K 23/18 | 1-Punkt Untergruppe | . characterised by adaptation for specific use |
| F01K 25/00 | Hauptgruppe | Plants or engines characterised by use of special working fluids, not otherwise provided for; Plants operating in closed cycles and not otherwise provided for |
| F01K 25/02 | 1-Punkt Untergruppe | . the fluid remaining in the liquid phase |
| F01K 25/04 | 1-Punkt Untergruppe | . the fluid being in different phases, e.g. foamed |
| F01K 25/06 | 1-Punkt Untergruppe | . using mixtures of different fluids (plants using mixtures of steam and gas F01K 21/04) |
| F01K 25/08 | 1-Punkt Untergruppe | . using special vapours |
| F01K 25/10 | 2-Punkt Untergruppe | the vapours being cold, e.g. ammonia, carbon dioxide, ether |
| F01K 25/12 | 2-Punkt Untergruppe | the vapours being metallic, e.g. mercury |
| F01K 25/14 | 2-Punkt Untergruppe | using industrial or other waste gases |
| F01K 27/00 | Hauptgruppe | Plants for converting heat or fluid energy into mechanical energy, not otherwise provided for |
| F01K 27/02 | 1-Punkt Untergruppe | . Plants modified to use their waste heat, other than that of exhaust, e.g. engine-friction heat |