

F24 HEATING; RANGES; VENTILATING (protecting plants by heating in gardens, orchards, or forests A01G 13/06; baking ovens and apparatus A21B; cooking devices other than ranges A47J; forging B21J, B21K; specially adapted for vehicles, see the relevant subclasses of classes B60 B64; combustion apparatus in general F23; drying F26B; ovens in general F27; electric heating elements or arrangements H05B)

F24D DOMESTIC- OR SPACE-HEATING SYSTEMS, E.G. CENTRAL HEATING SYSTEMS; DOMESTIC HOT-WATER SUPPLY SYSTEMS; ELEMENTS OR COMPONENTS THEREFOR (preventing corrosion C23F; water supply in general E03; using steam or condensate extracted or exhausted from steam engine plants for heating purposes F01K 17/02; steam traps F16T; domestic stoves or ranges F24B, F24C; water or air heaters having heat generating means F24H; combined heating and refrigeration systems F25B; heat exchange apparatus or elements F28; removing furring F28G)

In this subclass, the following expression is used with the meaning indicated:

- “central heating system” means a system in which heat is generated or stored at central sources and is distributed by means of a transfer fluid to the spaces or areas to be heated. [5]

CENTRAL HEATING SYSTEMS

With heat-transfer fluid: steam; hot water; hot air or exhaust gas; other fluid 1/00; 3/00; 5/00; 7/00
 Combinations 9/00
 District heating systems 10/00
 By heat storage 11/00

Other systems 12/00

OTHER DOMESTIC- OR SPACE-HEATING SYSTEMS

Electric; Other 13/00; 15/00
 DOMESTIC HOT-WATER SUPPLY 17/00
 DETAILS 19/00

Central heating systems

- 1/00 Steam central heating systems** (F24D 10/00, F24D 11/00 take precedence)
 - 1/02 . operating with live steam
 - 1/04 . operating with exhaust steam
 - 1/06 . operating with superheated steam
 - 1/08 . Feed-line arrangements, e.g. providing for one-pipe system
- 3/00 Hot-water central heating systems** (F24D 10/00, F24D 11/00 take precedence)
 - 3/02 . with forced circulation, e.g. by pumps
 - 3/04 . with the water under high pressure
 - 3/06 . . Arrangements or devices for maintaining high pressure
 - 3/08 . in combination with systems for domestic hot-water supply
 - 3/10 . Feed-line arrangements, e.g. providing for heat-accumulator tanks, expansion tanks
 - 3/12 . Tube and panel arrangements for ceiling, wall, or underfloor heating (electric underfloor heating F24D 13/02; special adaptations of floors for incorporating ducts, e.g. for heating or ventilating, E04B 5/48; building elements of block or other shape for the construction of parts of buildings characterised by special adaptations, e.g. serving for locating conduits, E04C 1/39; building elements of relatively thin form for the construction of parts of buildings with special adaptations for auxiliary purposes, e.g. serving for locating conduits, E04C 2/52) [4]
 - 3/14 . . incorporated in a ceiling, wall or floor [4]
 - 3/16 . . mounted on, or adjacent to, a ceiling, wall or floor [4]
 - 3/18 . using heat pumps [5]

- 5/00 Hot-air central heating systems** (F24D 10/00, F24D 11/00 take precedence; air conditioning F24F);
Exhaust-gas central heating systems
 - 5/02 . operating with discharge of hot air into the space or area to be heated
 - 5/04 . . with return of the air to the air heater
 - 5/06 . operating without discharge of hot air into the space or area to be heated
 - 5/08 . . with hot air led through radiators
 - 5/10 . . with hot air led through heat-exchange ducts in the walls, floor, or ceiling
 - 5/12 . using heat pumps [5]
- 7/00 Central heating systems employing heat-transfer fluids not covered by groups F24D 1/00 F24D 5/00, e.g. oil, salt, gas** (F24D 10/00, F24D 11/00 take precedence)
- 9/00 Central heating systems employing combinations of heat-transfer fluids covered by two or more of groups F24D 1/00 F24D 7/00** (F24D 10/00, F24D 11/00 take precedence)
 - 9/02 . Hot water and steam systems
- 10/00 District heating systems** [5]
- 11/00 Central heating systems using heat accumulated in storage masses** (self-contained storage heating units F24D 15/02; storage masses, see the relevant subclasses)
 - 11/02 . using heat pumps
- 12/00 Other central heating systems**
 - 12/02 . having more than one heat source (F24D 3/18, F24D 5/12, F24D 11/02 take precedence) [5]

Other domestic- or space-heating systems

- 13/00 Electric heating systems** (electric water or air heaters F24H)
- 13/02 . solely using resistance heating, e.g. underfloor heating
- 13/04 . using electric heating of heat-transfer fluid in separate units of the system
- 15/00 Other domestic- or space-heating systems**
- 15/02 . consisting of self-contained heating units, e.g. storage heaters [3]
- 15/04 . using heat pumps [5]
-
- 17/00 Domestic hot-water supply systems** (combined with domestic- or space-heating systems F24D 1/00 F24D 15/00)
- 17/02 . using heat pumps [5]

- 19/00 Details** (of water or air heaters F24H 9/00; of heat-exchange or heat-transfer apparatus, of general application F28F) [3]
- 19/02 . Arrangement of mountings or supports for radiators [3]
- 19/04 . . in skirtings [3]
- 19/06 . Casings, cover lids or ornamental panels, for radiators [3]
- 19/08 . Arrangements for drainage, venting or aerating (valves for drainage F16K, e.g. F16K 21/00, for venting or aerating F16K 24/00) [3]
- 19/10 . Arrangement or mounting of control or safety devices (control valves F16K; only the heater being controlled F24H 9/20) [3]