CPC COOPERATIVE PATENT CLASSIFICATION

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

LIGHTING; HEATING

F24 HEATING; RANGES; VENTILATING
(NOTE omitted)

F24F AIR-CONDITIONING; AIR-HUMIDIFICATION; VENTILATION; USE OF AIR CURRENTS FOR SCREENING (removing dirt or fumes from areas where they are produced B08B 15/00; vertical ducts for carrying away waste gases from buildings E04F 17/02; tops for chimneys or ventilating shafts, terminals for flues F23L 17/02)

NOTES

1. This subclass covers treatment, e.g. purification, of air supplied to human living or working spaces in air conditioning systems or in room units.
2. In this subclass:
   - air-humidification as auxiliary treatment in air-conditioning, i.e. in units wherein the air is also either cooled or heated, is covered by groups F24F 1/00 or F24F 3/14;
   - air-humidification per se, e.g. "room humidifiers", is covered by group F24F 6/00.
3. In this subclass, the following terms or expressions are used with the meanings indicated:
   - "air-conditioning" means the supply of air to or the treatment of air in rooms or spaces by means of cooling or a combination of cooling and a further kind of air treatment, e.g. humidification, heating or air purification;
   - "ventilation" means the supply of air to, or its extraction from, rooms or spaces, and systems for circulating air within rooms or spaces, but does not cover the mere treatment of air being supplied to, extracted from, or circulated within, rooms or spaces.
4. In this subclass, control or safety arrangements are classified in group F24F 11/00. In order to indicate the type of air-treatment system in which these arrangements are used, further classification may be made in groups F24F 1/00 - F24F 9/00.

1/00 Room units for air-conditioning, e.g. separate or self-contained units or units receiving primary air from a central station

1/0003 . characterised by a split arrangement, wherein parts of the air-conditioning system, e.g. evaporator and condenser, are in separately located units

1/0007 . Indoor units, e.g. fan coil units (self-contained units F24F 1/02)

1/00073 . . {comprising a compressor in the indoor unit housing}

1/00075 . . {receiving air from a central station}

1/00077 . . {receiving heat exchange fluid entering and leaving the unit as a liquid}

1/0011 . . characterised by air outlets

1/0014 . . . having two or more outlet openings

1/0018 . . characterised by fans (with secondary air induced by injector action of the primary air F24F 1/01)

1/0022 . . . Centrifugal or radial fans

1/0025 . . . Cross-flow or tangential fans

1/0029 . . . Axial fans

1/0033 . . . having two or more fans

1/0035 . . characterised by introduction of outside air to the room

1/0038 . . . in combination with simultaneous exhaustion of inside air

1/0041 . . characterised by exhaustion of inside air from the room (in combination with simultaneous introduction of outside air F24F 1/0038)

1/0043 . . characterised by mounting arrangements

1/0047 . . . mounted in the ceiling or at the ceiling

1/005 . . . mounted on the floor; standing on the floor

1/0053 . . . mounted at least partially below the floor; with air distribution below the floor

1/0057 . . . mounted in or on a wall

1/0059 . . characterised by heat exchangers

1/0063 . . . by the mounting or arrangement of the heat exchangers

1/0067 . . . by the shape of the heat exchangers or of parts thereof, e.g. of their fins

1/0068 . . characterised by the arrangement of refrigerant piping outside the heat exchanger within the unit casing

1/0071 . . with means for purifying supplied air (perfuming or deodorising means F24F 1/008)

1/0073 . . . characterised by the mounting or arrangement of filters

1/0076 . . . by electric means, e.g. ionisers or electrostatic separators

1/008 . . with perfuming or deodorising means

1/0083 . . with dehumidification means

1/0087 . . with humidification means

1/009 . . characterised by heating arrangements (characterised by heat exchangers F24F 1/0059)

1/0093 . . . with additional radiant heat-discharging elements, e.g. electric heaters

1/0097 . . . using thermoelectric or thermomagnetic means, e.g. Peltier elements

1/01 . in which secondary air is induced by injector action of the primary air
1/02 . Self-contained room units for air-conditioning, i.e. with all apparatus for treatment installed in a common casing
1/022 . . comprising a compressor cycle
1/027 . . . mounted in wall openings, e.g. in windows
1/028 . . characterised by air supply means, e.g. fan casings, internal dampers or ducts (with secondary air induced by injector action of the primary air F24F 1/01)
1/0284 . . . with horizontally arranged fan axis
1/0287 . . . with vertically arranged fan axis
1/029 . . characterised by the layout or mutual arrangement of components, e.g. of compressors or fans
1/03 . . characterised by mounting arrangements
1/031 . . . penetrating a wall or window
1/0314 . . . mounted on a wall
1/0317 . . . suspended from the ceiling
1/032 . . characterised by heat exchangers
1/0323 . . . by the mounting or arrangement of the heat exchangers
1/0325 . . . by the shape of the heat exchangers or of parts thereof, e.g. of their fins
1/0326 . . characterised by the arrangement of refrigerant piping outside the heat exchanger within the unit casing
1/0328 . . with means for purifying supplied air (perfuming or deodorising means F24F 1/0355)
1/035 . . . characterised by the mounting or arrangement of filters
1/0353 . . . by electric means, e.g. ionisers or electrostatic separators
1/0355 . . with perfuming or deodorising means
1/0358 . . with dehumidification means
1/037 . . with humidification means
1/0373 . . characterised by heating arrangements (characterised by heat exchangers F24F 1/032)
1/0375 . . . with additional radiant heat-discharging elements, e.g. electric heaters
1/0378 . . . using thermoelectric or thermomagnetic means, e.g. Peltier elements
1/039 . . using water to enhance cooling, e.g. spraying onto condensers
1/04 . . Arrangements for portability
1/06 . Separate outdoor units, e.g. outdoor unit to be linked to a separate room comprising a compressor and a heat exchanger

NOTE

In this group, the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

1/08 . . Compressors specially adapted for separate outdoor units
1/10 . . . Arrangement or mounting thereof
1/12 . . . Vibration or noise prevention thereof
1/14 . . Heat exchangers specially adapted for separate outdoor units
1/16 . . . Arrangement or mounting thereof
1/18 . . . characterised by their shape
1/20 . . Electric components for separate outdoor units
1/22 . . . Arrangement or mounting thereof
1/24 . . . Cooling of electric components
1/26 . . Refrigerant piping
1/28 . . . for connecting several separate outdoor units
1/30 . . . for use inside the separate outdoor units
1/32 . . . for connecting the separate outdoor units to indoor units
1/34 . . . Protection means thereof, e.g. covers for refrigerant pipes
1/36 . . Drip trays for outdoor units
1/38 . . Fan details of outdoor units, e.g. bell-mouth shaped inlets or fan mountings
1/40 . . Vibration or noise prevention at outdoor units (for outdoor units compressors F24F 1/12)
1/42 . . characterised by the use of the condensate, e.g. for enhanced cooling
1/44 . . characterised by the use of internal combustion engines
1/46 . . Component arrangements in separate outdoor units
1/48 . . . characterised by air airflow, e.g. inlet or outlet airflow
1/50 . . . . with outlet air in upward direction
1/52 . . . . with inlet and outlet arranged on the same side, e.g. for mounting in a wall opening
1/54 . . . . Inlet and outlet arranged on opposite sides
1/56 . . Casing or covers of separate outdoor units, e.g. fan guards
1/58 . . . Separate protective covers for outdoor units, e.g. solar guards, snow shields or camouflage
1/60 . . Arrangement or mounting of the outdoor unit
1/62 . . . Wall-mounted
1/64 . . . Ceiling-mounted, e.g. below a balcony
1/66 . . . under the floor level
1/68 . . . Arrangement of multiple separate outdoor units

3/00 Air-conditioning systems in which conditioned primary air is supplied from one or more central stations to distributing units in the rooms or spaces where it may receive secondary treatment; Apparatus specially designed for such systems (room units F24F 1/00)

3/001 . {in which the air treatment in the central station takes place by means of a heat-pump or by means of a reversible cycle (reversible cycle for humidifying and drying air F24F 3/147)}
2003/003 . {with primary air treatment in the central station and subsequent secondary air treatment in air treatment units located in or near the rooms}
2003/005 . . {with a single air duct for transporting treated primary air from the central station to air treatment units located in or near the rooms}
2003/006 . . {with two air ducts for separately transporting treated hot and cold primary air from the central station to air treatment units located in or near the rooms}
2003/008 . {Supplying highly filtered air to a room or to a limited area within a room}
3/02 . characterised by the pressure or velocity of the primary air
3/04 . . operating with high pressure or high velocity
3/044 . Systems in which all treatment is given in the central station, i.e. all-air systems

3/0442 . . {with volume control at a constant temperature}
3/0444 . . . {in which two airstreams are conducted from the central station via independent conduits to the space to be treated, of which one has a constant volume and a season-adapted temperature, while the other one is always cold and varies in volume}
2003/0446 . . {with a single air duct for transporting treated air from the central station to the rooms}
2003/0448 . . {with two air ducts for separately transporting treated hot and cold air from the central station to the rooms}
3/048 . . with temperature control at constant rate of air-flow
3/052 . . . Multiple duct systems, e.g. systems in which hot and cold air are supplied by separate circuits from the central station to mixing chambers in the spaces to be conditioned
3/0522 . . . . {in which warm or cold air from the central station is delivered via individual pipes to mixing chambers in the space to be treated, the cold air/warm air ratio being controlled by a thermostat in the space concerned, i.e. so-called Dual-duct System}
3/0525 . . . . {in which the air treated in the central station is reheated}
3/0527 . . . . {in which treated air having differing temperatures is conducted through independent conduits from the central station to various spaces to be treated, i.e. so-called "multi-Zone" systems (F24F 3/0525 takes precedence)}
3/056 . . the air at least partially flowing over lighting fixtures, the heat of which is dissipated or used (outlets for directing or distributing air into rooms or spaces combined with lighting fixtures F24F 13/078)
3/06 . characterised by the arrangements for the supply of heat-exchange fluid for the subsequent treatment of primary air in the room units
3/065 . . {with a plurality of evaporators or condensers}
3/08 . . with separate supply and return lines for hot and cold heat-exchange fluids {i.e. so-called "4-conduit" system}
3/10 . . with separate supply lines and common return line for hot and cold heat-exchange fluids {i.e. so-called "3-conduit" system}
3/12 . characterised by the treatment of the air otherwise than by heating and cooling
3/14 . . by humidification; by dehumidification
3/1405 . . . {in which the humidity of the air is exclusively affected by contact with the evaporator of a closed-circuit cooling system or heat pump circuit}
3/1411 . . . {by absorbing or adsorbing water, e.g. using an hygroscopic desiccant}
3/1417 . . . . {with liquid hygroscopic desiccants}
3/1423 . . . . {with a moving bed of solid desiccants, e.g. a rotary wheel supporting solid desiccants}
3/1429 . . . . {alternatively operating a heat exchanger in an absorbing/adsorbing mode and a heat exchanger in a regeneration mode}
2003/1435 . . . {comprising semi-permeable membrane}
2003/144 . . . {by dehumidification only}
2003/1446 . . . . {by condensing}
2003/1452 . . . . . {heat extracted from the humid air for condensing is returned to the dried air}
2003/1458 . . . {using regenerators}
2003/1464 . . . . {using rotating regenerators}
3/147 . . . with both heat and humidity transfer between supplied and exhausted air
3/153 . . . with subsequent heating, i.e. with the air, given the required humidity in the central station, passing a heating element to achieve the required temperature
3/16 . . by purification, e.g. by filtering; by sterilisation; by ozonisation
3/163 . . . Clean air work stations, i.e. selected areas within a space which filtered air is passed
3/167 . . . Clean rooms, i.e. enclosed spaces in which a uniform flow of filtered air is distributed (air distribution by perforated walls F24F 7/10)

5/00 Air-conditioning systems or apparatus not covered by F24F 1/00 or F24F 3/00 {, e.g. using solar heat or combined with household units such as an oven or water heater}

5/0003 . {Exclusively-fluid systems}
5/0007 . {cooling apparatus specially adapted for use in air-conditioning (F24F 5/0046 takes precedence)}
5/001 . . {Compression cycle type}
5/0014 . . {using absorption or desorption}
5/0017 . . {using cold storage bodies, e.g. ice}
5/0021 . . . {using phase change material [PCM] for storage}
2005/0025 . . . {using heat exchange fluid storage tanks}
2005/0028 . . . {using hydridable metals as energy storage media}
2005/0032 . . . {Systems storing energy during the night}
5/0035 . . {using evaporation}
2005/0039 . . {using a cryogen, e.g. CO_2 liquid or N_2 liquid}
5/0042 . {characterised by the application of thermo-electric units or the Peltier effect}
5/0046 . {using natural energy, e.g. solar energy, energy from the ground}
5/005 . . {using energy from the ground by air circulation, e.g. "Canadian well"}
2005/0053 . . {receiving heat-exchange fluid from a well}
2005/0057 . . {receiving heat-exchange fluid from a closed circuit in the ground}
2005/006 . . {receiving heat-exchange fluid from the drinking or sanitary water supply circuit}
2005/0064 . . {using solar energy}
2005/0067 . . . {with photovoltaic panels}
5/0071 . {adapted for use in covered swimming pools}
5/0075 . {Systems using thermal walls, e.g. double window}
2005/0078 . . {Double windows}
2005/0082 . . {Facades}
5/0085 . {Systems using a compressed air circuit}
5/0089 . {Systems using radiation from walls or panels}
5/0092 . . {ceilings, e.g. cool ceilings}
5/0096 . {combined with domestic apparatus}

6/00 Air-humidification {, e.g. cooling by humidification}

2006/001 . {using a water curtain}
2006/003 . {using a decorative fountain}
2006/005 . {using plants}
2006/006 . {with water treatment}

2006/008 . {Air-humidifier with water reservoir}
6/02 . by evaporation of water in the air
6/025 . . {using electrical heating means (F24F 6/105 takes precedence)}
6/04 . . using stationary unheated wet elements
6/043 . . . {with self-sucking action, e.g. wicks}
2006/046 . . . {with a water pump}
6/06 . . using moving unheated wet elements
2006/065 . . . {using slowly rotating discs for evaporation}
6/08 . . using heated wet elements
6/10 . . . heated electrically
6/105 . . . . {using the heat of lamps}
6/12 . by forming water dispersions in the air
6/14 . . using nozzles
2006/143 . . . {using pressurised air for spraying}
2006/146 . . . {using pressurised water for spraying}
6/16 . . using rotating elements
6/18 . by injection of steam into the air

7/00 Ventilation

2007/001 . {with exhausting air ducts}
2007/002 . . {Junction box, e.g. for ducts from kitchen, toilet or bathroom}
2007/0025 . {using vent ports in a wall}
7/003 . in combination with air cleaning
2007/004 . {Natural ventilation using convection}
2007/005 . {Cyclic ventilation, e.g. alternating air supply volume or reversing flow direction}
7/007 . with forced flow (using ducting systems F24F 7/06)
7/013 . . using wall or window fans, displacing air through the wall or window
7/02 . Roof ventilation (ventilation of roof coverings E04D)
7/025 . . {with forced air circulation by means of a built-in ventilator}
7/04 . with ducting systems {, e.g. by double walls; with natural circulation (F24F 7/02 takes precedence)}
7/06 . . with forced air circulation, e.g. by fan {positioning of a ventilator in or against a conduit}
7/065 . . . {fan combined with single duct; mounting arrangements of a fan in a duct}
7/08 . . . with separate ducts for supplied and exhausted air {with provisions for reversal of the input and output systems}
7/10 . . . with air supply, or exhaust, through perforated wall, floor or ceiling (outlet members for directing or distributing air {into rooms or spaces, e.g. ceiling air-diffusers} F24F 13/06)

8/00 Treatment, e.g. purification, of air supplied to human living or working spaces otherwise than by heating, cooling, humidifying or drying

8/10 . by separation, e.g. by filtering
8/108 . . using dry filter elements
8/117 . . using wet filtering
8/125 . . . using wet filter elements
8/133 . . . by direct contact with liquid, e.g. with sprayed liquid
8/142 . . . Treatment of used liquid, e.g. cleaning for recycling
8/15 . . by chemical means
8/158 . . . using active carbon
8/167 . . . using catalytic reactions
8/175 . . using biological materials, plants or microorganisms
8/183 . . by centrifugal separation, e.g. using vortices
8/192 . . by electrical means, e.g. by applying electrostatic fields or high voltages
8/194 . . . {by filtering using high voltage}
8/20 . by sterilisation
8/22 . . using UV light
8/24 . . using sterilising media
8/26 . . . using ozone
8/28 . . specially adapted for combatting or avoiding Legionella bacteria
8/30 . by ionisation
8/40 . by ozonisation (for sterilisation F24F 8/26)
8/50 . by odorisation
8/60 . by adding oxygen
8/70 . by removing radon
8/80 . Self-contained air purifiers
8/90 . Cleaning of purification apparatus
8/95 . specially adapted for specific purposes
8/96 . . for removing pollen
8/97 . . for removing tobacco smoke
8/98 . . for removing ozone
8/99 . . for treating air sourced from urban areas, e.g. from streets

9/00 Use of air currents for screening, e.g. air curtains

2009/002 . {Room dividers}
2009/005 . {combined with a door}
2009/007 . {using more than one jet or band in the air curtain}

11/00 Control or safety arrangements

NOTE

In this group, it is desirable to add the indexing codes of groups F24F 2110/00 – F24F 2140/00.

11/0001 . {for ventilation (F24F 11/30 takes precedence)}
2011/0002 . . {for admittance of outside air}
2011/0004 . . . {to create overpressure in a room}
2011/0005 . . . {to create underpressure in a room, keeping contamination inside}
2011/0006 . . {using low temperature external supply air to assist cooling}
11/0008 . {for air-humidification (F24F 11/30 takes precedence)}
11/30 . for purposes related to the operation of the system, e.g. for safety or monitoring
11/32 . . Responding to malfunctions or emergencies
11/33 . . . to fire, excessive heat or smoke
11/34 . . . . by opening air passages
11/35 . . . . by closing air passages
11/36 . . . to leakage of heat-exchange fluid
11/37 . . . Resuming operation, e.g. after power outages; Emergency starting
11/38 . . . Failure diagnosis
11/39 . . . Monitoring filter performance
11/41 . . Defrosting; Preventing freezing
11/42 . . . of outdoor units
11/43 . . . of indoor units
11/46 . . Improving electric energy efficiency or saving
11/47 . . . Responding to energy costs
11/48 . . prior to normal operation, e.g. pre-heating or pre-cooling

11/49 . . ensuring correct operation, e.g. by trial operation or configuration checks
11/50 . characterised by user interfaces or communication
11/52 . . Indication arrangements, e.g. displays
11/523 . . . for displaying temperature data
11/526 . . . giving audible indications
11/54 . . using one central controller connected to several sub-controllers
11/56 . . Remote control
11/57 . . . using telephone networks
11/58 . . . using Internet communication
11/59 . . . for presetting
11/61 . . using timers
11/62 . characterised by the type of control or by internal processing, e.g. using fuzzy logic, adaptive control or estimation of values
11/63 . . Electronic processing
11/64 . . . using pre-stored data
11/65 . . . for selecting an operating mode
11/66 . . . . Sleep mode
11/67 . . . . Switching between heating and cooling modes
11/70 . Control systems characterised by their outputs; Constructional details thereof
11/72 . . for controlling the supply of treated air, e.g. its pressure
11/74 . . . for controlling air flow rate or air velocity
11/745 . . . . {the air flow rate increasing with an increase of air-current or wind pressure}
11/75 . . . . for maintaining constant air flow rate or air velocity
11/755 . . . . for cyclical variation of air flow rate or air velocity
11/76 . . . . by means responsive to temperature, e.g. bimetal springs
11/77 . . . . by controlling the speed of ventilators
11/79 . . . for controlling the direction of the supplied air
11/80 . . for controlling the temperature of the supplied air
11/81 . . . by controlling the air supply to heat-exchangers or bypass channels
11/83 . . . by controlling the supply of heat-exchange fluids to heat-exchangers
11/84 . . . . using valves
11/85 . . . . using variable-flow pumps
11/86 . . . by controlling compressors within refrigeration or heat pump circuits
11/87 . . . by controlling absorption or discharge of heat in outdoor units
11/871 . . . . by controlling outdoor fans
11/873 . . . by controlling refrigerant heaters
11/875 . . . by controlling heat-storage apparatus
11/88 . Electrical aspects, e.g. circuits
11/89 . Arrangement or mounting of control or safety devices

12/00 **Use of energy recovery systems in air conditioning, ventilation or screening** (with both heat and humidity transfer between supplied and exhausted air F24F 3/147)
12/001 . {with heat-exchange between supplied and exhausted air}
12/002 . . {using an intermediate heat-transfer fluid}
12/003 . . . {using a heat pump}
2012/005 . . . {using heat pipes}
12/006 . . {using an air-to-air heat exchanger (F24F 12/002 takes precedence)}
2012/007 . . {using a by-pass for bypassing the heat-exchanger}
2012/008 . . {cyclic routing supply and exhaust air}

13/00 **Details common to, or for air-conditioning, air-humidification, ventilation or use of air currents for screening**
13/02 . Ducting arrangements
13/0209 . . {characterised by their connecting means, e.g. flanges}
13/0218 . . {Flexible soft ducts, e.g. ducts made of permeable textiles}
13/0227 . . {using parts of the building, e.g. air ducts inside the floor, walls or ceiling of a building}
13/0236 . . {with ducts including air distributors, e.g. air collecting boxes with at least three openings}
13/0245 . . {Manufacturing or assembly of air ducts; Methods therefor}
13/0254 . . {characterised by their mounting means, e.g. supports}
13/0263 . . {Insulation for air ducts}
13/0272 . . {Modules for easy installation or transport}
13/0281 . . {Multilayer duct}
13/029 . . {Duct comprising an opening for inspection, e.g. manhole}
13/04 . . Air-mixing units (F24F 13/06 takes precedence)
13/06 . . Outlets for directing or distributing air into rooms or spaces, e.g. ceiling air diffuser
13/0604 . . . {integrated in or forming part of furniture}
2013/0608 . . . {Perforated ducts}
2013/0612 . . . {Induction nozzles without swirl means}
2013/0616 . . . {Outlets that have intake openings}
13/062 . . . having one or more bowls or cones diverging in the flow direction
13/065 . . . formed as cylindrical or spherical bodies which are rotatable
13/068 . . . formed as perforated walls, ceilings or floors (F24F 13/078 takes precedence)
13/072 . . . of elongated shape, e.g. between ceiling panels
13/075 . . . having parallel rods or lamellae directing the outflow, e.g. the rods or lamellae being individually adjustable (F24F 13/072 takes precedence)
13/078 . . . combined with lighting fixtures
13/08 . Air-flow control members, e.g. louvres, grilles, flaps or guide plates (F24F 7/013, F24F 13/06 take precedence)
13/081 . . {for guiding air around a curve}
13/082 . . {Grilles, registers or guards}
13/084 . . . {with mounting arrangements, e.g. snap fasteners for mounting to the wall or duct}
13/085 . . . {including an air filter}
2013/087 . . . {using inflatable bellows}
2013/088 . . . {Air-flow straightener}
13/10 . . movable, e.g. dampers
13/105 . . . {composed of diaphragms or segments}
13/12 . . . built up of sliding members
13/14 . . . built up of tilting members, e.g. louvre
13/1406 . . . . {characterised by sealing means}

13/1413 . . . . {using more than one tilting member, e.g. with several pivoting blades (F24F 13/15 takes precedence)}
13/142 . . . . {using pivoting blades with intersecting axles}
13/1426 . . . . {characterised by actuating means}
2013/1433 . . . . . {with electric motors}
2013/144 . . . . . {with thermoactuators}
2013/1446 . . . . . {with gearings}
2013/1453 . . . . . {with cables, e.g. bowden cables}
2013/146 . . . . . {with springs}
2013/1466 . . . . . {with pneumatic means}
2013/1473 . . . . . {with cams or levers}
2013/148 . . . . . {with magnets}
13/1486 . . . . {characterised by bearings, pivots or hinges}
2013/1493 . . . . {using an elastic membrane}
13/15 . . . . with parallel simultaneously tiltable lamellae
13/16 . . . built up of parallelly-movable plates
13/18 . . specially adapted for insertion in flat panels, e.g. in door or window-pane
13/20 . Casings or covers
2013/202 . . {Mounting a compressor unit therein}
2013/205 . . {Mounting a ventilator fan therein}
2013/207 . . {with control knobs; Mounting controlling members or control units therein}
13/22 . Means for preventing condensation or evacuating condensate
2013/221 . . {to avoid the formation of condensate, e.g. dew}
13/222 . . {for evacuating condensate}
13/224 . . . {in a window-type room air conditioner}
2013/225 . . . {by evaporating the condensate in the cooling medium, e.g. in air flow from the condenser}
2013/227 . . . {Condensate pipe for drainage of condensate from the evaporator}
2013/228 . . {Treatment of condensate, e.g. sterilising}
13/24 . Means for preventing or suppressing noise
2013/242 . . {Sound-absorbing material}
2013/245 . . {using resonance}
2013/247 . . {Active noise-suppression}
13/26 . Arrangements for air-circulation by means of induction, e.g. by fluid coupling or thermal effect
13/28 . Arrangement or mounting of filters
13/30 . Arrangement or mounting of heat-exchangers
13/32 . Supports for air-conditioning, air-humidification or ventilation units

Indexing scheme associated with group F24F 11/00, relating to control inputs, e.g. measured or estimated values or parameters

2110/00 Control inputs relating to air properties
2110/10 . Temperature
2110/12 . . of the outside air
2110/20 . Humidity
2110/22 . . of the outside air
2110/30 . Velocity
2110/32 . . of the outside air
2110/40 . Pressure, e.g. wind pressure
2110/50 . Air quality properties
2110/52 . . of the outside air
2110/60 . . Odour
2110/62 . . Tobacco smoke
2110/64 . . Airborne particle content
2110/65 . . Concentration of specific substances or contaminants
2110/66 . . . Volatile organic compounds [VOC]
2110/68 . . . Radon
2110/70 . . . Carbon dioxide
2110/72 . . . Carbon monoxide
2110/74 . . . Ozone
2110/76 . . . Oxygen
2110/80 . . Electric charge

2120/00 Control inputs relating to users or occupants
2120/10 . Occupancy
2120/12 . . Position of occupants
2120/14 . . Activity of occupants
2120/20 . Feedback from users

2130/00 Control inputs relating to environmental factors not covered by group F24F 2110/00
2130/10 . Weather information or forecasts
2130/20 . Sunlight
2130/30 . Artificial light
2130/40 . Noise

2140/00 Control inputs relating to system states
2140/10 . Pressure
2140/12 . . Heat-exchange fluid pressure
2140/20 . Heat-exchange fluid temperature
2140/30 . Condensation of water from cooled air
2140/40 . Damper positions, e.g. open or closed
2140/50 . Load
2140/60 . Energy consumption

2203/00 Devices or apparatus used for air treatment
2203/02 . System or Device comprising a heat pump as a subsystem, e.g. combined with humidification/ dehumidification, heating, natural energy or with hybrid system
2203/021 . . Compression cycle
2203/023 . . . with turbine used for expansion
2203/025 . . . with turbine for compression
2203/026 . . Absorption - desorption cycle
2203/028 . . . using a solid absorbing medium
2203/10 . Rotary wheel
2203/1004 . . Bearings or driving means
2203/1008 . . comprising a by-pass channel
2203/1012 . . Details of the casing or cover
2203/1016 . . combined with another type of cooling principle, e.g. compression cycle
2203/102 . . combined with a heat pipe
2203/1024 . . combined with a humidifier
2203/1028 . . combined with a spraying device
2203/1032 . . Desiccant wheel
2203/1036 . . . Details
2203/104 . . Heat exchanger wheel
2203/1044 . . performing other movements, e.g. sliding
2203/1048 . . Geometric details
2203/1052 . . comprising a non-axial air flow
2203/1056 . . comprising a reheater
2203/106 . . . Electrical reheater
2203/1064 . . . Gas fired reheater
2203/1068 . . comprising one rotor
2203/1072 . . comprising two rotors

2203/1076 . . comprising three rotors
2203/108 . . comprising rotor parts shaped in sector form
2203/1084 . . comprising two flow rotor segments
2203/1088 . . comprising three flow rotor segments
2203/1092 . . comprising four flow rotor segments
2203/1096 . . comprising sealing means
2203/12 . Dehumidifying or humidifying belt type

Air-conditioning

2221/00 Details or features not otherwise provided for
2221/02 . combined with lighting fixtures
2221/08 . Installation or apparatus for use in sport halls, e.g. swimming pools, ice rings
2221/10 . combined with, or integrated in, furniture
2221/12 . transportable
2221/125 . . mounted on wheels
2221/14 . mounted on the ceiling
2221/16 . mounted on the roof
2221/17 . mounted in a wall
2221/18 . combined with domestic apparatus
2221/183 . . combined with a hot-water boiler
2221/186 . . combined with a fireplace
2221/20 . mounted in or close to a window
2221/22 . Cleaning ducts or apparatus
2221/225 . . using a liquid
2221/26 . improving the aesthetic appearance
2221/28 . using the Coanda effect
2221/30 . comprising fireproof material
2221/32 . preventing human errors during the installation, use or maintenance, e.g. goofy proof
2221/34 . Heater, e.g. gas burner, electric air heater
2221/36 . Modules, e.g. for an easy mounting or transport
2221/38 . Personalised air distribution
2221/40 . HVAC with raised floors
2221/42 . Mobile autonomous air conditioner, e.g. robots
2221/44 . Protection from terrorism or theft
2221/46 . Air flow forming a vortex
2221/48 . HVAC for a wine cellar
2221/50 . HVAC for high buildings, e.g. thermal or pressure differences
2221/52 . Weather protecting means, e.g. against wind, rain or snow
2221/54 . Heating and cooling, simultaneously or alternatively
2221/56 . Cooling being a secondary aspect