

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

- 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](#).
- 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.
- In this subclass, control or safety arrangements are classified in [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 main groups [F24F 1/00](#) -[F24F 9/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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](#))

WARNING

Group [F24F 1/0007](#) is impacted by reclassification into groups [F24F 1/00073](#), [F24F 1/00075](#), [F24F 1/00077](#), [F24F 1/0035](#), [F24F 1/0038](#), [F24F 1/0041](#), [F24F 1/0043](#), [F24F 1/0047](#), [F24F 1/005](#), [F24F 1/0053](#), [F24F 1/0057](#), [F24F 1/0059](#), [F24F 1/0063](#), [F24F 1/0067](#), [F24F 1/0068](#), [F24F 1/0071](#), [F24F 1/0073](#), [F24F 1/0076](#), [F24F 1/008](#), [F24F 1/0083](#), [F24F 1/0087](#), [F24F 1/009](#), [F24F 1/0093](#), [F24F 1/0097](#), [F24F 1/032](#), [F24F 1/0323](#), [F24F 1/0325](#), [F24F 1/0326](#), [F24F 1/0328](#), [F24F 1/035](#), [F24F 1/0353](#) and [F24F 1/037](#).

All groups listed in this Warning should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/00073](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/00073](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/00075](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/00075](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/00077](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/00077](#) should be considered in order to perform a complete search.

- 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

WARNING

Group [F24F 1/0035](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#). Group [F24F 1/0035](#) is also impacted by reclassification into group [F24F 1/0038](#).

Groups [F24F 1/0035](#), [F24F 1/0007](#) and [F24F 1/0038](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0038](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#), [F24F 1/0035](#) and [F24F 1/0041](#).

All groups listed in this Warning should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0041](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Group [F24F 1/0041](#) is also impacted by reclassification into group [F24F 1/0038](#).

Groups [F24F 1/0041](#), [F24F 1/0007](#) and [F24F 1/0038](#) should be considered in order to perform a complete search.

- 1/0043 . . characterised by mounting arrangements

WARNING

Group [F24F 1/0043](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/0043](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0047](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/0047](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/005](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/005](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0053](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/0053](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0057](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/0057](#) should be considered in order to perform a complete search.

- 1/0059 . . characterised by heat exchangers

WARNING

Group [F24F 1/0059](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Group [F24F 1/0059](#) is also impacted by reclassification into groups [F24F 1/0063](#), [F24F 1/0067](#), [F24F 1/0068](#), [F24F 1/032](#), [F24F 1/0323](#), [F24F 1/0325](#) and [F24F 1/0326](#).

All groups listed in this Warning should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0063](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#) and [F24F 1/0059](#).

Groups [F24F 1/0007](#), [F24F 1/0059](#) and [F24F 1/0063](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0067](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#) and [F24F 1/0059](#).

Groups [F24F 1/0007](#), [F24F 1/0059](#) and [F24F 1/0067](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0068](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#) and [F24F 1/0059](#).

Groups [F24F 1/0007](#) and [F24F 1/0059](#) and [F24F 1/0068](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0071](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Group [F24F 1/0071](#) is also impacted by reclassification into groups [F24F 1/0073](#), [F24F 1/0076](#), [F24F 1/0328](#), [F24F 1/035](#) and [F24F 1/0353](#).

All groups listed in this Warning should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0073](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#) and [F24F 1/0071](#).

Groups [F24F 1/0007](#), [F24F 1/0071](#) and [F24F 1/0073](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0076](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#) and [F24F 1/0071](#).

Groups [F24F 1/0007](#), [F24F 1/0071](#) and [F24F 1/0076](#) should be considered in order to perform a complete search.

- 1/008 . . with perfuming or deodorising means

WARNING

Group [F24F 1/008](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/008](#) should be considered in order to perform a complete search.

- 1/0083 . . with dehumidification means

WARNING

Group [F24F 1/0083](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/0083](#) should be considered in order to perform a complete search.

- 1/0087 . . with humidification means

WARNING

Group [F24F 1/0087](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/0087](#) should be considered in order to perform a complete search.

- 1/009 . . characterised by heating arrangements ([characterised by heat exchangers F24F 1/0059](#))

WARNING

Group [F24F 1/009](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/009](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0093](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/0093](#) should be considered in order to perform a complete search.

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

WARNING

Group [F24F 1/0097](#) is incomplete pending reclassification of documents from group [F24F 1/0007](#).

Groups [F24F 1/0007](#) and [F24F 1/0097](#) should be considered in order to perform a complete search.

- 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

WARNING

Group [F24F 1/02](#) is impacted by reclassification into groups [F24F 1/028](#), [F24F 1/0284](#), [F24F 1/0287](#), [F24F 1/029](#), [F24F 1/03](#), [F24F 1/031](#), [F24F 1/0314](#), [F24F 1/0317](#), [F24F 1/032](#), [F24F 1/0323](#), [F24F 1/0325](#), [F24F 1/0326](#), [F24F 1/0328](#), [F24F 1/035](#), [F24F 1/0353](#), [F24F 1/0355](#), [F24F 1/0358](#), [F24F 1/037](#), [F24F 1/0373](#), [F24F 1/0375](#), [F24F 1/0378](#) and [F24F 1/039](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 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](#))

WARNING

Group [F24F 1/028](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/028](#) should be considered in order to perform a complete search.

- 1/0284 . . . with horizontally arranged fan axis

WARNING

Group [F24F 1/0284](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0284](#) should be considered in order to perform a complete search.

- 1/0287 . . . with vertically arranged fan axis

WARNING

Group [F24F 1/0287](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0287](#) should be considered in order to perform a complete search.

- 1/029 . . characterised by the layout or mutual arrangement of components, e.g. of compressors or fans

WARNING

Group [F24F 1/029](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/029](#) should be considered in order to perform a complete search.

- 1/03 . . characterised by mounting arrangements

WARNING

Group [F24F 1/03](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/03](#) should be considered in order to perform a complete search.

- 1/031 . . . penetrating a wall or window

WARNING

Group [F24F 1/031](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/031](#) should be considered in order to perform a complete search.

- 1/0314 . . . mounted on a wall

WARNING

Group [F24F 1/0314](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0314](#) should be considered in order to perform a complete search.

- 1/0317 . . . suspended from the ceiling

WARNING

Group [F24F 1/0317](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0317](#) should be considered in order to perform a complete search.

- 1/032 . . characterised by heat exchangers

WARNING

Group [F24F 1/032](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#), [F24F 1/0059](#) and [F24F 1/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 1/0323 . . . by the mounting or arrangement of the heat exchangers

WARNING

Group [F24F 1/0323](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#), [F24F 1/0059](#) and [F24F 1/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 1/0325 . . . by the shape of the heat exchangers or of parts thereof, e.g. of their fins

WARNING

Group [F24F 1/0325](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#), [F24F 1/0059](#) and [F24F 1/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 1/0326 . . characterised by the arrangement of refrigerant piping outside the heat exchanger within the unit casing

WARNING

Group [F24F 1/0326](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#), [F24F 1/0059](#) and [F24F 1/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 1/0328 . . with means for purifying supplied air ([perfuming or deodorising means F24F 1/0355](#))

WARNING

Group [F24F 1/0328](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#), [F24F 1/0071](#) and [F24F 1/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 1/035 . . . characterised by the mounting or arrangement of filters

WARNING

Group [F24F 1/035](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#), [F24F 1/0071](#) and [F24F 1/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 1/0353 . . . by electric means, e.g. ionisers or electrostatic separators

WARNING

Group [F24F 1/0353](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#), [F24F 1/0071](#) and [F24F 1/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 1/0355 . . with perfuming or deodorising means

WARNING

Group [F24F 1/0355](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0355](#) should be considered in order to perform a complete search.

- 1/0358 . . with dehumidification means

WARNING

Group [F24F 1/0358](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0358](#) should be considered in order to perform a complete search.

- 1/037 . . with humidification means

WARNING

Group [F24F 1/037](#) is incomplete pending reclassification of documents from groups [F24F 1/0007](#) and [F24F 1/02](#).

Groups [F24F 1/0007](#) and [F24F 1/02](#) and [F24F 1/037](#) should be considered in order to perform a complete search.

- 1/0373 . . characterised by heating arrangements ([characterised by heat exchangers F24F 1/032](#))

WARNING

Group [F24F 1/0373](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0373](#) should be considered in order to perform a complete search.

- 1/0375 . . . with additional radiant heat-discharging elements, e.g. electric heaters

WARNING

Group [F24F 1/0375](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0375](#) should be considered in order to perform a complete search.

- 1/0378 . . . using thermoelectric or thermomagnetic means, e.g. Peltier elements

WARNING

Group [F24F 1/0378](#) is incomplete pending reclassification of documents from group [F24F 1/02](#).

Groups [F24F 1/02](#) and [F24F 1/0378](#) should be considered in order to perform a complete search.

1/039	<ul style="list-style-type: none"> using water to enhance cooling, e.g. spraying onto condensers <p>WARNING</p> <p>Group F24F 1/039 is incomplete pending reclassification of documents from group F24F 1/02.</p> <p>Groups F24F 1/02 and F24F 1/039 should be considered in order to perform a complete search.</p>	1/64	<ul style="list-style-type: none"> Ceiling-mounted, e.g. below a balcony
		1/66	<ul style="list-style-type: none"> under the floor level
		1/68	<ul style="list-style-type: none"> Arrangement of multiple separate outdoor units
		3/00	<p>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)</p>
1/04	<ul style="list-style-type: none"> Arrangements for portability 	3/001	<ul style="list-style-type: none"> {in which the air treatment in the central station takes place by means of a heat-pump or by means of a reversible cycle (regulation of heat-pump circuit in air treatment systems F25B 29/00; heat pumps F25B 13/00, F25B 29/00; reversible cycle for humidifying and drying air F24F 3/147)}
1/06	<ul style="list-style-type: none"> Separate outdoor units, e.g. outdoor unit to be linked to a separate room comprising a compressor and a heat exchanger <p>NOTE</p> <p>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.</p>	2003/003	<ul style="list-style-type: none"> {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	<ul style="list-style-type: none"> {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	<ul style="list-style-type: none"> {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}
1/08	<ul style="list-style-type: none"> Compressors specially adapted for separate outdoor units 	2003/008	<ul style="list-style-type: none"> {Supplying highly filtered air to a room or to a limited area within a room}
1/10	<ul style="list-style-type: none"> Arrangement or mounting thereof 	3/02	<ul style="list-style-type: none"> characterised by the pressure or velocity of the primary air <p>WARNING</p> <p>Group F24F 3/02 is incomplete pending reclassification of documents from groups F24F 3/044 - F24F 3/056.</p> <p>Group F24F 3/02 is also impacted by reclassification into groups F24F 3/06 - F24F 3/10 and F24F 3/12 - F24F 2003/1696.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p>
1/12	<ul style="list-style-type: none"> Vibration or noise prevention thereof 		
1/14	<ul style="list-style-type: none"> Heat exchangers specially adapted for separate outdoor units 		
1/16	<ul style="list-style-type: none"> Arrangement or mounting thereof 		
1/18	<ul style="list-style-type: none"> characterised by their shape 		
1/20	<ul style="list-style-type: none"> Electric components for separate outdoor units 		
1/22	<ul style="list-style-type: none"> Arrangement or mounting thereof 		
1/24	<ul style="list-style-type: none"> Cooling of electric components 		
1/26	<ul style="list-style-type: none"> Refrigerant piping 		
1/28	<ul style="list-style-type: none"> for connecting several separate outdoor units 		
1/30	<ul style="list-style-type: none"> for use inside the separate outdoor units 		
1/32	<ul style="list-style-type: none"> for connecting the separate outdoor units to indoor units 		
1/34	<ul style="list-style-type: none"> Protection means thereof, e.g. covers for refrigerant pipes 		
1/36	<ul style="list-style-type: none"> Drip trays for outdoor units 		
1/38	<ul style="list-style-type: none"> Fan details of outdoor units, e.g. bell-mouth shaped inlets or fan mountings 	3/04	<ul style="list-style-type: none"> operating with high pressure or high velocity <p>WARNING</p> <p>Group F24F 3/04 is incomplete pending reclassification of documents from groups F24F 3/044 - F24F 3/056.</p> <p>Group F24F 3/04 is also impacted by reclassification into groups F24F 3/06 - F24F 3/10 and F24F 3/12 - F24F 2003/1696.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p>
1/40	<ul style="list-style-type: none"> Vibration or noise prevention at outdoor units (for outdoor units compressors F24F 1/12) 		
1/42	<ul style="list-style-type: none"> characterised by the use of the condensate, e.g. for enhanced cooling 		
1/44	<ul style="list-style-type: none"> characterised by the use of internal combustion engines 		
1/46	<ul style="list-style-type: none"> Component arrangements in separate outdoor units 		
1/48	<ul style="list-style-type: none"> characterised by air airflow, e.g. inlet or outlet airflow 		
1/50	<ul style="list-style-type: none"> with outlet air in upward direction 		
1/52	<ul style="list-style-type: none"> with inlet and outlet arranged on the same side, e.g. for mounting in a wall opening 	3/044	<ul style="list-style-type: none"> Systems in which all treatment is given in the central station, i.e. all-air systems <p>WARNING</p> <p>Group F24F 3/044 is impacted by reclassification into groups F24F 3/02 and F24F 3/04.</p> <p>Groups F24F 3/044, F24F 3/02, and F24F 3/04 should be considered in order to perform a complete search.</p>
1/54	<ul style="list-style-type: none"> Inlet and outlet arranged on opposite sides 		
1/56	<ul style="list-style-type: none"> Casing or covers of separate outdoor units, e.g. fan guards 		
1/58	<ul style="list-style-type: none"> Separate protective covers for outdoor units, e.g. solar guards, snow shields or camouflage 		
1/60	<ul style="list-style-type: none"> Arrangement or mounting of the outdoor unit 		
1/62	<ul style="list-style-type: none"> Wall-mounted 		

- 3/0442 . . {with volume control at a constant temperature}

WARNING

Group [F24F 3/0442](#) is impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

Groups [F24F 3/0442](#), [F24F 3/02](#), and [F24F 3/04](#) should be considered in order to perform a complete search.

- 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 to compensate for the fluctuating heat transfer losses of the building, while the other varies in volume and is always cold in order to compensate for the interior fluctuations and variable solar heating effects, i.e. so-called "Dual Conduit System"; this system is similar to a high-pressure air-water system}

WARNING

Group [F24F 3/0444](#) is impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

Groups [F24F 3/0444](#), [F24F 3/02](#), and [F24F 3/04](#) should be considered in order to perform a complete search.

- 2003/0446 . . {with a single air duct for transporting treated air from the central station to the rooms}

WARNING

Group [F24F 2003/0446](#) is impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

Groups [F24F 2003/0446](#), [F24F 3/02](#), and [F24F 3/04](#) should be considered in order to perform a complete search.

- 2003/0448 . . {with two air ducts for separately transporting treated hot and cold air from the central station to the rooms}

WARNING

Groups [F24F 2003/0448](#) is impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

Groups [F24F 2003/0448](#), [F24F 3/02](#), and [F24F 3/04](#) should be considered in order to perform a complete search.

- 3/048 . . with temperature control at constant rate of air-flow

WARNING

Group [F24F 3/048](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).

Group [F24F 3/048](#) is also impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 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

WARNING

Group [F24F 3/052](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).

Group [F24F 3/052](#) is also impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 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}

WARNING

Group [F24F 3/0522](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).

Group [F24F 3/0522](#) is also impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/0525 {in which the air treated in the central station is reheated; this may take place near the central station upon arrival, in the space to be treated, in a branch pipe to zone in a multi-zone system or in the warm pipe in a system having separate supply conduits for warm and cold air}

WARNING

Group [F24F 3/0525](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).

Group [F24F 3/0525](#) is also impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 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" system; ([F24F 3/0525](#) takes precedence)}

WARNING

Group [F24F 3/0527](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).

Group [F24F 3/0527](#) is also impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 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](#))

WARNING

Group [F24F 3/056](#) is impacted by reclassification into groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/048](#), [F24F 3/052](#), [F24F 3/0522](#), [F24F 3/0525](#), [F24F 3/0527](#), and [F24F 13/078](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/06 . characterised by the arrangements for the supply of heat-exchange fluid for the subsequent treatment of primary air in the room units

WARNING

Group [F24F 3/06](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 11/83](#), [F24F 11/84](#), and [F24F 11/85](#).

Group [F24F 3/06](#) is also impacted by reclassification into groups [F24F 3/12](#) - [F24F 2003/1696](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/065 . . {with a plurality of evaporators or condensers}

WARNING

Group [F24F 3/065](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 11/83](#), [F24F 11/84](#), and [F24F 11/85](#).

Group [F24F 3/065](#) is also impacted by reclassification into groups [F24F 3/12](#) - [F24F 2003/1696](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/08 . . with separate supply and return lines for hot and cold heat-exchange fluids {i.e. so-called "4-conduit" system}

WARNING

Group [F24F 3/08](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 11/83](#), [F24F 11/84](#), and [F24F 11/85](#).

Group [F24F 3/08](#) is also impacted by reclassification into groups [F24F 3/12](#) - [F24F 2003/1696](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/10 . . with separate supply lines and common return line for hot and cold heat-exchange fluids {i.e. so-called "3-conduit" system}

WARNING

Group [F24F 3/10](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 11/83](#), [F24F 11/84](#), and [F24F 11/85](#).

Group [F24F 3/10](#) is also impacted by reclassification into groups [F24F 3/12](#) - [F24F 2003/1696](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/12 . characterised by the treatment of the air otherwise than by heating and cooling

WARNING

Group [F24F 3/12](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/14 . . by humidification; by dehumidification

WARNING

Group [F24F 3/14](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 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}

WARNING

Group [F24F 3/1405](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/1411 . . . {by absorbing or adsorbing water, e.g. using an hygroscopic desiccant}

WARNING

Group [F24F 3/1411](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/1417 {with liquid hygroscopic desiccants}

WARNING

Group [F24F 3/1417](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/1423 {with a moving bed of solid desiccants, e.g. a rotary wheel supporting solid desiccants}

WARNING

Group [F24F 3/1423](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 3/1429 {alternatively operating a heat exchanger in an absorbing/adsorbing mode and a heat exchanger in a regeneration mode}

WARNING

Group [F24F 3/1429](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 2003/1435 . . . {comprising semi-permeable membrane}

WARNING

Group [F24F 2003/1435](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 2003/144 . . . {by dehumidification only}

WARNING

Group [F24F 2003/144](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 2003/1446 {by condensing}

WARNING

Group [F24F 2003/1446](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 2003/1452 {heat extracted from the humid air for condensing is returned to the dried air}

WARNING

Group [F24F 2003/1452](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 2003/1458 . . . {using regenerators}

WARNING

Group [F24F 2003/1458](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1464 {using rotating regenerators}

WARNING

Group [F24F 2003/1464](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

3/147 . . . with both heat and humidity transfer between supplied and exhausted air

WARNING

Group [F24F 3/147](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

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

WARNING

Group [F24F 3/153](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

3/16 . . by purification, e.g. by filtering; by sterilisation; by ozonisation {(ion sources [H01J 27/02](#), [H01J 37/08](#); treatment rooms or enclosures for medical purposes [A61G 10/00](#))}

WARNING

Group [F24F 3/16](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

3/1603 . . . {by filtering ([arrangements or mounting of filters F24F 13/28](#))}

WARNING

Group [F24F 3/1603](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

3/1607 {Clean air work stations, i.e. selected areas within a space to which filtered air is passed (means providing sterile air at a surgical operation table or area [A61G 13/108](#))}

WARNING

Group [F24F 3/1607](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

3/161 {Clean rooms, i.e. enclosed spaces in which a uniform flow of filtered air is distributed (air distribution by perforated walls [F24F 7/10](#); dust-free rooms or enclosures applicable solely to laboratory purposes [B01L 1/04](#))}

WARNING

Group [F24F 3/161](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1614 {using a dry filtering element}

WARNING

Group [F24F 2003/1614](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1617 {using wet filtering methods}

WARNING

Group [F24F 2003/1617](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1621 {using chemical filtering methods}

WARNING

Group [F24F 2003/1621](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1625 {using active carbon}

WARNING

Group [F24F 2003/1625](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1628 {using catalytic reaction}

WARNING

Group [F24F 2003/1628](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1632 {using vortex}

WARNING

Group [F24F 2003/1632](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1635 {using high voltage}

WARNING

Group [F24F 2003/1635](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1639 {with filter cleaning}

WARNING

Group [F24F 2003/1639](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1642 {of pollen, to avoid allergies}

WARNING

Group [F24F 2003/1642](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1646 {of tobacco smoke}

WARNING

Group [F24F 2003/1646](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/165 {of ozone}

WARNING

Group [F24F 2003/165](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1653 {using biofilters, plants or microorganisms}

WARNING

Group [F24F 2003/1653](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1657 {the air pollution of a street or a city}

WARNING

Group [F24F 2003/1657](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

3/166 . . . {using electric means, e.g. applying electrostatic field ([using thermo-electric means F24F 5/0042](#))}

WARNING

Group [F24F 3/166](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1664 . . . {by sterilisation}

WARNING

Group [F24F 2003/1664](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1667 {using UV light}

WARNING

Group [F24F 2003/1667](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1671 {using ozone}

WARNING

Group [F24F 2003/1671](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1675 {using a sterilising medium}

WARNING

Group [F24F 2003/1675](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1678 {to avoid the Legionella bacteria}

WARNING

Group [F24F 2003/1678](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1682 . . . {by ionisation}

WARNING

Group [F24F 2003/1682](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1685 . . . {by ozonisation}

WARNING

Group [F24F 2003/1685](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1689 . . . {by odorising}

WARNING

Group [F24F 2003/1689](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1692 . . . {by adding oxygen}

WARNING

Group [F24F 2003/1692](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2003/1696 . . . {by removing radon}

WARNING

Group [F24F 2003/1696](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

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}	2006/065	. . . {using slowly rotating discs for evaporation}
5/0003	. {Exclusively-fluid systems}	6/08	. . using heated wet elements
5/0007	. {cooling apparatus specially adapted for use in air-conditioning (self-contained room units F24F 1/02 ; F24F 5/0046 takes precedence; air-humidification F24F 6/00)}	6/10	. . . heated electrically
5/001	. . {Compression cycle type}	6/105	. . . . {using the heat of lamps}
5/0014	. . {using absorption or desorption}	6/12	. by forming water dispersions in the air
5/0017	. . {using cold storage bodies, e.g. ice}	6/14	. . using nozzles
5/0021	. . . {using phase change material [PCM] for storage}	2006/143	. . . {using pressurised air for spraying}
2005/0025	. . . {using heat exchange fluid storage tanks}	2006/146	. . . {using pressurised water for spraying}
2005/0028	. . . {using hydridable metals as energy storage media}	6/16	. . using rotating elements
2005/0032	. . . {Systems storing energy during the night}	6/18	. by injection of steam into the air
5/0035	. . {using evaporation}	7/00	Ventilation {, e.g. by means of wall-ducts or systems using window or roof apertures}
2005/0039	. . {using a cryogen, e.g. CO ₂ liquid or N ₂ liquid}	2007/001	. {with exhausting air ducts}
5/0042	. {characterised by the application of thermo-electric units or the Peltier effect (refrigerators and cooling systems using magnetic or electrical effects in general F25B 21/02 ; for semi-conductors H01L 23/38 ; thermobatteries or thermogenerators H01L 35/00)}	2007/002	. . {Junction box, e.g. for ducts from kitchen, toilet or bathroom}
5/0046	. {using natural energy, e.g. solar energy, energy from the ground}	2007/003	. {using vent ports in a wall}
5/005	. . {using energy from the ground by air circulation, e.g. "Canadian well"}	2007/004	. {Natural ventilation using convection}
2005/0053	. . {receiving heat-exchange fluid from a well}	2007/005	. {Cyclic ventilation, e.g. alternating air supply volume or reversing flow direction (F24F 2012/008 takes precedence when there is heat exchange between exhaust and supply air)}
2005/0057	. . {receiving heat-exchange fluid from a closed circuit in the ground}	7/007	. with forced flow (using ducting systems F24F 7/06)
2005/006	. . {receiving heat-exchange fluid from the drinking or sanitary water supply circuit}		WARNING
2005/0064	. . {using solar energy}		Group F24F 7/007 is impacted by reclassification into groups F24F 7/02 and F24F 7/025 .
2005/0067	. . . {with photovoltaic panels}		Groups F24F 7/007 , F24F 7/02 , and F24F 7/025 should be considered in order to perform a complete search.
5/0071	. {adapted for use in covered swimming pools}	7/013	. . using wall or window fans, displacing air through the wall or window
5/0075	. {Systems using thermal walls, e.g. double window (double windows <i>per se</i> E06B)}		WARNING
2005/0078	. . {Double windows}		Group F24F 7/013 is incomplete pending reclassification of documents from group F24F 13/08 .
2005/0082	. . {Facades}		Group F24F 7/013 is also impacted by reclassification into groups F24F 7/02 and F24F 7/025 .
5/0085	. {Systems using a compressed air circuit (B64D 13/00 , B60H take precedence)}		All groups listed in this Warning should be considered in order to perform a complete search.
5/0089	. {Systems using radiation from walls or panels}	7/02	. Roof ventilation (ventilation of roof coverings E04D)
5/0092	. . {ceilings, e.g. cool ceilings}		WARNING
5/0096	. {combined with domestic apparatus}		Group F24F 7/02 is incomplete pending reclassification of documents from groups F24F 7/007 and F24F 7/013 .
6/00	Air-humidification {, e.g. cooling by humidification}		Groups F24F 7/007 , F24F 7/013 , and F24F 7/02 should be considered in order to perform a complete search.
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 {(humidifiers specially adapted for radiators <i>see</i> F24D 19/008)}		
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 (humidifiers for radiators F24D 19/008)}		
2006/046	. . . {with a water pump}		
6/06	. . using moving unheated wet elements		

7/025	. . {with forced air circulation by means of a built-in ventilator}	11/35	. . . . by closing air passages
	WARNING	11/36	. . . to leakage of heat-exchange fluid
	Group F24F 7/025 is incomplete pending reclassification of documents from groups F24F 7/007 and F24F 7/013 .	11/37	. . . Resuming operation, e.g. after power outages; Emergency starting
	Groups F24F 7/007 , F24F 7/013 , and F24F 7/025 should be considered in order to perform a complete search.	11/38	. . . Failure diagnosis
7/04	. with ducting systems {also by double walls; with natural circulation (F24F 7/02 takes precedence)}	11/39	. . . Monitoring filter performance
7/06	. . with forced air circulation, e.g. by fan {positioning of a ventilator in or against a conduit}	11/41	. . Defrosting; Preventing freezing
7/065	. . . {fan combined with single duct; mounting arrangements of a fan in a duct}	11/42	. . . of outdoor units
7/08	. . . with separate ducts for supplied and exhausted air {with provisions for reversal of the input and output systems}	11/43	. . . of indoor units
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)	11/46	. . Improving electric energy efficiency or saving
9/00	Use of air currents for screening, e.g. air curtains	11/47	. . . Responding to energy costs
2009/002	. {Room dividers}	11/48	. . prior to normal operation, e.g. pre-heating or pre-cooling
2009/005	. {combined with a door}	11/49	. . ensuring correct operation, e.g. by trial operation or configuration checks
2009/007	. {using more than one jet or band in the air curtain}	11/50	. characterised by user interfaces or communication
11/00	Control or safety arrangements		WARNING
	NOTE		Groups F24F 11/50 – F24F 11/61 are incomplete pending reclassification of documents from group F24F 11/30 .
	In this group, it is desirable to add the indexing codes of groups F24F 2110/00 – F24F 2140/00 .		Groups F24F 11/50 – F24F 11/61 and F24F 11/30 should be considered in order to perform a complete search.
11/0001	. {for ventilation (F24F 11/30 takes precedence)}	11/52	. . Indication arrangements, e.g. displays
2011/0002	. . {for admittance of outside air}	11/523	. . . for displaying temperature data
2011/0004	. . . {to create overpressure in a room}	11/526	. . . giving audible indications
2011/0005	. . . {to create underpressure in a room, keeping contamination inside}	11/54	. . using one central controller connected to several sub-controllers
2011/0006	. . {using low temperature external supply air to assist cooling}	11/56	. . Remote control
11/0008	. {for air-humidification (F24F 11/30 takes precedence)}	11/57	. . . using telephone networks
11/30	. for purposes related to the operation of the system, e.g. for safety or monitoring	11/58	. . . using Internet communication
	WARNINGS	11/59	. . . for presetting
	1. Group F24F 11/30 is impacted by reclassification into groups F24F 11/32 – F24F 11/88 , F24F 2120/00 , and F24F 2140/00 .	11/61	. . using timers
	All groups listed in this Warning should be considered in order to perform a complete search.	11/62	. characterised by the type of control or by internal processing, e.g. using fuzzy logic, adaptive control or estimation of values
	2. Groups F24F 11/32 – F24F 11/49 are incomplete pending reclassification of documents from group F24F 11/30 .		WARNING
	Groups F24F 11/30 and F24F 11/32 – F24F 11/49 should be considered in order to perform a complete search.		Groups F24F 11/62 – F24F 11/67 are incomplete pending reclassification of documents from group F24F 11/30 .
11/32	. . Responding to malfunctions or emergencies		Groups F24F 11/62 – F24F 11/67 and F24F 11/30 should be considered in order to perform a complete search.
11/33	. . . to fire, excessive heat or smoke	11/63	. . Electronic processing
11/34	. . . . by opening air passages	11/64	. . . using pre-stored data
		11/65	. . . for selecting an operating mode
			WARNING
			Group F24F 11/65 is incomplete pending reclassification of documents from group F24F 11/30 .
			Group F24F 11/65 is also impacted by reclassification into group F24F 11/67 .
			All groups listed in this Warning should be considered in order to perform a complete search.
		11/66	. . . . Sleep mode

11/67	. . . . Switching between heating and cooling modes	11/80	. . . for controlling the temperature of the supplied air
	WARNING Group F24F 11/67 is incomplete pending reclassification of documents from groups F24F 11/30 and F24F 11/65 . Groups F24F 11/30 , F24F 11/65 , and F24F 11/67 should be considered in order to perform a complete search.		WARNING Groups F24F 11/80 – F24F 11/875 are incomplete pending reclassification of documents from groups F24F 11/30 and F24F 11/70 . All groups listed in this Warning should be considered in order to perform a complete search.
11/70	. Control systems characterised by their outputs; Constructional details thereof	11/81	. . . by controlling the air supply to heat-exchangers or bypass channels
	WARNING Groups F24F 11/70 – F24F 11/875 are incomplete pending reclassification of documents from group F24F 11/30 . Group F24F 11/70 is also impacted by reclassification into groups F24F 11/80 – F24F 11/875 . All groups listed in this warning should be considered in order to perform a complete search.	11/83	. . . by controlling the supply of heat-exchange fluids to heat-exchangers
11/72	. . for controlling the supply of treated air, e.g. its pressure		WARNING Group F24F 11/83 is incomplete pending reclassification of documents from groups F24F 11/30 and F24F 11/70 . Group F24F 11/83 is also impacted by reclassification into groups F24F 3/06 , F24F 3/065 , F24F 3/08 , F24F 3/10 , F24F 11/84 , and F24F 11/85 . All groups listed in this Warning should be considered in order to perform a complete search.
11/74	. . . for controlling air flow rate or air velocity	11/84	. . . . using valves
	WARNING Group F24F 11/74 is incomplete pending reclassification of documents from group F24F 11/30 and F24F 11/70 . Group F24F 11/74 is also impacted by reclassification into group F24F 11/755 . All groups listed in this warning should be considered in order to perform a complete search		WARNING Group F24F 11/84 is incomplete pending reclassification of documents from groups F24F 11/30 , F24F 11/70 and F24F 11/83 . Group F24F 11/84 is also impacted by reclassification into groups F24F 3/06 , F24F 3/065 , F24F 3/08 , and F24F 3/10 . All groups listed in this warning should be considered in order to perform a complete search.
11/745	. . . . {the air flow rate increasing with an increase of air-current or wind pressure}	11/85	. . . . using variable-flow pumps
11/75	. . . . for maintaining constant air flow rate or air velocity		WARNING Group F24F 11/85 is incomplete pending reclassification of documents from groups F24F 11/30 , F24F 11/70 and F24F 11/83 . Group F24F 11/85 is also impacted by reclassification into groups F24F 3/06 , F24F 3/065 , F24F 3/08 , and F24F 3/10 . All groups listed should be considered in order to perform a complete search.
11/755	. . . . for cyclical variation of air flow rate or air velocity	11/86	. . . by controlling compressors within refrigeration or heat pump circuits
	WARNING Group F24F 11/755 is incomplete pending reclassification of documents from groups F24F 11/30 , F24F 11/70 and F24F 11/74 . All groups listed in this warning should be considered in order to perform a complete search.	11/87	. . . by controlling absorption or discharge of heat in outdoor units
11/76	. . . . by means responsive to temperature, e.g. bimetal springs	11/871	. . . . by controlling outdoor fans
11/77	. . . . by controlling the speed of ventilators	11/873	. . . by controlling refrigerant heaters
11/79	. . . for controlling the direction of the supplied air	11/875	. . . by controlling heat-storage apparatus

11/88	<ul style="list-style-type: none"> Electrical aspects, e.g. circuits <p>WARNING</p> <p>Group F24F 11/88 is incomplete pending reclassification of documents from group F24F 11/30.</p> <p>Groups F24F 11/30 and F24F 11/88 should be considered in order to perform a complete search.</p>	13/062	<ul style="list-style-type: none"> <ul style="list-style-type: none"> having one or more bowls or cones diverging in the flow direction <p>WARNING</p> <p>Group F24F 13/062 is incomplete pending reclassification of documents from group F24F 13/072.</p> <p>Groups F24F 13/072 and F24F 13/062 should be considered in order to perform a complete search.</p>
11/89	<ul style="list-style-type: none"> Arrangement or mounting of control or safety devices 	13/065	<ul style="list-style-type: none"> <ul style="list-style-type: none"> formed as cylindrical or spherical bodies which are rotatable <p>WARNING</p> <p>Group F24F 13/065 is incomplete pending reclassification of documents from group F24F 13/072.</p> <p>Groups F24F 13/072 and F24F 13/065 should be considered in order to perform a complete search.</p>
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	<ul style="list-style-type: none"> {with heat-exchange between supplied and exhausted air} 		
12/002	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {using an intermediate heat-transfer fluid} 		
12/003	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {using a heat pump} 		
2012/005	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {using heat pipes} 		
12/006	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {using an air-to-air heat exchanger (F24F 12/002 takes precedence)} 	13/068	<ul style="list-style-type: none"> <ul style="list-style-type: none"> formed as perforated walls, ceilings or floors (F24F 13/078 takes precedence)
2012/007	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {using a by-pass for bypassing the heat-exchanger} 	13/072	<ul style="list-style-type: none"> <ul style="list-style-type: none"> of elongated shape, e.g. between ceiling panels <p>WARNING</p> <p>Group F24F 13/072 is impacted by reclassification into groups F24F 13/062 and F24F 13/065.</p> <p>Groups F24F 13/072, F24F 13/062, and F24F 13/065 should be considered in order to perform a complete search.</p>
2012/008	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {cyclic routing supply and exhaust air (F24F 2007/005 takes precedence when there is no heat exchange)} 		
13/00	Details common to, or for air-conditioning, air-humidification, ventilation or use of air currents for screening		
13/02	<ul style="list-style-type: none"> Ducting arrangements 		
13/0209	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {characterised by their connecting means, e.g. flanges} 	13/075	<ul style="list-style-type: none"> <ul style="list-style-type: none"> having parallel rods or lamellae directing the outflow, e.g. the rods or lamellae being individually adjustable (F24F 13/072 takes precedence)
13/0218	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Flexible soft ducts, e.g. ducts made of permeable textiles} 	13/078	<ul style="list-style-type: none"> <ul style="list-style-type: none"> combined with lighting fixtures <p>WARNING</p> <p>Group F24F 13/078 is incomplete pending reclassification of documents from group F24F 3/056.</p> <p>Groups F24F 3/056 and F24F 13/078 should be considered in order to perform a complete search.</p>
13/0227	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {using parts of the building, e.g. air ducts inside the floor, walls or ceiling of a building (air ducts or channels of buildings E04F 17/04)} 		
13/0236	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {with ducts including air distributors, e.g. air collecting boxes with at least three openings} 		
13/0245	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Manufacturing or assembly of air ducts; Methods therefor} 		
13/0254	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {characterised by their mounting means, e.g. supports} 		
13/0263	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Insulation for air ducts} 		
13/0272	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Modules for easy installation or transport} 	13/08	<ul style="list-style-type: none"> Air-flow control members, e.g. louvres, grilles, flaps or guide plates (F24F 7/013, F24F 13/06 take precedence) <p>WARNING</p> <p>Group F24F 13/08 is impacted by reclassification into group F24F 7/013.</p> <p>Groups F24F 13/08 and F24F 7/013 should be considered in order to perform a complete search.</p>
13/0281	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Multilayer duct} 		
13/029	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Duct comprising an opening for inspection, e.g. manhole} 		
13/04	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Air-mixing units (F24F 13/06 takes precedence {; room units for the mixing of pre-treated primary air with recirculated or room air F24F 1/00)} 		
13/06	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Outlets for directing or distributing air into rooms or spaces, e.g. ceiling air diffuser 		
13/0604	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {integrated in or forming part of furniture} 	13/081	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {for guiding air around a curve}
2013/0608	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Perforated ducts} 	13/082	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Grilles, registers or guards}
2013/0612	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Induction nozzles without swirl means} 	13/084	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {with mounting arrangements, e.g. snap fasteners for mounting to the wall or duct}
2013/0616	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Outlets that have intake openings} 	13/085	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {including an air filter}
		2013/087	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {using inflatable bellows}
		2013/088	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Air-flow straightener}

13/10 . . . movable, e.g. dampers

WARNING

Group [F24F 13/10](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 13/10](#) should be considered in order to perform a complete search.

13/105 . . . {composed of diaphragms or segments}

WARNING

Group [F24F 13/105](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 13/105](#) should be considered in order to perform a complete search.

13/12 . . . built up of sliding members

WARNING

Group [F24F 13/12](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 13/12](#) should be considered in order to perform a complete search.

13/14 . . . built up of tilting members, e.g. louver

WARNING

Group [F24F 13/14](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 13/14](#) should be considered in order to perform a complete search.

13/1406 {characterised by sealing means}

WARNING

Group [F24F 13/1406](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 13/1406](#) should be considered in order to perform a complete search.

13/1413 {using more than one tilting member, e.g. with several pivoting blades ([F24F 13/15](#) takes precedence)}

WARNING

Group [F24F 13/1413](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 13/1413](#) should be considered in order to perform a complete search.

13/142 {using pivoting blades with intersecting axles}

WARNING

Group [F24F 13/142](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 13/142](#) should be considered in order to perform a complete search.

13/1426 {characterised by actuating means}

WARNING

Group [F24F 13/1426](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 13/1426](#) should be considered in order to perform a complete search.

2013/1433 {with electric motors}

WARNING

Group [F24F 2013/1433](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 2013/1433](#) should be considered in order to perform a complete search.

2013/144 {with thermoactuators}

WARNING

Group [F24F 2013/144](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 2013/144](#) should be considered in order to perform a complete search.

2013/1446 {with gearings}

WARNING

Group [F24F 2013/1446](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 2013/1446](#) should be considered in order to perform a complete search.

2013/1453 {with cables, e.g. bowden cables}

WARNING

Group [F24F 2013/1453](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).

Groups [F24F 13/18](#) and [F24F 2013/1453](#) should be considered in order to perform a complete search.

- 2013/146 {with springs}
- WARNING**
- Group [F24F 2013/146](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).
- Groups [F24F 13/18](#) and [F24F 2013/146](#) should be considered in order to perform a complete search.
- 2013/1466 {with pneumatic means}
- WARNING**
- Group [F24F 2013/1466](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).
- Groups [F24F 13/18](#) and [F24F 2013/1466](#) should be considered in order to perform a complete search.
- 2013/1473 {with cams or levers}
- WARNING**
- Group [F24F 2013/1473](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).
- Groups [F24F 13/18](#) and [F24F 2013/1473](#) should be considered in order to perform a complete search.
- 2013/148 {with magnets}
- WARNING**
- Group [F24F 2013/148](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).
- Groups [F24F 13/18](#) and [F24F 2013/148](#) should be considered in order to perform a complete search.
- 13/1486 {characterised by bearings, pivots or hinges}
- WARNING**
- Group [F24F 13/1486](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).
- Groups [F24F 13/18](#) and [F24F 13/1486](#) should be considered in order to perform a complete search.
- 2013/1493 {using an elastic membrane}
- WARNING**
- Group [F24F 2013/1493](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).
- Groups [F24F 13/18](#) and [F24F 2013/1493](#) should be considered in order to perform a complete search.
- 13/15 with parallel simultaneously tiltable lamellae
- WARNING**
- Group [F24F 13/15](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).
- Groups [F24F 13/18](#) and [F24F 13/15](#) should be considered in order to perform a complete search.
- 13/16 built up of parallelly-movable plates
- WARNING**
- Group [F24F 13/16](#) is incomplete pending reclassification of documents from group [F24F 13/18](#).
- Groups [F24F 13/18](#) and [F24F 13/16](#) should be considered in order to perform a complete search.
- 13/18 specially adapted for insertion in flat panels, e.g. in door or window-pane
- WARNING**
- Group [F24F 13/18](#) is impacted by reclassification into groups [F24F 13/10](#) - [F24F 13/16](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 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 {(for refrigerating devices in general [F25D 21/14](#))}
- 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 {(in [perforated ceilings F24F 7/10](#))}
- 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

WARNING

Group [F24F 2110/40](#) is impacted by reclassification into groups [F24F 2140/10](#) and [F24F 2140/12](#).

Groups [F24F 2110/40](#), [F24F 2140/10](#), and [F24F 2140/12](#) should be considered in order to perform a complete search.

- 2110/50 . Air quality properties

WARNING

Group [F24F 2110/50](#) is impacted by reclassification into group [F24F 2110/65](#).

Groups [F24F 2110/50](#) and [F24F 2110/65](#) should be considered in order to perform a complete search.

- 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

WARNING

Group [F24F 2110/65](#) is incomplete pending reclassification of documents from group [F24F 2110/50](#).

Groups [F24F 2110/50](#) and [F24F 2110/65](#) should be considered in order to perform a complete search.

- 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

WARNING

Group [F24F 2120/00](#) is incomplete pending reclassification of documents from group [F24F 11/30](#).

Groups [F24F 11/30](#) and [F24F 2120/00](#) should be considered in order to perform a complete search.

- 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

WARNING

Group [F24F 2140/00](#) is incomplete pending reclassification of documents from group [F24F 11/30](#).

Groups [F24F 11/30](#) and [F24F 2140/00](#) should be considered in order to perform a complete search.

- 2140/10 . Pressure

WARNING

Groups [F24F 2140/10](#) and [F24F 2140/12](#) are incomplete pending reclassification of documents from group [F24F 2110/40](#).

Groups [F24F 2110/40](#), [F24F 2140/10](#) and [F24F 2140/12](#) should be considered in order to perform a complete search.

- 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