

Symbol	Typ	Titel
F	Sektion	SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
F25	Klasse	REFRIGERATION OR COOLING; COMBINED HEATING AND REFRIGERATION SYSTEMS; HEAT PUMP SYSTEMS; MANUFACTURE OR STORAGE OF ICE; LIQUEFACTION OR SOLIDIFICATION OF GASES
F25B	Unterklasse	REFRIGERATION MACHINES, PLANTS, OR SYSTEMS; COMBINED HEATING AND REFRIGERATION SYSTEMS; HEAT PUMP SYSTEMS (heat-transfer, heat-exchange or heat-storage materials, e.g. refrigerants, or materials for the production of heat or cold by chemical reactions other than by combustion C09K 5/00; pumps, compressors F04; use of heat pumps for domestic or space-heating or for domestic hot-water supply F24D; air-conditioning, air-humidification F24F; fluid heaters using heat pumps F24H) <u>Compression machines, plant, or systems</u>
F25B 1/00	Hauptgruppe	Compression machines, plant or systems with non-reversible cycle (F25B 3/00, F25B 5/00, F25B 6/00, F25B 7/00, F25B 9/00 take precedence) [5]
F25B 1/02	1-Punkt Untergruppe	. with compressor of reciprocating-piston type (F25B 1/10 takes precedence)
F25B 1/04	1-Punkt Untergruppe	. with compressor of rotary type (F25B 1/10 takes precedence)
F25B 1/047	2-Punkt Untergruppe	. . of screw type [5]
F25B 1/053	2-Punkt Untergruppe	. . of turbine type [5]
F25B 1/06	1-Punkt Untergruppe	. with compressor of jet type, e.g. using liquid under pressure (F25B 1/10 takes precedence)
F25B 1/08	2-Punkt Untergruppe	. . using vapour under pressure
F25B 1/10	1-Punkt Untergruppe	. with multi-stage compression (with cascade operation F25B 7/00)
F25B 3/00	Hauptgruppe	Self-contained rotary compression machines, i.e. with compressor, condenser, and evaporator rotating as a single unit
F25B 5/00	Hauptgruppe	Compression machines, plant, or systems, with several evaporator circuits, e.g. for varying refrigerating capacity (with cascade operation F25B 7/00)
F25B 5/02	1-Punkt Untergruppe	. arranged in parallel [5]
F25B 5/04	1-Punkt Untergruppe	. arranged in series [5]
F25B 6/00	Hauptgruppe	Compression machines, plant, or systems, with several condenser circuits [5]
F25B 6/02	1-Punkt Untergruppe	. arranged in parallel [5]
F25B 6/04	1-Punkt Untergruppe	. arranged in series [5]
F25B 7/00	Hauptgruppe	Compression machines, plant, or systems, with cascade operation, i.e. with two or more circuits, the heat from the condenser of one circuit being absorbed by the evaporator of the next circuit (F25B 9/00 takes precedence)
F25B 9/00	Hauptgruppe	Compression machines, plant, or systems, in which the refrigerant is air or other gas of low boiling point
F25B 9/02	1-Punkt Untergruppe	. using Joule-Thompson effect; using vortex effect
F25B 9/04	2-Punkt Untergruppe	. . using vortex effect [5]
F25B 9/06	1-Punkt Untergruppe	. using expanders (F25B 9/10 takes precedence) [5]
F25B 9/08	1-Punkt Untergruppe	. using ejectors (F25B 9/10 takes precedence) [5]
F25B 9/10	1-Punkt Untergruppe	. with several cooling stages [5]

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F25B 9/12	1-Punkt Untergruppe	. using ³ He- ⁴ He dilution [5]
F25B 9/14	1-Punkt Untergruppe	. characterised by the cycle used, e.g. Stirling cycle [5]
F25B 11/00	Hauptgruppe	Compression machines, plant, or systems, using turbines, e.g. gas turbines
F25B 11/02	1-Punkt Untergruppe	. as expanders (F25B 9/06 takes precedence) [5]
F25B 11/04	2-Punkt Untergruppe	. . centrifugal type [5]
F25B 13/00	Hauptgruppe	Compression machines, plant, or systems, with reversible cycle (defrosting cycles F25B 47/02)
		<u>Sorption machines, plant, or systems</u>
F25B 15/00	Hauptgruppe	Sorption machines, plant, or systems, operating continuously, e.g. absorption type
F25B 15/02	1-Punkt Untergruppe	. without inert gas (F25B 15/12, F25B 15/14, F25B 15/16 take precedence)
F25B 15/04	2-Punkt Untergruppe	. . the refrigerant being ammonia evaporated from aqueous solution
F25B 15/06	2-Punkt Untergruppe	. . the refrigerant being water vapour evaporated from a salt solution, e.g. lithium bromide
F25B 15/08	2-Punkt Untergruppe	. . the refrigerant being sulfuric acid
F25B 15/09	2-Punkt Untergruppe	. . the refrigerant being hydrogen desorbed from a hydride [5]
F25B 15/10	1-Punkt Untergruppe	. with inert gas (F25B 15/12, F25B 15/14, F25B 15/16 take precedence)
F25B 15/12	1-Punkt Untergruppe	. with resorber (F25B 15/14 takes precedence)
F25B 15/14	1-Punkt Untergruppe	. using osmosis
F25B 15/16	1-Punkt Untergruppe	. using desorption cycle
F25B 17/00	Hauptgruppe	Sorption machines, plant, or systems, operating intermittently, e.g. absorption or adsorption type
F25B 17/02	1-Punkt Untergruppe	. the absorbent or adsorbent being a liquid, e.g. brine (F25B 17/10 takes precedence)
F25B 17/04	2-Punkt Untergruppe	. . with two or more boilers operating alternately
F25B 17/06	2-Punkt Untergruppe	. . with the boiler and evaporator built-up as a unit in a tiltable or revolving arrangement
F25B 17/08	1-Punkt Untergruppe	. the absorbent or adsorbent being a solid, e.g. salt (F25B 17/12 takes precedence) [5]
F25B 17/10	1-Punkt Untergruppe	. using the endothermic solution of salt
F25B 17/12	1-Punkt Untergruppe	. using desorption of hydrogen from a hydride [5]
		<u>Machines, plant, or systems, with a single mode of operation, not covered by groups F25B 1/00-F25B 17/00</u>
F25B 19/00	Hauptgruppe	Machines, plant, or systems, using evaporation of a refrigerant but without recovery of the vapour
F25B 19/02	1-Punkt Untergruppe	. using fluid jet, e.g. of steam
F25B 19/04	2-Punkt Untergruppe	. . using liquid jet, e.g. of water
F25B 21/00	Hauptgruppe	Machines, plant, or systems, using electric or magnetic effects
F25B 21/02	1-Punkt Untergruppe	. using Peltier effect; using Nernst-Ettinghausen effect (thermoelectric elements H01L 35/00, H01L 37/00)
F25B 21/04	2-Punkt Untergruppe	. . reversible [5]
F25B 23/00	Hauptgruppe	Machines, plant, or systems, with a single mode of operation not covered by groups F25B 1/00-F25B 21/00, e.g. using selective radiation effect
F25B 25/00	Hauptgruppe	Machines, plant, or systems, using a combination of modes of operation covered by two or more of the groups F25B 1/00-F25B 23/00 (combinations of two or more modes of operation covered by a single main group,

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		<u>see the relevant group)</u>
F25B 25/02	1-Punkt Untergruppe	. Compression-sorption machines, plants, or systems
F25B 27/00	Hauptgruppe	Machines, plant, or systems, using particular sources of energy (F25B 30/06 takes precedence)
F25B 27/02	1-Punkt Untergruppe	. using waste heat, e.g. from internal-combustion engines
F25B 29/00	Hauptgruppe	Combined heating and refrigeration systems, e.g. operating alternately or simultaneously [5]
F25B 30/00	Hauptgruppe	Heat pumps [5]
F25B 30/02	1-Punkt Untergruppe	. of the compression type [5]
F25B 30/04	1-Punkt Untergruppe	. of the sorption type [5]
F25B 30/06	1-Punkt Untergruppe	. characterised by the source of low potential heat [5]
		<u>Component parts or details</u>
F25B 31/00	Hauptgruppe	Compressor arrangements (compressors <u>per se</u>F04)
F25B 31/02	1-Punkt Untergruppe	. of motor-compressor units
F25B 33/00	Hauptgruppe	Boilers; Analysers; Rectifiers (boiler-absorbers F25B 35/00)
F25B 35/00	Hauptgruppe	Boiler-absorbers, i.e. boilers usable for absorption or adsorption
F25B 35/02	1-Punkt Untergruppe	. using a liquid as sorbent, e.g. brine
F25B 35/04	1-Punkt Untergruppe	. using a solid as sorbent
F25B 37/00	Hauptgruppe	Absorbers; Adsorbers (boiler-absorbers F25B 35/00; separating processes involving the treatment of liquids with solid sorbents B01D 15/00; separation of gases or vapours by adsorption B01D 53/02; separation of gases or vapours by absorption B01D 53/14; investigating using adsorption or absorption G01N 30/00)
F25B 39/00	Hauptgruppe	Evaporators; Condensers
F25B 39/02	1-Punkt Untergruppe	. Evaporators
F25B 39/04	1-Punkt Untergruppe	. Condensers
F25B 40/00	Hauptgruppe	Subcoolers, desuperheaters or superheaters [5]
F25B 40/02	1-Punkt Untergruppe	. Subcoolers [5]
F25B 40/04	1-Punkt Untergruppe	. Desuperheaters [5]
F25B 40/06	1-Punkt Untergruppe	. Superheaters [5]
F25B 41/00	Hauptgruppe	Fluid-circulation arrangements, e.g. for transferring liquid from evaporator to boiler (pumps <u>per se</u>, sealings therefor F04)
F25B 41/02	1-Punkt Untergruppe	. using electro-osmosis
F25B 41/04	1-Punkt Untergruppe	. Disposition of valves (valves <u>per se</u> F16K)
F25B 41/06	1-Punkt Untergruppe	. Flow restrictors, e.g. capillary tubes; Disposition thereof
F25B 43/00	Hauptgruppe	Arrangements for separating or purifying gases or liquids (in analysers or rectifiers F25B 33/00); Arrangements for vaporising the residuum of liquid refrigerant, e.g. by heat (F25B 40/00 takes precedence) [5]
F25B 43/02	1-Punkt Untergruppe	. for separating lubricants from the refrigerant
F25B 43/04	1-Punkt Untergruppe	. for withdrawing non-condensable gases
F25B 45/00	Hauptgruppe	Arrangements for charging or discharging refrigerant
F25B 47/00	Hauptgruppe	Arrangements for preventing or removing deposits or corrosion, not provided for in another

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subclass		
F25B 47/02	1-Punkt Untergruppe	. Defrosting cycles [5]
F25B 49/00	Hauptgruppe	Arrangement or mounting of control or safety devices (testing refrigerators G01M; control in general G05)
F25B 49/02	1-Punkt Untergruppe	. for compression type machines, plant or systems [5]
F25B 49/04	1-Punkt Untergruppe	. for sorption type machines, plant or systems [5]