Symbol	Typ	Titel
H	**Sektion**	**SECTION H — ELECTRICITY**
H01	**Klasse**	**BASIC ELECTRIC ELEMENTS**
H01F	**Unterklasse**	**MAGNETS; INDUCTANCES; TRANSFORMERS; SELECTION OF MATERIALS FOR THEIR MAGNETIC PROPERTIES (ceramics based on ferrites C04B 35/26; alloys C22C; thermomagnetic devices H01L 37/00; loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers H04R) [2]**
H01F 1/00	**Hauptgruppe**	**Magnets or magnetic bodies characterised by the magnetic materials therefor; Selection of materials for their magnetic properties (thin magnetic films characterised by their composition H01F 10/10)**
H01F 1/01	1-Punkt Untergruppe	. of inorganic materials (H01F 1/44 takes precedence) [6]
H01F 1/03	2-Punkt Untergruppe	. . characterised by their coercivity [6]
H01F 1/032	3-Punkt Untergruppe	. . . of hard-magnetic materials [6]
H01F 1/04	4-Punkt Untergruppe	. . . . metals or alloys [6]
H01F 1/047	5-Punkt Untergruppe	. . . . . Alloys characterised by their composition [5, 6]
H01F 1/053	6-Punkt Untergruppe	. . . . . containing rare earth metals [5, 6]
H01F 1/055	7-Punkt Untergruppe	. . . . . and magnetic transition metals, e.g. $SmCo_5$ [6]
H01F 1/057	8-Punkt Untergruppe	. . . . . and IIIa elements, e.g. $Nd_2Fe_{14}B$ [6]
H01F 1/058	8-Punkt Untergruppe	. . . . . and IVa elements, e.g. $Gd_2Fe_{14}C$ [6]
H01F 1/059	8-Punkt Untergruppe	. . . . . and Va elements, e.g. $Sm_2Fe_{17}N_2$ [6]
H01F 1/06	5-Punkt Untergruppe	. . . . . in the form of particles, e.g. powder (H01F 1/047 takes precedence) [5, 6]
H01F 1/08	6-Punkt Untergruppe	. . . . . pressed, sintered, or bound together [6]
H01F 1/09	4-Punkt Untergruppe	. . . . mixtures of metallic and non-metallic particles; metallic particles having oxide skin [6]
H01F 1/10	4-Punkt Untergruppe	. . . . non-metallic substances, e.g. ferrites [6]
H01F 1/11	5-Punkt Untergruppe	. . . . . in the form of particles [6]
H01F 1/113	6-Punkt Untergruppe	. . . . . in a bonding agent [6]
H01F 1/117	7-Punkt Untergruppe	. . . . . Flexible bodies [6]
H01F 1/12	3-Punkt Untergruppe	. . . of soft-magnetic materials [6]
H01F 1/14	4-Punkt Untergruppe	. . . . metals or alloys [6]
H01F 1/147	5-Punkt Untergruppe	. . . . . Alloys characterised by their composition [5, 6]
H01F 1/153	6-Punkt Untergruppe	. . . . . Amorphous metallic alloys, e.g. glassy metals [5, 6]
H01F 1/16	5-Punkt Untergruppe	. . . . . in the form of sheets (H01F 1/147 takes precedence) [5, 6]
H01F 1/18	6-Punkt Untergruppe	. . . . . with insulating coating [6]
H01F 1/20	5-Punkt Untergruppe	. . . . . in the form of particles, e.g. powder (H01F 1/147 takes precedence) [5, 6]
H01F 1/22	6-Punkt Untergruppe	. . . . . pressed, sintered, or bound together [6]

Symbol	Typ	Titel
H01F 1/24	7-Punkt Untergruppe	. . . . . the particles being insulated [6]
H01F 1/26	8-Punkt Untergruppe	. . . . . by macromolecular organic substances [6]
H01F 1/28	6-Punkt Untergruppe	. . . . . dispersed or suspended in a bonding agent [6]
H01F 1/33	4-Punkt Untergruppe	. . . . mixtures of metallic and non-metallic particles; metallic particles having oxide skin [6]
H01F 1/34	4-Punkt Untergruppe	. . . . non-metallic substances, e.g. ferrites [6]
H01F 1/36	5-Punkt Untergruppe	. . . . . in the form of particles [6]
H01F 1/37	6-Punkt Untergruppe	. . . . . in a bonding agent [6]
H01F 1/375	7-Punkt Untergruppe	. . . . . Flexible bodies [6]
H01F 1/38	5-Punkt Untergruppe	. . . . . amorphous, e.g. amorphous oxides [6]
H01F 1/40	2-Punkt Untergruppe	. . of magnetic semiconductor materials, e.g. $CdCr_2S_4$ (devices using galvano-magnetic or similar effects H01L 43/00) [6]
H01F 1/42	1-Punkt Untergruppe	. of organic or organo-metallic materials (H01F 1/44 takes precedence) [6]
H01F 1/44	1-Punkt Untergruppe	. of magnetic liquids, e.g. ferrofluids (particles in a bonding agent H01F 1/28, H01F 1/36) [6]
H01F 3/00	**Hauptgruppe**	**Cores, yokes, or armatures (magnetic materials H01F 1/00; permanent magnets H01F 7/02)**
H01F 3/02	1-Punkt Untergruppe	. made from sheets
H01F 3/04	1-Punkt Untergruppe	. made from strips or ribbons
H01F 3/06	1-Punkt Untergruppe	. made from wires
H01F 3/08	1-Punkt Untergruppe	. made from powder (powder coatings on sheets H01F 3/02, on strips or ribbons H01F 3/04, on wires H01F 3/06)
H01F 3/10	1-Punkt Untergruppe	. Composite arrangements of magnetic circuits
H01F 3/12	2-Punkt Untergruppe	. . Magnetic shunt paths
H01F 3/14	2-Punkt Untergruppe	. . Constrictions; Gaps, e.g. air-gaps (in magnetic shunt paths H01F 3/12)
H01F 5/00	**Hauptgruppe**	**Coils (superconducting coils H01F 6/06; fixed inductances of the signal type H01F 17/00)**
H01F 5/02	1-Punkt Untergruppe	. wound on non-magnetic supports, e.g. formers
H01F 5/04	1-Punkt Untergruppe	. Arrangements of electric connections to coils, e.g. leads
H01F 5/06	1-Punkt Untergruppe	. Insulation of windings
H01F 6/00	**Hauptgruppe**	**Superconducting magnets; Superconducting coils [6]**
H01F 6/02	1-Punkt Untergruppe	. Quenching; Protection arrangements during quenching [6]
H01F 6/04	1-Punkt Untergruppe	. Cooling [6]
H01F 6/06	1-Punkt Untergruppe	. Coils, e.g. winding, insulating, terminating or casing arrangements therefor [6]
H01F 7/00	**Hauptgruppe**	**Magnets (superconducting magnets H01F 6/00; for separation of solid materials from solid materials or fluids B03C 1/00; for bench or like work-holders B23B 31/28, B23Q 3/00; work-holding devices B25B 11/00; lifting magnets B66C 1/00; for electric meters G01R; for relays H01H; for dynamo-electric machines H02K)**
H01F 7/02	1-Punkt Untergruppe	. Permanent magnets
H01F 7/04	2-Punkt Untergruppe	. . Means for releasing the attractive force

Symbol	Typ	Titel
H01F 7/06	1-Punkt Untergruppe	. Electromagnets; Actuators including electromagnets [6]
H01F 7/08	2-Punkt Untergruppe	. . with armatures
H01F 7/10	3-Punkt Untergruppe	. . . specially adapted for ac
H01F 7/11	4-Punkt Untergruppe	. . . . reducing or eliminating the effects of eddy currents [6]
H01F 7/12	4-Punkt Untergruppe	. . . . having anti-chattering arrangements
H01F 7/121	3-Punkt Untergruppe	. . . Guiding or setting position of armatures, e.g. retaining armatures in their end position [6]
H01F 7/122	4-Punkt Untergruppe	. . . . by permanent magnet [6]
H01F 7/123	4-Punkt Untergruppe	. . . . by ancillary coil [6]
H01F 7/124	4-Punkt Untergruppe	. . . . by mechanical latch, e.g. detent [6]
H01F 7/126	3-Punkt Untergruppe	. . . Supporting or mounting [6]
H01F 7/127	3-Punkt Untergruppe	. . . Assembling [6]
H01F 7/128	3-Punkt Untergruppe	. . . Encapsulating, encasing or sealing [6]
H01F 7/129	4-Punkt Untergruppe	. . . . of armatures [6]
H01F 7/13	3-Punkt Untergruppe	. . . characterised by pulling-force characteristic
H01F 7/14	3-Punkt Untergruppe	. . . Pivoting armatures (H01F 7/17 takes precedence) [6]
H01F 7/16	3-Punkt Untergruppe	. . . Rectilinearly-movable armatures (H01F 7/17 takes precedence) [6]
H01F 7/17	3-Punkt Untergruppe	. . . Pivoting and rectilinearly-movable armatures [6]
H01F 7/18	3-Punkt Untergruppe	. . . Circuit arrangements for obtaining desired operating characteristics, e.g. for slow operation, for sequential energisation of windings, for high-speed energisation of windings
H01F 7/20	2-Punkt Untergruppe	. . without armatures (cores H01F 3/00; coils H01F 5/00)
H01F 10/00	**Hauptgruppe**	**Thin magnetic films, e.g. of one-domain structure (magnetic record carriers G11B 5/00; thin-film magnetic stores G11C)**
H01F 10/06	1-Punkt Untergruppe	. characterised by the coupling or physical contact with connecting or interacting conductors
H01F 10/08	1-Punkt Untergruppe	. characterised by magnetic layers (applying magnetic films to substrates H01F 41/14) [3]
H01F 10/10	2-Punkt Untergruppe	. . characterised by the composition [3]
H01F 10/12	3-Punkt Untergruppe	. . . being metals or alloys (intermetallic compounds H01F 10/18) [3]
H01F 10/13	4-Punkt Untergruppe	. . . . Amorphous metallic alloys, e.g. glassy metals [7]
H01F 10/14	4-Punkt Untergruppe	. . . . containing iron or nickel (H01F 10/13, H01F 10/16 take precedence) [3, 7]
H01F 10/16	4-Punkt Untergruppe	. . . . containing cobalt (H01F 10/13 takes precedence) [3, 7]
H01F 10/18	3-Punkt Untergruppe	. . . being compounds [3]
H01F 10/187	4-Punkt Untergruppe	. . . . Amorphous compounds [7]
H01F 10/193	4-Punkt Untergruppe	. . . . Magnetic semiconductor compounds [7]
H01F 10/20	4-Punkt Untergruppe	. . . . Ferrites [3]

Symbol	Typ	Titel
H01F 10/22	5-Punkt Untergruppe	. . . . . Orthoferrites [3]
H01F 10/24	5-Punkt Untergruppe	. . . . . Garnets [3]
H01F 10/26	1-Punkt Untergruppe	. characterised by the substrate or intermediate layers (H01F 10/32 takes precedence) [3, 7]
H01F 10/28	2-Punkt Untergruppe	. . characterised by the composition of the substrate [3]
H01F 10/30	2-Punkt Untergruppe	. . characterised by the composition of intermediate layers [3]
H01F 10/32	1-Punkt Untergruppe	. Spin-exchange-coupled multilayers, e.g. nanostructured superlattices [7]
H01F 13/00	**Hauptgruppe**	**Apparatus or processes for magnetising or demagnetising (for degaussing ships B63G 9/06; for clocks or watches G04D 9/00; demagnetising arrangements for colour television H04N 9/29)**
H01F 17/00	**Hauptgruppe**	**Fixed inductances of the signal type (coils in general H01F 5/00)**
H01F 17/02	1-Punkt Untergruppe	. without magnetic core
H01F 17/03	2-Punkt Untergruppe	. . with ceramic former
H01F 17/04	1-Punkt Untergruppe	. with magnetic core
H01F 17/06	2-Punkt Untergruppe	. . with core substantially closed in itself, e.g. toroid
H01F 17/08	3-Punkt Untergruppe	. . . Loading coils for telecommunication circuits
H01F 19/00	**Hauptgruppe**	**Fixed transformers or mutual inductances of the signal type (H01F 36/00 takes precedence) [3]**
H01F 19/02	1-Punkt Untergruppe	. Audio-frequency transformers or mutual inductances, i.e. not suitable for handling frequencies considerably beyond the audio range
H01F 19/04	1-Punkt Untergruppe	. Transformers or mutual inductances suitable for handling frequencies considerably beyond the audio range (resonant circuits H03H)
H01F 19/06	2-Punkt Untergruppe	. . Broad-band transformers, e.g. suitable for handling frequencies well down into the audio range
H01F 19/08	2-Punkt Untergruppe	. . Transformers having magnetic bias, e.g. for handling pulses
H01F 21/00	**Hauptgruppe**	**Variable inductances or transformers of the signal type (H01F 36/00 takes precedence) [3]**
H01F 21/02	1-Punkt Untergruppe	. continuously variable, e.g. variometers
H01F 21/04	2-Punkt Untergruppe	. . by relative movement of turns or parts of windings
H01F 21/06	2-Punkt Untergruppe	. . by movement of core or part of core relative to the windings as a whole
H01F 21/08	2-Punkt Untergruppe	. . by varying the permeability of the core, e.g. by varying magnetic bias
H01F 21/10	2-Punkt Untergruppe	. . by means of a movable shield
H01F 21/12	1-Punkt Untergruppe	. discontinuously variable, e.g. tapped
H01F 27/00	**Hauptgruppe**	**Details of transformers or inductances, in general [6]**
H01F 27/02	1-Punkt Untergruppe	. Casings
H01F 27/04	2-Punkt Untergruppe	. . Leading of conductors or axles through casings, e.g. for tap-changing arrangements
H01F 27/06	1-Punkt Untergruppe	. Mounting, supporting, or suspending transformers, reactors, or choke coils
H01F 27/08	1-Punkt Untergruppe	. Cooling (heat-transfer elements F28F); Ventilating (structural details of casings H01F 27/02)
H01F 27/10	2-Punkt Untergruppe	. . Liquid cooling
H01F 27/12	3-Punkt Untergruppe	. . . Oil cooling

Symbol	Typ	Titel
H01F 27/14	4-Punkt Untergruppe	. . . . Expansion chambers; Oil conservators; Gas cushions; Arrangements for purifying, drying, or filling
H01F 27/16	3-Punkt Untergruppe	. . . Water cooling
H01F 27/18	3-Punkt Untergruppe	. . . by evaporating liquids
H01F 27/20	2-Punkt Untergruppe	. . Cooling by special gases or non-ambient air
H01F 27/22	2-Punkt Untergruppe	. . Cooling by heat conduction through solid or powdered fillings
H01F 27/23	1-Punkt Untergruppe	. Corrosion protection [6]
H01F 27/24	1-Punkt Untergruppe	. Magnetic cores
H01F 27/245	2-Punkt Untergruppe	. . made from sheets, e.g. grain-oriented (H01F 27/26 takes precedence) [5]
H01F 27/25	2-Punkt Untergruppe	. . made from strips or ribbons (H01F 27/26 takes precedence) [5]
H01F 27/255	2-Punkt Untergruppe	. . made from particles (H01F 27/26 takes precedence) [5]
H01F 27/26	2-Punkt Untergruppe	. . Fastening parts of the core together; Fastening or mounting the core on casing or support (on coil H01F 27/30)
H01F 27/28	1-Punkt Untergruppe	. Coils; Windings; Conductive connections
H01F 27/29	2-Punkt Untergruppe	. . Terminals; Tapping arrangements [6]
H01F 27/30	2-Punkt Untergruppe	. . Fastening or clamping coils, windings, or parts thereof together; Fastening or mounting coils or windings on core, casing, or other support
H01F 27/32	2-Punkt Untergruppe	. . Insulating of coils, windings, or parts thereof
H01F 27/33	1-Punkt Untergruppe	. Arrangements for noise damping
H01F 27/34	1-Punkt Untergruppe	. Special means for preventing or reducing unwanted electric or magnetic effects, e.g. no-load losses, reactive currents, harmonics, oscillations, leakage fields
H01F 27/36	2-Punkt Untergruppe	. . Electric or magnetic shields or screens (movable for varying inductance H01F 21/10) [6]
H01F 27/38	2-Punkt Untergruppe	. . Auxiliary core members; Auxiliary coils or windings
H01F 27/40	1-Punkt Untergruppe	. Structural association with built-in electric component, e.g. fuse
H01F 27/42	1-Punkt Untergruppe	. Circuits specially adapted for the purpose of modifying, or compensating for, electric characteristics of transformers, reactors, or choke coils (circuits for controlling transformers, reactors or choke coils, for the purpose of obtaining a desired output H02P 13/00; impedance networks H03H) [6]
H01F 29/00	**Hauptgruppe**	**Variable transformers or inductances not covered by group H01F 21/00**
H01F 29/02	1-Punkt Untergruppe	. with tappings on coil or winding; with provision for rearrangement or interconnection of windings
H01F 29/04	2-Punkt Untergruppe	. . having provision for tap-changing without interrupting the load current
H01F 29/06	1-Punkt Untergruppe	. with current collector gliding or rolling on or along winding
H01F 29/08	1-Punkt Untergruppe	. with core, coil, winding, or shield movable to offset variation of voltage or phase shift, e.g. induction regulators
H01F 29/10	2-Punkt Untergruppe	. . having movable part of magnetic circuit
H01F 29/12	2-Punkt Untergruppe	. . having movable coil, winding, or part thereof; having movable shield
H01F 29/14	1-Punkt Untergruppe	. with variable magnetic bias (magnetic amplifiers H03F)
H01F 30/00	**Hauptgruppe**	**Fixed transformers not covered by group H01F 19/00 [6]**

Symbol	Typ	Titel
H01F 30/02	1-Punkt Untergruppe	. Auto-transformers [6]
H01F 30/04	1-Punkt Untergruppe	. having two or more secondary windings, each supplying a separate load, e.g. for radio set power supplies [6]
H01F 30/06	1-Punkt Untergruppe	. characterised by the structure [6]
H01F 30/08	2-Punkt Untergruppe	. . without magnetic core [6]
H01F 30/10	2-Punkt Untergruppe	. . Single-phase transformers (H01F 30/16 takes precedence) [6]
H01F 30/12	2-Punkt Untergruppe	. . Two-phase, three-phase or polyphase transformers [6]
H01F 30/14	3-Punkt Untergruppe	. . . for changing the number of phases [6]
H01F 30/16	2-Punkt Untergruppe	. . Toroidal transformers [6]
H01F 36/00	**Hauptgruppe**	**Transformers with superconductive windings or with windings operating at cryogenic temperatures (superconducting magnets or superconducting coils H01F 6/00) [3]**
H01F 37/00	**Hauptgruppe**	**Fixed inductances not covered by group H01F 17/00 [6]**
H01F 38/00	**Hauptgruppe**	**Adaptations of transformers or inductances for specific applications or functions [6]**
H01F 38/02	1-Punkt Untergruppe	. for non-linear operation [6]
H01F 38/04	2-Punkt Untergruppe	. . for frequency changing [6]
H01F 38/06	2-Punkt Untergruppe	. . for changing the wave shape [6]
H01F 38/08	1-Punkt Untergruppe	. High-leakage transformers or inductances [6]
H01F 38/10	2-Punkt Untergruppe	. . Ballasts, e.g. for discharge lamps [6]
H01F 38/12	1-Punkt Untergruppe	. Ignition, e.g. for IC engines [6]
H01F 38/14	1-Punkt Untergruppe	. Inductive couplings [6]
H01F 38/16	1-Punkt Untergruppe	. Cascade transformers, e.g. for use with extra high tension [6]
H01F 38/18	1-Punkt Untergruppe	. Rotary transformers [6]
H01F 38/20	1-Punkt Untergruppe	. Instrument transformers [6]
H01F 38/22	2-Punkt Untergruppe	. . for single phase ac [6]
H01F 38/24	3-Punkt Untergruppe	. . . Voltage transformers [6]
H01F 38/26	4-Punkt Untergruppe	. . . . Constructions [6]
H01F 38/28	3-Punkt Untergruppe	. . . Current transformers [6]
H01F 38/30	4-Punkt Untergruppe	. . . . Constructions [6]
H01F 38/32	4-Punkt Untergruppe	. . . . Circuit arrangements [6]
H01F 38/34	3-Punkt Untergruppe	. . . Combined voltage and current transformers [6]
H01F 38/36	4-Punkt Untergruppe	. . . . Constructions [6]
H01F 38/38	2-Punkt Untergruppe	. . for polyphase ac [6]
H01F 38/40	2-Punkt Untergruppe	. . for dc [6]
H01F 38/42	1-Punkt Untergruppe	. Flyback transformers [6]

Symbol	Typ	Titel
H01F 41/00	**Hauptgruppe**	**Apparatus or processes specially adapted for manufacturing or assembling the devices covered by this subclass**
H01F 41/02	1-Punkt Untergruppe	. for manufacturing cores, coils, or magnets (H01F 41/14 takes precedence; for dynamo-electric machines H02K 15/00) [3]
H01F 41/04	2-Punkt Untergruppe	. . for manufacturing coils
H01F 41/06	3-Punkt Untergruppe	. . . Winding
H01F 41/08	4-Punkt Untergruppe	. . . . Winding conductors on to or threading conductors through cores or formers which are closed in themselves, e.g. toroids (for interconnecting digital storage elements G11C 5/12)
H01F 41/10	3-Punkt Untergruppe	. . . Connecting leads to windings (making electric connections in general H01R 43/00)
H01F 41/12	3-Punkt Untergruppe	. . . Insulating of windings (of conductors in general H01B 13/06)
H01F 41/14	1-Punkt Untergruppe	. for applying magnetic films to substrates (covering metals, or materials with metals, in general C23C; manufacturing record carriers G11B 5/84) [3]
H01F 41/16	2-Punkt Untergruppe	. . the magnetic material being applied in the form of particles, e.g. by serigraphy (H01F 41/18 takes precedence) [3, 7]
H01F 41/18	2-Punkt Untergruppe	. . by cathode sputtering [3]
H01F 41/20	2-Punkt Untergruppe	. . by evaporation [3]
H01F 41/22	2-Punkt Untergruppe	. . Heat treatment; Thermal decomposition; Chemical vapour deposition [3]
H01F 41/24	2-Punkt Untergruppe	. . from liquids [3]
H01F 41/26	3-Punkt Untergruppe	. . . using electric currents [3]
H01F 41/28	3-Punkt Untergruppe	. . . by liquid phase epitaxy [3]
H01F 41/30	2-Punkt Untergruppe	. . for applying nanostructures, e.g. by molecular beam epitaxy (MBE) [7]
H01F 41/32	1-Punkt Untergruppe	. for applying conductive, insulating or magnetic material on a magnetic film [7]
H01F 41/34	2-Punkt Untergruppe	. . in patterns, e.g. by lithography [7]