
Universal Decimal Classification

Second English full edition
FID publication no. 483

UDC 68/681.3 Finished articles in general.
Precision mechanisms. Horology. Instrumentation.
Data processing equipment

Classification Décimale Universelle
CDU 68/681.3 Objets fabriqués en général. Fine mécanique. Horlogerie.
Instrumentologie. Équipement de traitement de données

Dezimalklassifikation
DK 68/681.3 Verarbeitete Gegenstände im allgemeinen. Feinmechanik.
Uhrenwesen. Instrumentenkunde. Datenverarbeitungsgeräte

Contents

	Page		Page
Foreword	Inside front cover	681.18	Sorting machines. Cipherring machines.
Scope	1		Deciphering machines
Principal divisions of UDC 681	1	681.2	Instrument making in general.
Related subjects	1		Instrumentation. Measuring instruments
Auxiliary signs and subdivisions	1		and their manufacture. Balances.
Typographic presentation	1		Weighing devices
Cooperating organizations	Back cover	681.26	Weighing machines. Balances
		681.3	Data processing equipment
Schedule		681.31	Computers and calculators (generally)
681.1 Apparatus with wheel or motor	2	681.32	Digital (or predominantly digital)
mechanisms	2		systems, machines and equipment
681.11 Horology. Watch and clock making	2	681.33	Analog (or predominantly analog)
681.12 Reckoners of consumption. Industrial	3		systems, machines and equipment
gauges. Flowmeters. Counters etc.	3	681.34	Combined, mixed, hybrid digital-analog
681.13 Vending machines. Slot machines.	4		computers
Automats	4	681.39	Data processing machines other than
681.17 Registering, recording and control	6		computers and calculators
devices	6		
		Alphabetical subject index	13

Foreword

The English version of the Universal Decimal Classification (UDC) is being prepared and published as BS 1000 by the British Standards Institution (BSI) at the original joint request of the British Society for International Bibliography (BSIB) and the Association of Special Libraries and Information Bureaux (ASLIB), now amalgamated as Aslib. It has the approval of the Lake Placid Education Foundation, New York, proprietors of the Dewey Decimal Classification, from which the UDC derives. The English full edition of the UDC is authorized by the International Federation for Documentation (FID), PO Box 90402, 2509 LK The Hague, Netherlands.

This section is part of the English full edition. It should be used in conjunction with the Abridged English Edition,

BS 1000A, which refers to many other subjects of interest not listed in this schedule, and provides a conspectus of the whole scheme, together with an introduction to its use. For further practical information about the principles, application and utilization of the scheme, users should refer to BS 1000C.

This edition of BS 1000 [68/681.3], which supersedes the 1972 edition, includes modifications authorized in 'Extensions and Corrections to the UDC' (FID publication no. 248) up to and including Series 11, No. 1, dated April 1981. Subsequent issues of 'Extensions and Corrections to the UDC' should be consulted to keep the schedule up to date. British Standards related to this Part of BS 1000 are listed on the inside back cover.

Scope

Scope of UDC 68. UDC 68 complements UDC 67.

Under 67 is classed information about industries involving the processing of a single raw material, whilst information about finished goods made from such materials is classed under 68. Goods made from more than one raw material, and various precision mechanisms and instruments, also come under 68.

Scope of UDC 681. Under 681 is classed information about precision mechanisms and instruments and their manufacture.

Scope of UDC 681.1. Under 681.1 is classed information about horological, metering, counting, recording, sorting and control mechanisms, primarily from the point of view of their construction and manufacture.

Scope of UDC 681.2. Under 681.2 is classed information about measuring apparatus in general, especially questions concerning its manufacture, preparation and adjustment. Particular kinds of measuring apparatus are classed primarily with the substance or phenomenon with which they are associated, e.g. electrical measuring apparatus is classed at 621.317.7, under 621.3 Electrical engineering.

Scope of UDC 681.3. Under 681.3 is classed information about data processing in general and its principles, computers and other data processing devices, and various kinds of ancillary equipment, but not detailed mathematical or electrical considerations, which are classed at the main numbers for these subjects or denoted by colon combination. Computational mathematics, numerical analysis and programming come under 519.6.

Principal divisions of UDC 681

- 681.1 Apparatus with wheel or motor mechanisms
- 681.2 Instrument making in general. Instrumentation. Measuring instruments and their manufacture. Balances. Weighing devices
- 681.3 Data processing equipment
- 681.5 Automatic control engineering. Control systems techniques and equipment. Cybernetic and automation technology
- 681.6 Graphic reproduction machines and equipment
- 681.7 Optical apparatus and instruments
- 681.8 Technical acoustics. Musical instruments
- 681.9 Engraving and sculpting machines and equipment

Related subjects

- 003 Semiotics. Syntactics. Semantics. Writings. Scripts. Notations. Signs. Symbols
- 007 Activity and organizing. Information. Communication and control theory generally (cybernetics), including 'human engineering'
- 371.66 Scientific instruments and apparatus — Education
- 389 Metrology. Weights and measures
- 51 Mathematics, *especially*
- 519.6 Computational mathematics, numerical analysis and programming (computer science)
- 519.7 Mathematical cybernetics
- 520 Instrumentation and techniques (astronomy and astrophysics)
- 527.6 En-route navigation
- 528 Geodesy. Surveying. Photogrammetry. Cartography
- 529 Chronology. Calendar. Determination of time
- 53 Physics, *especially*

- 53.08 General principles and theory of measurement and the design of measuring apparatus. Measurement methods
- 531.7 Measurement of geometrical and mechanical quantities. Instruments. Methods. Units
- 542.3 Measurement of mass and volume. Determination of mass and density. Balances. Weights. Gauges etc. — Practical laboratory chemistry
- 543 Analytical chemistry
- 55 Earth sciences. Geology. Geophysics
- 621.317 Electrical measurement (methods and apparatus)
- 621.391 General questions of electrical communication engineering. Cybernetics, information theory, signal theory in relation to electrical communications
- 621.398 Telecontrol. Telemetry. Remote indication
- 65.001.5 Manual work. Mechanization. Automation — Management
- 800.92 Information languages — Linguistics

Auxiliary signs and subdivisions

Full information about the common and special auxiliary signs and subdivisions (often abbreviated to 'common and special auxiliaries') will be found in BS 1000A and BS 1000C.

Colon sign of relation. For the classification of information for the public, as in abstracts and bibliographies, maximum use of colon combination rather than of common or special auxiliaries is recommended. The use of the colon sign of relation is preferable for multiple entry systems, as it will help prevent the concealment of information. This usually results in longer notation, however, and for information for more restricted use, the application of auxiliaries, where available, may be simpler and more convenient provided that there is an adequate alphabetical subject index.

Common auxiliaries. The common auxiliaries of language = . . . , form (0 . . .), place (1/9), race and nationality (= . . .), time " . . . ", point of view . 00 . . . , materials —03 . . . and persons —05 . . . are applicable throughout the UDC. However, they should be used mainly to express concepts not otherwise provided for in the schedules.

Special auxiliaries. The .0 special auxiliaries listed under various subdivisions of 68/681.3 may be detached from the number under which they are listed and applied to any subdivision of that number where the result forms a meaningful combination, e.g.

- 681.11.057 Measuring, checking, regulating, timing devices
- 681.114 Watches
- 681.114.057 Regulating devices for watches

The —1/—2 special auxiliaries listed in full at 62 are applicable throughout this schedule. Examples of their meanings and application are given under 681.11, 681.2 and 681.3.

Typographic presentation

Small type is used for cancelled numbers and text.

The arrow → means either 'see' or 'see also' according to the context. The symbol ≅ 'subdivide as' means that the number preceding it may be subdivided in the same way as, and with meanings analogous to, the subdivisions of the number which follows it.

SCHEDULE

68 INDUSTRIES, CRAFTS AND TRADES FOR FINISHED OR ASSEMBLED ARTICLES

681 PRECISION MECHANISMS AND INSTRUMENTS

681.1 APPARATUS WITH WHEEL OR MOTOR MECHANISMS

681.11 HOROLOGY. WATCH AND CLOCK MAKING
 —351.759.1 Legal time restrictions —
 Public administration
 389.2 Universal time. Time indicators —
 Metrology
 529 Chronology. Calendar.
 Determination of time
 531.76 Measurement of time, velocity
 and acceleration — Mechanics
 621.086 Purely mechanical engines
 739.3 Artistic horology

Special auxiliary subdivisions for 681.11

681.11—1/—9 MACHINERY CHARACTERISTICS, DETAILS
 681.11—1/—9 $\approx$ 62—1/—9, e.g.
 681.11—187 Degree of precision
 .4 High precision
 —218 Suspension. Fastenings
 —75 Protective devices
 —752 Devices for damping
 vibrations, shock
 —758.32 Watertight cases
 .35 Radiation-proof cases
 .38 Devices for protection
 against magnetism

681.11.03 COMPONENTS
 .031/.035 **Movements. Clockwork**
 .031 **Devices providing energy, motive power.**
 Winding mechanisms
 .1 Energy sources and storage
 .11 Mechanical energy stores
 .111 Using gravity. Weights
 .112 Using elasticity. Springs (mainsprings)
 .12 Chemical energy sources and stores.
 Accumulators, batteries, cells etc.
 .13 Nuclear energy sources
 .2 Devices for energy conversion (winding
 mechanisms etc.)
 .21 Mechanical devices
 .211 Manual winders. Winding buttons. Keys.
 Pinions. Cranked handles. Ratchet wheels
 etc.
 .212 Automatic winders, self-winding devices.
 Oscillating weights etc.
 .22 Electric devices. Electromagnet, electric
 motor etc.
 .23 Thermodynamic devices, e.g. bimetallic
 devices
 .24 Optical devices. Photoelectric cells, rectifiers
 etc.
 .032 **Regulators, governors, especially**
 oscillators and escapements
 .1 Periodic regulators
 .11 Harmonic oscillators
 .111 Gravitative oscillators, e.g. pendulum
 .112 Elastic oscillators. Balance wheel and spring,
 tuning fork, quartz crystal, magnetostriction
 etc.
 .113 Electromagnetic oscillators. Oscillatory
 circuit, cavity resonator etc.

681.11.032.114 Molecular or atomic oscillators. Masers etc.
 .12 Relaxation, time-base oscillators, e.g.
 mechanical, electromagnetic
 .13 Rotary regulators. Conical pendulum.
 Centrifugal governor. Flywheel. Fly etc.
 .2 Non-periodic regulators. Water clocks.
 Clepsydrae. Sand glasses etc.
 .3 Energy distributors, e.g. escapements
 .31 Mechanical energy distributors, e.g. lever,
 anchor escapement
 .32 Non-mechanical energy distributors, e.g.
 electromagnetic, magnetomechanical,
 piezoelectric
 .4 Timing devices. Index regulators. Trimming
 condensers etc.
 .033 **Indicating devices**
 .1 Optical, visual indicating devices
 .12 Dials, visual displays (fixed or moving). Discs.
 Rollers. Rotating bands. Leaves, tickets or
 tablets. Jumping figures
 .13 Pointers (arrows, fingers, hands)
 .2 Acoustic, auditory indicating devices. Bells.
 Chimes. Talking clock devices (recorded
 sound). Gongs. Hammers
 —681.11.034.22 Striking mechanisms
 681.11.034.5 Transmission devices for
 special purposes, e.g. for
 engaging, disengaging the
 alarm mechanism
 .3 Tactile indicating devices. Blind man's
 watches etc.
 .034 **Transmission devices**
 .1 Clock and watch trains
 .2 Wheel mechanisms. Wheels, arbors, pinions
 etc.
 .21 Going mechanisms, movements
 .22 Striking mechanisms. Chimes. Gong, alarm
 mechanisms etc.
 .3 Motion works. Cannon pinions. Minute
 wheels. Ratchets and clicks
 .4 Hand setting mechanisms
 .5 Transmission devices for special purposes,
 e.g. for engaging, disengaging the alarm
 mechanism, for calendar, date displays etc.
 .6 Devices for transmitting, amplifying,
 converting impulses in timers, chronographs
 .7 Devices for transmitting time signals over a
 distance
 .035 **Bodies. Frames. Frameworks**
 .1 Plates. Bridge and balance cocks
 .2 Bearings. Spring, magnetic bearings.
 Bouchons. Jewels. Ball bearings etc.
 Further particulars may be denoted by the
 special auxiliaries listed under 62, e.g.
 681.11.035.2—752 Shock absorbers
 .3 Assembly devices. Studs. Screws. Plates.
 Springs. Snails etc.
 For lubrication — 621.89

681.11.036	Cases and accessories <i>For fixing, fastening use 681.11-218</i> <i>For protective devices use 681.11-75</i> <i>For wristbands, bracelets and closures — 671.121.3</i>				Emergency power supply <i>Further particulars may be denoted by colon combination with the subdivisions of 621.3</i>
.1	Clock cases	681.118			Chronographs. Time control and transmission devices —531.765 Chronographs — Measurement of time
.2	Watch cases				Timing devices. Chronoscopes (stopwatches etc.). Telephone timers. Parking meters etc.
.3	Clock glasses. Watch glasses				—681.175 Time control mechanisms. Stopwatches. Time, date stamps — Registering devices
.4	Outside control devices. Buttons, turning pendants, push pieces etc.	.1			Time control mechanisms. Time switches. Program control clocks. Camera shutter devices for delayed exposures
.5	<i>[cancelled, error in 1972 edition] — 681.11.036.7</i>				Time recording devices. Recording clocks. Time stamps. Telltales (watchmen's control clocks). Other visual-record timers
.7	Decoration, ornament. Figurines etc.				—681.174 Personnel control devices
681.11.05	CLOCKMAKERS' TOOLS. HOROLOGICAL EQUIPMENT AND MACHINERY	.5			Clock-like drive mechanisms, e.g. in recording instruments, barographs (recording barometers)
.054	Machines, machine tools, accessories. Lathes. Jacot tools. Riveting tools. Jewel setting tools etc.	.7			
.057	Measuring, checking, regulating, timing devices <i>Further particulars may be denoted by the special auxiliaries listed under 62, e.g. 681.11.057-758.32 Testing devices for water-tightness</i>	.8			
.1	Watch rate recorders. Watch timers	681.12			RECKONERS OF CONSUMPTION. INDUSTRIAL GAUGES. FLOWMETERS. COUNTERS ETC. <i>The .08 special auxiliaries listed under 53 are also applicable to 681.12 and its subdivisions</i> —531.73 Measurement of volumes — Physics
.2	Devices for simulating conditions of wearing, carrying. Movement simulators				
.058	Hand tools. Escapement files. Burnishers. Tweezers. Clams. Pliers. Tongs. Mainspring punches				
Principal divisions (continued)					
681.111/.118	KINDS OF TIMEKEEPER. CLOCKS, TIMEPIECES, CHRONOMETERS ETC.	681.121			FLUID METERS. MEASURING DEVICES FOR LIQUIDS, GASES, VAPOURS —532.57 Measurement of velocity and quantity rate of fluid flow — Physics
.111	Ancient kinds of timekeeper. Sundials. Water clocks. Clepsydrae. Sand clocks. Sand glasses. Wheel clocks etc.				Fluid measuring vessels Fluid measuring vessels without indicating or recording devices
.113	Non-portable timekeepers				Fluid measuring vessels with indicating or recording devices
.1	House clocks. Wall clocks. Kitchen clocks. Table clocks. Cuckoo clocks. Hall clocks. Pendulum clocks. Longcase clocks (grandfather, grandmother clocks)	.1			Fluid measuring vessels with overflow. Spillways
.17	Alarm clocks —681.11.033.2 Acoustic, auditory indicating devices	.12			Fluid measuring vessels with filling chamber
.3	Exterior clocks. Tower, steeple clocks etc.	.14			Vessels with fixed weir
.9	Special-purpose non-portable timekeepers	.142			Vessels with movable, adjustable weir
.91	Astronomical clocks	.2			Total flow, quantity meters
.92	Chronometers for navigation, e.g. ships' timepieces	.2/7			Piston meters (positive meters) <i>Further particulars may be denoted by the — 12 special auxiliaries listed under 62</i>
.93	Quartz crystal clocks	.2/3			Reciprocating piston meters
.94	Atomic, molecular clocks				Piston meters with shaft pistons
.114	Portable timekeepers (worn on the person). Watches <i>Further particulars may be denoted by the special auxiliaries listed under 62, e.g. 681.114-187.4 Precision watches, chronometers</i>	.2			With single piston
.1	Pocket watches. Fob watches	.22			With multiple piston
.8	Wristwatches <i>For wristbands, bracelets and closures — 671.121.3</i> <i>Further particulars may be denoted by the special auxiliaries listed under 681.11, e.g. 681.114.8.031.212 Self-winding wristwatches</i> .22 Electric wristwatches .033.2 Wristwatches with acoustic devices, with alarms	.222			Piston meters with diaphragm pistons
.9	Other kinds of watch. Ring watches. Brooch watches. Pendent watches	.224			Rotary, oscillating piston meters (semi-positive meters) Cup valve meters
.116	Clock systems. Synchronized clocks. Master clocks. Slave clocks	.24			Screw pump meters
.1	Master clocks	.3			Ring piston meters
.2	Subordinate, slave clocks	.32			Nutating disc meters
.3	Synchronous clocks	.33			Meters with two or more non-serrated pistons. Lemniscate piston meters etc
.9	Accessories for clock systems. Power, current supply. Relays, control devices. Setting, resetting, regulating devices.	.34			Meters with two or more serrated pistons. Star wheel, oval disc meters
		.36			Other rotary piston meters
		.37			Rotary, turbine meters (inferential meters) Meters with flow tangential to the wheel (perpendicular to the axis). Flat vane wheel meters. Paddle wheel meters
		.38			Multiflow meters
		.39			Single flow meters
		.4			Meters with axial flow (parallel to the wheel axis). Helical vane wheel meters. Woltmann sailwheel meters
		.42			Reaction turbine meters
		.422			Tippling, tilting flow meters With rotating measuring chambers
		.424			
		.44			
		.46			
		.5			
		.52			

681.121.522	With free discharge
.524	With restricted discharge
.54	With oscillating measuring chambers
.542	With single measuring chamber
.544	With several measuring chambers
.59	Other tipping flow meters
.7	Flowmeters working on various principles
.72	Compound, combination meters
.74	Partial flow meters (indicating relative proportions of different fluids). Proportion meters
.8	Rate-of-flow meters. Current meters
.83	Rate-of-flow meters working on thermal principles
.832	Calorimetric flowmeters
.833	Heat-exchanger devices, e.g. heated wire meters
.84	Differential head or pressure difference meters
.842	Constriction, throttle devices as a means of measurement. Nozzles. Orifices. Venturi tubes. Venturi sections. Gates
.843	Pressure reading devices. Prandtl, Brabbee, Pitot tubes
.844	Flow resistance in pipes as a means of flow measurement (revolving side plates, elbow pieces, reducer pieces)
.845	Effective head meters (U-tubes with or without floats, bell jars with or without displacement, balances with ring or U-tubes)
.85	Auxiliary and partial flow meters
.852	Auxiliary meters and accessories. Mixing method. Velocity of particles. Pressure-time method
.853	Partial flow meters. Distributing nozzles
.87	Rate-of-flow meters for open channels
.872	Venturi flumes
.873	Overflow structures. Measuring weirs
.88	Discharge meters
.89	Other kinds of rate-of-flow meter or method

681.122	METERS FOR GASES AND VAPOURS
.2	Meters for wet gases
.22	Drum meters
.23	Nutating bell meters
.3	Meters for dry gases
.32	Reciprocating piston meters
.33	Rotating, oscillating piston meters
.34	Rotary, turbine gas meters (with vane wheel or paddle wheel)
.36	Devices for gas meters with flexible walls. Diaphragms. Membranes. Membraneous construction
.9	Other kinds of gas meter

681.123	METERS FOR DRY, POWDERY GRANULAR SUBSTANCES
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681.124	COUNTING, TOTALIZING DEVICES
	<i>Further particulars may be denoted by colon combination, e.g.</i>
	—681.124:677.054 Counting devices on weaving machines

Special auxiliary subdivisions for 681.124

681.124.07	Special features on counting devices
.072	Tens, decimal tripping devices
.076	Zero-setting devices
.077	Automatic release of an operation, e.g. shut-off of machines, cut-out after reaching a specified total
.08	Components
	681.124.08 $\approx$ 53.08
	<i>A brief selection of these subdivisions is given under 681.2.08</i>

Principal divisions (continued)

681.124.1	Counting devices according to the kind of counting mechanism
.11	Index, pointer mechanisms

681.124.12	Drum, roller mechanisms
.13	Disc mechanisms
.16	Combined mechanisms
.2	Counting devices according to the kind of drive mechanism
.21	Mechanically driven counting devices
.23	Electrically driven counting devices
.4	Special purpose counting devices
.41	Counters for individual items, quantities, bales, bundles, piece goods e.g. casks, bags packets, buttons
.42	Counters for freight, transported goods
.43	Counters for turnstiles. Personnel counters
.44	Counters for length measuring and recording apparatus
.45	Counters for printing machines
.46	Counters for doors, stairs, drawers, trunks
.5	Distance counters. Odometers
.52	Mileage counters. Mileometers
.53	Mileage counters driven from the vehicle wheel or drive shaft. Cyclometers
.55	Trip, journey counters (indicating distance travelled without information on direction)
.6	Fare meters. Taximeters
.62	Meters with devices for issuing receipts
.63	Automatic activation of meter
.64	Activation of meter by sitting or entrance obstacle
.67	Special design of indicators
.7	Vehicle monitoring, control devices
.72	With direct drive from the vehicle
.73	Devices incorporating a pendulum

681.125	CALORIMETERS
	—536.6 Measurement of quantity of heat. Calorimetry

681.128	LEVEL, STAGE INDICATORS FOR VESSELS, CONTAINERS
.2	Indicators with gauge glass
.3	Indicators with float
.4	Indicators working on hydrostatic principles
.42	Indicators with immiscible liquids, e.g. water and mercury
.43	Indicators with separating element (membranes, valves)
.5	Indicators working on manometric principles, with air pressure or suction
.52	With closed volume of air
.53	With air supply
.6	Indicators working on electrical principles
.62	Indicators working by measurement of varying resistance
.63	Indicators working by measurement of varying capacitance
.64	Indicators working by measurement of temperature (thermoelectric indicators)
.65	Indicators working by photoelectric means
.66	Indicators working by measurement of varying induction
.7	Indicators with immersed bodies, stationary or moving, e.g. graduated gauging rods, vane wheels
.8	Indicators working by various specialized methods
.82	Indicators working by vibration
.83	Indicators working by weight. Fluid weighing devices
.84	Indicators with magnetic indicating device
.9	Level indicators for dry, powdery, granular substances

681.13 **VENDING MACHINES. SLOT MACHINES. AUTOMATS**

The article distributed or the action performed may be denoted by colon combination e.g.
681.138:656.835 Postage stamp vending machines



Documents

Document Sharing Hub

681.131	COIN SLOT MECHANISMS. MONEY-TAKING APPARATUS IN GENERAL	681.136	SLOT MACHINES FOR AUTOMATIC HIRING
.2	Money insert. Coins. Tokens. Jettons. Notes.	.2	Slot machines for optical instruments, opera glasses etc.
.22	Coin-sorting devices	.3	Slot machines for domestic articles etc.
.25	Coin insert. Slots etc.	.32	Slot machines for pumps, e.g. bicycle pumps
.3	Tokens, jettons and associated mechanisms.	.33	Slot machines for locking devices for bicycles, bicycle shelters
.38	Coin-sorting devices	.34	Slot machines for coat hangers with automatic lock
.4	Coin testers	.35	Slot machines for articles of toilet. Hand towel machines
.5	Coin testers utilizing permanent magnets or electromagnets	.36	Slot machines for chairs, footstools etc.
.6	Return, reject mechanisms for coins	.37	Slot machines for heating curling tongs, cleaning boots, sharpening razor blades etc.
.62	Devices for exhibiting the coin inserted	.38	Slot machines for airing, drying. Warm air machines
.63	Stop and start mechanisms	.5	Slot machines for gymnastic devices, games, amusements
.64	In which the coin itself provides the mechanical force	.51	Slot machines for games of chance
.65	In which the coin switches on the power for the drive mechanism	.512	Slot machines for games based on revolving or spinning elements. 'Wheel of Fortune'.
.66	In which the coin trips or releases the drive mechanism	.513	Fruit machines (one-armed bandits) etc.
.69	In which the coin permits priming or activation of the drive mechanism by hand (e.g. winding)	.52	Slot machines for games combined with vending machines
.7	In which the coin permits tripping or releasing of the drive mechanism by hand	.522	Slot machines for games of skill
.72	Other designs of components for stop and start mechanisms	.523	With special equipment. Bagatelle, pin-ball etc
.73	Devices for simultaneous, multiple or partial action	.525	With balls only
.74	Devices for slot machines taking several coins	.54	681.136.523 $\approx$ 796.3
.8	Devices for simultaneously activating several machines with a single coin	.55	With catching devices, fishing equipment etc.
.82	Devices for activating a single part or function of one or several machines	.56	Slot machines for gymnastics equipment etc.
.83	Slot machine accessories	.6	Slot machines for testing lung power
.82	Receipt-issuing, change-giving mechanisms	.62	Slot machines for strength testing (of persons)
.83	Specialized mechanisms, e.g. signalling, indicating devices (when machine is empty etc.)	.63	Slot machines for weighing
.9	Other components or devices	.7	Not issuing printed tickets
.92	Coin receptacles	.8	Issuing printed tickets
681.132	SLOT MACHINES FOR DISTRIBUTING OBJECTS TRANSFORMED BY THE MACHINE ITSELF, E.G. EMBOSSED METAL LABELS	.9	Slot machines for special-purpose measuring devices, e.g. for measuring height, keenness of vision
681.133	SLOT MACHINES FOR PRODUCING PHOTOGRAPHS	.92	Slot machines for electrical or X-ray machines
681.134	SLOT MACHINES FOR PRESENTING PICTURES	681.138	SLOT MACHINES FOR SELLING OBJECTS. DISPENSING, VENDING MACHINES
.2	For moving, animated pictures. Kinoscope.	.2	—64.024.36 Automats — Catering
.8	Mutoscope. 'What the butler saw' machines	.3	Slot machines for individual items from a large container or hopper
681.135	SLOT MACHINES FOR TELEVISION, RADIO AND GRAMOPHONES	.32	Slot machines for individual items from separate compartments
—681.829.2	Electromechanical musical instruments activated by coin insertion	.34	From compartments in a fixed container or cabinet
681.84	Sound recording and reproduction,	.4	From compartments in a rotating drum
especially		.5	Slot machines for individual items on a conveyor belt, chain or coil
681.845.5	Juke-boxes, nickelodeons	.52	Slot machines for individual items arranged in stacks
.2	Television slot machines	.522	In a simple vertical stack
.3	Radio slot machines	.524	Of actual goods
.5	Gramophone, phonograph slot machines.	.53	Of containers, beakers for drinks etc
.52	Jukeboxes, nickelodeons (considered as coin slot mechanisms)	.54	In a criss-cross vertical stack
.53	With limited playing time	.56	In several vertical stacks
.54	With independent return of the pick-up arm to the player	.6	In horizontal, oblique or oscillating stacks
.55	With device to switch off the motor if the pick-up arm is set back or if the automatic return of the pick-up arm is obstructed	.62	Slot machines for solids of particular form
	With electrical control of the pick-up arm available to the player	.63	For individual flat sheet articles, e.g. postcards
		.64	For powders, granular substances
		.69	For articles cut from strips or stamped from sheets as required
		.7	For other goods of specialized form
		.72	Slot machines for liquids. Slot machines for drinks
		.73	For water supply — 681.138.82
		.736	Without measuring chamber
		.74	With measuring chamber
			For fuels, e.g. self-sealing petrol pumps
			Perfumers' dispensers. Sprays, atomizers

681.138.8	Slot meters for gas, water, electricity <i>For the measuring mechanism — 681.12</i>	681.171.087.4	Mechanisms for issuing bills or receipts Billing and registering devices with mechanism for totalling and printing out. Invoicing mechanisms on consumption meters
.82	For household water and gas supply, with valve control		
.83	For household water and gas supply, with transmission control	.088	Cash drawers. Money compartments. Coin hoppers. Locking release mechanisms for drawers. Mechanisms for the control of cash drawer operation
.87	For electricity, with tariff adjusting device (for altering amount of power given for a particular price)		
.03	Tariffs 681.138.87.03 $\approx$ 658.8.03	Principal divisions (continued)	
.873	With warning signs	681.171.1	Cash registers with parallel keys or levers and flat keyboard
.874	With electrical time switch (e.g. for lighting staircases)	.2	Cash registers with radial keys and cylindrical keyboard
681.139	VARIOUS OTHER KINDS OF SLOT MACHINE	.3	Cash registers with adjustable levers, pointers, slide bars or discs
.1	Coin-operated typewriters	.4	Cash registers with counting beads (billes competeuses, Zählkugel)
.22	Coin-operated printing and franking mechanisms for post <i>For franking machines as such — 681.173.7</i>	.5	Cash registers with electric indicating, recording and drive mechanisms
.24	Coin-operated printing mechanisms for special objects, e.g. visiting cards, pencils, nameplates	.6	Cash registers with activation of the recording mechanism by the insertion of money
.26	Coin-operated printing mechanisms for issuing travel tickets —681.173 Ticket machines. Cancelling machines. Franking machines	.7	Cash registers with device for exhibiting coins or notes inserted before channelling them into the money holder
.3	Coin-operated locks, lockers, doors, turnstiles	.72	With chains or belts
.32	Coin-operated locks and (left luggage) lockers	.73	With fan-shaped drums
.34	Coin-operated doors	.74	With traps or slides
.36	Coin-operated turnstiles	.8	Cash registers with provision for stamps or banknotes (other than machines included at 681.171.7)
.4	Coin-operated devices for receiving advertisements for newspapers, selling insurance, issuing news etc.	.9	Other kinds of cash register
.42	Insurance vending machines	.91	With paper strip for handwritten entries
.44	News bulletin machines	681.172	MONEY CHANGING, SORTING, DISTRIBUTING, COUNTING MACHINES
.46	Machines for giving (travel) directions	.2	Machines for issuing, distributing, paying out money
.5	Coin-operated calendars, money-boxes, clocks. Money-boxes with calendars, with devices for indicating contents, for issuing receipts etc.	.21	Machines for issuing, distributing, paying out money in general
.52	Coin-operated clocks. Money-box clocks	.22	Change-giving mechanisms for repaying the difference between the required and inserted amounts
.53	Coin-operated alarm clocks, waking devices	.23	Change-giving mechanisms for exchanging money inserted for the equivalent in smaller coin
.54	Coin-operated calendars, money-box calendars, money-boxes with date display	.26	Mechanisms for splitting a sum of money into separate denominations, for coin sorting (as auxiliary mechanisms)
.55	Money-boxes with coin-operated devices for indicating contents, issuing receipts etc.	.3	Money sorting machines
681.17	REGISTERING, RECORDING AND CONTROL DEVICES —681.3 Data processing equipment	.32	With sieves
681.171	MECHANICAL TILLS WITH RECORDING MECHANISMS. CASH REGISTERS	.33	With grading channels, lengthwise and crosswise inclined
Special auxiliary subdivisions for 681.171		.34	With helical grading chute
681.171.07	Cash register mechanisms	.35	With slide carriers over graduated apertures
.072	Tens, decimal tripping devices	.36	With sorting mechanism controlled by the weight of the coin
.073	Gearing for subtraction mechanism	.4	Coin tubes, sleeves. Automatic cash containers
.074	Gearing for multiplication and division mechanisms	.5	Money counting and wrapping devices
.075	Gearing for other mathematical operations	.52	Mechanisms for counting coins. Mechanisms for parcelling coins into tubes. Combined mechanisms for counting and wrapping
.2	Zero-setting devices	.53	Cassettes for money counting.
.4	Zero-setting or resetting devices for the totalizing parts	.55	Compartmented cash boxes
.077	Other accumulating or totalizing elements	.58	Counting boards
.2	Rotary counting mechanisms	.6	Devices for counting notes, paper money
.3	Slide-tripping mechanisms		Money testing, verifying machines
.078	Printing mechanisms	681.173	TICKET MACHINES. CANCELLING MACHINES. FRANKING MACHINES
.079	Other accessories	.2	Ticket printing and issuing apparatus
.08	Individual components	.22	Perforating, stamping, recording and issuing mechanisms for travel tickets
.082	Operating parts with keys, hand levers, touch bars, cash drawers, key locks. Locking and release mechanisms for the keys	.222	With stack of blank tickets
.085	Indicating, signal mechanisms. Shutters.	.223	With continuous ticket strip
	Display	.23	Mechanisms for printing and issuing other kinds of ticket
.087	Registering, recording, printing mechanisms.		

681.173.24	Devices for counting tickets, including travel tickets	681.175.3	Automatic starters, starting gates, traps (for horse, dog races)
.25	Mechanisms for issuing and checking betting tickets	.4	Arrival time recorders for racing pigeons
.26	Mechanisms for stamping, issuing and checking tickets	.5	Time and date stamps in general
.28	Recording mechanisms for totalling the ticket issue figures from several wickets. Machines for printing, issuing, checking etc. several different kinds of ticket and automatically totalling the takings	.9	Other kinds of time control mechanism
.4	Devices for cancelling travel and other tickets. Punches and perforating devices etc.	681.176	MACHINES FOR LOTTERIES, GAMES OF CHANCE, BETTING ETC. SCORE, STAKE, BALLOT COUNTING DEVICES
.5	Automatic (wall-mounted) entrance ticket machines and devices for issuing luggage checks, serial numbers etc.	.2	Billiards control clocks, timers
.6	Fare receiving and checking devices (for public transport etc.)	.3	<i>For games equipment aspects — 685.878</i>
.7	Postal franking machines	.4	Control clocks, timers for other games
	—656.835.33 Prepayment by means of franking machines — Postal services and administration	.5	Ballot counting and control devices. Ballot boxes. Voting machines
	681.139.22 Coin-operated printing and franking mechanisms for post	.6	Devices for mechanically drawing lottery, raffle tickets etc. Devices for mixing, tumbling, separating of slips or balls for gaming or voting (ballot boxes in the strict sense). Random selection devices for personnel control
.72	For letters, cards etc.	681.178	CONTROL DEVICES FOR ACTIVATING MACHINES AND APPARATUS OF VARIOUS KINDS
.74	For parcels, packets	.1	Devices for activating machinery in general
.9	Other kinds of checking and control machines	.3	Devices for conveying mine trucks
.92	Revenue stamp machines	.4	Devices for checking the occupation of seats
681.174	PERSONNEL CONTROL DEVICES. TIME OR CHECK CLOCKS. CLOCKING-IN DEVICES	.5	Devices for checking participants at functions. Identification devices
	—681.118.7 Time recording devices — Horology	.6	Devices for reading, checking credit cards, cloakroom tickets or checks etc.
.2	With devices for sorting the clock cards after insertion	.9	Various other kinds of control device
.3	With devices in which the time stamp is activated by the insertion of the card	681.18	SORTING MACHINES. CIPHERING MACHINES. DICIPHERING MACHINES
.4	With time-stamping bands or discs (geared to a time-keeping mechanism) for recording the time against a handwritten, punched or stamped personal code or mark	.182	—681.325.67 Sorting and selection devices — Data processing
.5	With printing or perforating device (geared to a time-keeping mechanism) for marking the time on pre-loaded control strip or cards	.183	Sorting devices for grading according to weight
.6	Various other kinds of personnel timing device	.184	Sorting devices for sorting according to various physical characteristics
.7	Control apparatus for rounds or circuits	.185	681.183 $\approx$ 53
.72	Watchmen's control clocks, telltales	.187	Sorting devices for sorting according to shape
.74	Electric control devices for watchmen's rounds	.188	681.184 $\approx$ 62—4
681.175	TIME CONTROL MECHANISMS. STOPWATCHES. TIME, DATE STAMPS	.5	Sorting devices for sorting according to other criteria
	<i>For horological aspects — 681.118.1, 681.118.5</i>	.189	Mail sorting machines
.2	Race timing devices. Chronoscopes, stop-watches		—656.851 Preparation and handling of mail for dispatch (sorting etc.)
			Cryptographic devices. Ciphering machines.
			Deciphering machines
			Line printers
			Other kinds of sorting device

681.2 INSTRUMENT MAKING IN GENERAL. INSTRUMENTATION. MEASURING INSTRUMENTS AND THEIR MANUFACTURE. BALANCES. WEIGHING DEVICES

Special auxiliary subdivisions for 681.2

681.2—2 Fixed and moving parts of instruments

681.2—2 $\approx$ 62—2

—5 Operation, control and regulation

681.2—5 $\approx$ 62—5

—7 Servicing, maintenance, assembly, protection

681.2—7 $\approx$ 62—7, e.g.

681.2—71 Cooling devices

—72 Lubrication devices

—74 Location from the point of view of protection

—75 Deformation. Protective devices

—76 Protection of parts, components

—77 Devices for facilitating assembly, cleaning, repair

—78 Safety devices for personnel and the public

—79 Measuring devices, control devices

681.2.08	GENERAL PRINCIPLES AND THEORY OF MEASUREMENT AND OF THE DESIGN OF INSTRUMENTS	681.266	SPRING BALANCES
681.2.08	681.2.08 $\approx$ 53.08, e.g.	681.267	OTHER KINDS OF NON-AUTOMATIC WEIGHING MECHANISM
681.2.081	Units. Constants	.1	Inclination balances
.082	Principles of measurement. Use of mechanical, optical, electrical phenomena etc.	.15	With roller or cylinder indicators
.083	Methods of measurement. Direct, compensation, differential etc.	.2	Balances with arrangements for altering the weighing capacity by the addition of auxiliary weights
.084	Primary components. Construction	.3	Platform balances
.085	Indicating devices. Scales. Other components	.4	Torsion balances
.6	Casings	.5	Hydraulic, pneumatic balances
—62—758	Boxes, cases etc.	.7	Electrically controlled balances
621.3.085.6	Casings — Electrical engineering	.72	With electric control of the balancing action and indicator
.087	Observation. Recording	.74	With balancing action performed directly by electric devices
.088	Correction of errors	681.268	AUTOMATIC WEIGHING MECHANISMS
.089	Other questions. Calibration, testing	.2	Automatic weighing machines with continuous feed (for moving substances)
Principal divisions (continued)		.22	With vertically moving scale or pan
681.26	WEIGHING MACHINES. BALANCES	.23	With tipping scale or pan (for granular, liquid substances etc.)
Special auxiliary subdivisions for 681.26		.25	With oscillating scale or pan, divided into two compartments; with oscillating partition or divider in the scale
681.26.06	Loads and associated devices	.26	With revolving or drum scale with several compartments
.061	Loads	.27	With a single-compartment scale designed as a rotary vessel
.069	Counting, control, signalling and recording devices for travelling loads	.4	Automatic weighing machines for filling containers
.07	Lifting, suspension apparatus. Weights	.42	For filling boxes
.072	Parallel guidance, design of scales etc.	.44	For filling bags or sacks
.4	Parallel guidance	.9	Other automatic weighing machines
.5	Design of scales or pans	681.269	OTHER KINDS OF WEIGHING MECHANISM, ACCORDING TO USE OR PURPOSE
.7	Design of balance or arms		<i>For coin-slot weighing machines — 681.136.6</i>
.074	Weights	.1	Letter balances
.077	Various other devices	.15	Pocket letter balances
.2	Testing, adjusting, trueing devices	.2	Weighing machines for bags or sacks
.4	Suspension, securing devices. Stirrups	.4	Weighing machines for articles of particular form, for paper, wool, yarn, wire etc.
.5	Securing devices for vehicles		681.269.4 $\approx$ 62—4
.7	Levelling, retaining devices for use when the weighing mechanism is standing on an incline. Adjustable feet etc.	.6	Weighing devices for mechanical handling, transport apparatus, e.g. conveyor belts, bucket elevators, aerial ropeways or cableways
.079	Other devices for weighing machines	.7	Weighing devices for hoisting or lifting tackle
.6	Pictorial or auditory announcing devices in weighing machines	.8	Pricing and weighing machines. Devices which indicate both weight and price of goods. Retail, shop scales
.087	Indicating and printing mechanisms	.82	With oscillating indicator or scale
Principal divisions (continued)		.83	With calculating mechanism
681.261	BEAM BALANCES	.9	Other weighing mechanisms
.1	Simple beam balances	.91	Weighing mechanisms for sorting articles according to weight
.2	Precision balances. Laboratory balances. Chemical, physical balances	.92	Weighing mechanisms for counting articles of equal weight
681.262	WEIGHING LEVERS WITH SLIDING POISE OR JOCKEY WEIGHT. STEELYARDS. BISMARS	.93	Weighing mechanisms for mixing different substances in prescribed proportions
.1	Simple steelyards. Roman steelyards	.94	Weighing mechanisms for persons
.3	Steelyards with automatic transport of the jockey weight	.95	Weighing mechanisms on various portable tools and devices
681.263	PLATFORM BALANCES WITH ROBERVAL'S LINKAGE OR SIMILAR COMPENSATION DEVICES	.96	Weighing mechanisms on static containers, furniture, trunks etc.
681.264	COMPOUND-LEVER PLATFORM SCALES (FOR LARGE COMMERCIAL LOADS). SO-CALLED WEIGHBRIDGES	.97	Weighing mechanisms for liquids, gases, paste etc.
.1	Simple decimal scales	.99	Weighing mechanisms for other purposes
.2	Mobile weighbridges		
.3	Rail scales. Railway weighbridges		
.34	Devices concerned with driving on to the platform. Retainers. Shock absorbers, buffers		
.4	Single wheel scales (for measuring the weight on individual wheels of a vehicle)		