

Symbol	Typ	Titel
<b>B</b>	<b>Sektion</b>	<b>SECTION B — PERFORMING OPERATIONS; TRANSPORTING</b>
<b>B23</b>	<b>Klasse</b>	<b>MACHINE TOOLS; METAL-WORKING NOT OTHERWISE PROVIDED FOR ( punching, perforating, making articles by processing sheet metal, tubes, or profiles B21D; wire-working B21F; making pins, needles, or nails B21G; making chains B21L; grinding B24)</b>
<b>B23Q</b>	<b>Unterklasse</b>	<b>DETAILS, COMPONENTS, OR ACCESSORIES FOR MACHINE TOOLS, e.g. ARRANGEMENTS FOR COPYING OR CONTROLLING (tools of the kind used in lathes or boring machines B23B 27/00); MACHINE TOOLS IN GENERAL, CHARACTERISED BY THE CONSTRUCTION OF PARTICULAR DETAILS OR COMPONENTS; COMBINATIONS OR ASSOCIATIONS OF METAL-WORKING MACHINES, NOT DIRECTED TO A PARTICULAR RESULT</b>
<b>B23Q 1/00</b>	<b>Hauptgruppe</b>	<b>Members which are comprised in the general build-up of a form of machine, particularly relatively large fixed members (B23Q 37/00 takes precedence)</b>
B23Q 1/01	1-Punkt Untergruppe	. Frames, beds, pillars or like members; Arrangement of ways [6]
B23Q 1/03	1-Punkt Untergruppe	. Stationary work or tool supports (B23Q 1/70 takes precedence; auxiliary tables B23Q 1/74; tailstocks B23B 23/00) [6]
B23Q 1/25	1-Punkt Untergruppe	. Movable or adjustable work or tool supports [6]
B23Q 1/26	2-Punkt Untergruppe	. . characterised by constructional features relating to the co-operation of relatively movable members; Means for preventing relative movement of such members [6]
B23Q 1/28	3-Punkt Untergruppe	. . . Means for securing sliding members in any desired position [6]
B23Q 1/30	3-Punkt Untergruppe	. . . controlled in conjunction with the feed mechanism [6]
B23Q 1/32	3-Punkt Untergruppe	. . . Relative movement obtained by co-operating spherical surfaces, e.g. ball-and-socket joints [6]
B23Q 1/34	3-Punkt Untergruppe	. . . Relative movement obtained by use of deformable elements, e.g. piezo-electric, magnetostrictive, elastic or thermally-dilatatable elements (sensitive elements capable of producing movement or displacement for purposes not limited to measurement G12B 1/00) [6]
B23Q 1/36	4-Punkt Untergruppe	. . . . Springs [6]
B23Q 1/38	3-Punkt Untergruppe	. . . using fluid bearings or fluid cushion supports [6]
B23Q 1/40	3-Punkt Untergruppe	. . . using ball, roller or wheel arrangements [6]
B23Q 1/42	3-Punkt Untergruppe	. . . using T-, V-, dovetail-section or like guides (B23Q 1/40 takes precedence) [6]
B23Q 1/44	2-Punkt Untergruppe	. . using particular mechanisms (B23Q 1/26 takes precedence) [6]
B23Q 1/46	3-Punkt Untergruppe	. . . with screw pairs [6]
B23Q 1/48	3-Punkt Untergruppe	. . . with sliding pairs and rotating pairs (B23Q 1/46 takes precedence) [6]
B23Q 1/50	3-Punkt Untergruppe	. . . with rotating pairs only [6]
B23Q 1/52	4-Punkt Untergruppe	. . . . a single rotating pair [6]
B23Q 1/54	4-Punkt Untergruppe	. . . . two rotating pairs only [6]
B23Q 1/56	3-Punkt Untergruppe	. . . with sliding pairs only [6]
B23Q 1/58	4-Punkt Untergruppe	. . . . a single sliding pair [6]
B23Q 1/60	4-Punkt Untergruppe	. . . . two sliding pairs only [6]

Symbol	Typ	Titel
B23Q 1/62	5-Punkt Untergruppe	. . . . with perpendicular axes, e.g. cross-slides [6]
B23Q 1/64	2-Punkt Untergruppe	. . characterised by the purpose of the movement (indexing equipment B23Q 16/02) [6]
B23Q 1/66	3-Punkt Untergruppe	. . . Work-tables interchangeably movable into operating positions [6]
B23Q 1/68	3-Punkt Untergruppe	. . . for withdrawing tool or work during reverse movement [6]
B23Q 1/70	1-Punkt Untergruppe	. Stationary or movable members for carrying working-spindles for attachment of tools or work (headstocks or the like, working-spindle supports B23B 19/00; working-spindles B23B 19/02) [6]
B23Q 1/72	1-Punkt Untergruppe	. Auxiliary arrangements; Interconnections between auxiliary tables and movable machine elements [6]
B23Q 1/74	2-Punkt Untergruppe	. . Auxiliary tables [6]
B23Q 1/76	2-Punkt Untergruppe	. . Steadies; Rests [6]
<b>B23Q 3/00</b>	<b>Hauptgruppe</b>	<b>Devices holding, supporting, or positioning, work or tools, of a kind normally removable from the machine (work-tables or other parts, e.g. faceplates, normally not incorporating means for securing work B23Q 1/00; automatic position control B23Q 15/00; rotary tool heads for turning-machines B23B 3/24, B23B 3/26; non-driven tool holders B23B 29/00; general features of turrets B23B 29/24; tools or bench devices for fastening, connecting, disengaging or holding B25B)</b>
B23Q 3/02	1-Punkt Untergruppe	. for mounting on a work-table, tool-slide, or analogous part (B23Q 3/15 takes precedence)
B23Q 3/04	2-Punkt Untergruppe	. . adjustable in inclination
B23Q 3/06	2-Punkt Untergruppe	. . Work-clamping means
B23Q 3/08	3-Punkt Untergruppe	. . . other than mechanically-actuated
B23Q 3/10	2-Punkt Untergruppe	. . Auxiliary devices, e.g. bolsters, extension members
B23Q 3/12	1-Punkt Untergruppe	. for securing to a spindle in general (B23Q 3/152 takes precedence; chucks B23B 31/02)
B23Q 3/14	2-Punkt Untergruppe	. . Mandrels in general (expansion mandrels B23B 31/40)
B23Q 3/15	1-Punkt Untergruppe	. Devices for holding work using magnetic or electric force acting directly on the work
B23Q 3/152	2-Punkt Untergruppe	. . Rotary devices
B23Q 3/154	2-Punkt Untergruppe	. . Stationary devices
B23Q 3/155	1-Punkt Untergruppe	. Arrangements for automatic insertion or removal of tools
B23Q 3/157	2-Punkt Untergruppe	. . of rotary tools
B23Q 3/16	1-Punkt Untergruppe	. controlled in conjunction with the operation of the tool
B23Q 3/18	1-Punkt Untergruppe	. for positioning only
<b>B23Q 5/00</b>	<b>Hauptgruppe</b>	<b>Driving or feeding mechanisms; Control arrangements therefor (automatic control B23Q 15/00; copying B23Q 33/00, B23Q 35/00; specially adapted for boring or drilling machines B23B 39/10, B23B 47/02)</b>
B23Q 5/02	1-Punkt Untergruppe	. Driving main working members
B23Q 5/027	2-Punkt Untergruppe	. . reciprocating members [2]
B23Q 5/033	3-Punkt Untergruppe	. . . driven essentially by fluid pressure [2]
B23Q 5/04	2-Punkt Untergruppe	. . rotary shafts, e.g. working-spindles
B23Q 5/06	3-Punkt Untergruppe	. . . driven essentially by fluid pressure or pneumatic power

Symbol	Typ	Titel
B23Q 5/08	4-Punkt Untergruppe	. . . . electrically controlled
B23Q 5/10	3-Punkt Untergruppe	. . . driven essentially by electrical means
B23Q 5/12	3-Punkt Untergruppe	. . . Mechanical drives with means for varying the speed ratio
B23Q 5/14	4-Punkt Untergruppe	. . . . step-by-step
B23Q 5/16	4-Punkt Untergruppe	. . . . infinitely-variable
B23Q 5/18	4-Punkt Untergruppe	. . . . Devices for preselecting speed of working-spindle
B23Q 5/20	3-Punkt Untergruppe	. . . Adjusting or stopping working-spindles in a predetermined position
B23Q 5/22	1-Punkt Untergruppe	. Feeding members carrying tools or work
B23Q 5/26	2-Punkt Untergruppe	. . Fluid-pressure drives [3]
B23Q 5/28	2-Punkt Untergruppe	. . Electric drives [3]
B23Q 5/32	2-Punkt Untergruppe	. . Feeding working-spindles (feeding working-spindle supports B23Q 5/34) [3]
B23Q 5/34	2-Punkt Untergruppe	. . Feeding other members supporting tools or work, e.g. saddles, tool-slides, through mechanical transmission [3]
B23Q 5/36	3-Punkt Untergruppe	. . . in which a servomotor forms an essential element [3]
B23Q 5/38	3-Punkt Untergruppe	. . . feeding continuously [3]
B23Q 5/40	4-Punkt Untergruppe	. . . . by feed shaft, e.g. lead screw [3]
B23Q 5/42	5-Punkt Untergruppe	. . . . . Mechanism associated with headstock [3]
B23Q 5/44	5-Punkt Untergruppe	. . . . . Mechanism associated with the moving member [3]
B23Q 5/46	4-Punkt Untergruppe	. . . . with variable speed ratio [3]
B23Q 5/48	5-Punkt Untergruppe	. . . . . by use of toothed gears [3]
B23Q 5/50	3-Punkt Untergruppe	. . . feeding step by step [3]
B23Q 5/52	2-Punkt Untergruppe	. . Limiting feed movement
B23Q 5/54	1-Punkt Untergruppe	. Arrangements or details not restricted to group B23Q 5/02 or group B23Q 5/22 respectively
B23Q 5/56	2-Punkt Untergruppe	. . Preventing backlash
B23Q 5/58	2-Punkt Untergruppe	. . Safety devices
<b>B23Q 7/00</b>	<b>Hauptgruppe</b>	<b>Arrangements for handling work specially combined with or arranged in, or specially adapted for use in connection with, machine tools, e.g. for conveying, loading, positioning, discharging, sorting (incorporated in working-spindles B23B 13/00, B23B 19/02; for automatic or semi-automatic turning machines B23B 15/00) [2]</b>
B23Q 7/02	1-Punkt Untergruppe	. by means of drums or rotating tables or discs
B23Q 7/03	1-Punkt Untergruppe	. by means of endless chain conveyers (B23Q 7/16 takes precedence) [2]
B23Q 7/04	1-Punkt Untergruppe	. by means of grippers
B23Q 7/05	1-Punkt Untergruppe	. by means of roller-ways (B23Q 7/16 takes precedence) [2]
B23Q 7/06	1-Punkt Untergruppe	. by means of pushers

Symbol	Typ	Titel
B23Q 7/08	1-Punkt Untergruppe	. by means of slides or chutes
B23Q 7/10	1-Punkt Untergruppe	. by means of magazines
B23Q 7/12	1-Punkt Untergruppe	. Sorting arrangements
B23Q 7/14	1-Punkt Untergruppe	. co-ordinated in production lines
B23Q 7/16	1-Punkt Untergruppe	. Loading work on to conveyers; Arranging work on conveyers, e.g. varying spacing between individual workpieces [2]
B23Q 7/18	2-Punkt Untergruppe	. . Orienting work on conveyers [2]
<b>B23Q 9/00</b>	<b>Hauptgruppe</b>	<b>Arrangements for supporting or guiding portable metal-working machines or apparatus (for tapping pipes B23B 41/08; specially designed for drilling B23B 45/14)</b>
B23Q 9/02	1-Punkt Untergruppe	. for securing machines or apparatus to workpieces, or other parts, of particular shape, e.g. to beams of particular cross-section
		<b><u>Accessories</u></b>
<b>B23Q 11/00</b>	<b>Hauptgruppe</b>	<b>Accessories fitted to machine tools for keeping tools or parts of the machine in good working condition or for cooling work; Safety devices specially combined with or arranged in, or specially adapted for use in connection with, machine tools (in respect of boring or drilling machines B23B 47/24, B23B 47/32 take precedence; safety devices in general F16P)</b>
B23Q 11/02	1-Punkt Untergruppe	. Devices for removing scrap from the cutting teeth of circular cutters
B23Q 11/04	1-Punkt Untergruppe	. Arrangements preventing overload of tools, e.g. restricting load
B23Q 11/06	1-Punkt Untergruppe	. Safety devices for circular cutters
B23Q 11/08	1-Punkt Untergruppe	. Protective coverings for parts of machine tools; Splash guards
<i>B23Q 11/10</i>	<i>1-Punkt Untergruppe</i>	<i>. Arrangements for cooling or lubricating tools or work ( incorporated in tools, <u>see</u> the relevant subclass for the tool ) [1, 2006.01]</i>
<i>B23Q 11/12</i>	<i>1-Punkt Untergruppe</i>	<i>. Arrangements for cooling or lubricating parts of the machine ( B23Q 11/14 takes precedence ) [1, 2006.01]</i>
<i>B23Q 11/14</i>	<i>1-Punkt Untergruppe</i>	<i>. Methods or arrangements for maintaining a constant temperature in parts of machine tools [1, 2006.01]</i>
<b>B23Q 13/00</b>	<b>Hauptgruppe</b>	<b>Equipment for use with tools or cutters when not in operation, e.g. protectors for storage</b> <b><u>Measuring; Indicating; Controlling [3]</u></b>
<b>B23Q 15/00</b>	<b>Hauptgruppe</b>	<b>Automatic control or regulation of feed movement, cutting velocity or position of tool or work [3]</b>
B23Q 15/007	1-Punkt Untergruppe	. while the tool acts upon the workpiece [3]
B23Q 15/013	2-Punkt Untergruppe	. . Control or regulation of feed movement (B23Q 15/12 takes precedence) [3]
B23Q 15/02	3-Punkt Untergruppe	. . . according to the instantaneous size and the required size of the workpiece acted upon (B23Q 15/06 takes precedence) [3]
B23Q 15/04	3-Punkt Untergruppe	. . . according to the final size of the previously machined workpiece (B23Q 15/06 takes precedence) [3]
B23Q 15/06	3-Punkt Untergruppe	. . . according to measuring results produced by two or more gauging methods using different measuring principles, e.g. by both optical and mechanical gauging [3]
B23Q 15/08	2-Punkt Untergruppe	. . Control or regulation of cutting velocity (B23Q 15/12 takes precedence) [3]
B23Q 15/10	3-Punkt Untergruppe	. . . to maintain constant cutting velocity between tool and workpiece [3]
B23Q 15/12	2-Punkt Untergruppe	. . Adaptive control, i.e. adjusting itself to have a performance which is optimum according to a preassigned criterion [3]

Symbol	Typ	Titel
B23Q 15/14	2-Punkt Untergruppe	. . Control or regulation of the orientation of the tool with respect to the work [3]
B23Q 15/16	2-Punkt Untergruppe	. . Compensation for wear of the tool [3]
B23Q 15/18	2-Punkt Untergruppe	. . Compensation of tool-deflection due to temperature or force [3]
B23Q 15/20	1-Punkt Untergruppe	. before or after the tool acts upon the workpiece [3]
B23Q 15/22	2-Punkt Untergruppe	. . Control or regulation of position of tool or workpiece [3]
B23Q 15/24	3-Punkt Untergruppe	. . . of linear position [3]
B23Q 15/26	3-Punkt Untergruppe	. . . of angular position [3]
B23Q 15/28	2-Punkt Untergruppe	. . with compensation for tool wear [3]
<b>B23Q 16/00</b>	<b>Hauptgruppe</b>	<b>Equipment for precise positioning of tool or work into particular locations not otherwise provided for (automatic control or regulation of position of tool or work B23Q 15/22; arrangements for indicating or measuring existing or desired position of tool or work B23Q 17/22) [4]</b>
B23Q 16/02	1-Punkt Untergruppe	. Indexing equipment (specially adapted for gear-cutting machines B23F 23/08) [4]
B23Q 16/04	2-Punkt Untergruppe	. . having intermediate members, e.g. pawls, for locking the relatively movable parts in the indexed position [4]
B23Q 16/06	3-Punkt Untergruppe	. . . Rotary indexing [4]
B23Q 16/08	2-Punkt Untergruppe	. . having means for clamping the relatively movable parts together in the indexed position [4]
B23Q 16/10	3-Punkt Untergruppe	. . . Rotary indexing [4]
B23Q 16/12	2-Punkt Untergruppe	. . using optics [4]
<b>B23Q 17/00</b>	<b>Hauptgruppe</b>	<b>Arrangements for indicating or measuring on machine tools (for automatic control or regulation of feed movement, cutting velocity or position of tool or work B23Q 15/00) [3, 4]</b>
B23Q 17/09	1-Punkt Untergruppe	. for indicating or measuring cutting pressure or cutting-tool condition, e.g. cutting ability, load on tool (arrangements preventing overload of tools B23Q 11/04; devices for indicating failure of drills during boring B23B 49/00) [4]
B23Q 17/10	1-Punkt Untergruppe	. for indicating or measuring cutting speed or number of revolutions
B23Q 17/12	1-Punkt Untergruppe	. for indicating or measuring vibration
B23Q 17/20	1-Punkt Untergruppe	. for indicating or measuring workpiece characteristics, e.g. contour, dimension, hardness [4]
B23Q 17/22	1-Punkt Untergruppe	. for indicating or measuring existing or desired position of tool or work [4]
B23Q 17/24	1-Punkt Untergruppe	. using optics [4]
<b>B23Q 23/00</b>	<b>Hauptgruppe</b>	<b>Arrangements for compensating for irregularities or wear, e.g. of ways, of setting mechanisms (automatic control B23Q 15/00) [3]</b>
<b>B23Q 27/00</b>	<b>Hauptgruppe</b>	<b>Geometrical mechanisms for the production of work of particular shapes, not fully provided for in another subclass</b>
		<b><u>Copying</u></b>
<b>B23Q 33/00</b>	<b>Hauptgruppe</b>	<b>Methods for copying</b>
<b>B23Q 35/00</b>	<b>Hauptgruppe</b>	<b>Control systems or devices for copying directly from a pattern or a master model; Devices for use in copying manually</b>
B23Q 35/02	1-Punkt Untergruppe	. Copying discrete points from the pattern, e.g. for determining the position of holes to be drilled
B23Q 35/04	1-Punkt Untergruppe	. using a feeler or the like travelling along the outline of the pattern, model or drawing; Feelers, patterns, or models therefor

Symbol	Typ	Titel
B23Q 35/06	2-Punkt Untergruppe	. . specially adapted for controlling successive operations, e.g. separate cuts, on a workpiece
B23Q 35/08	2-Punkt Untergruppe	. . Means for transforming movement of the feeler or the like into feed movement of tool or work
B23Q 35/10	3-Punkt Untergruppe	. . . mechanically only
B23Q 35/12	3-Punkt Untergruppe	. . . involving electrical means (programme recording for copying purposes in a separate apparatus G05, G11)
B23Q 35/121	4-Punkt Untergruppe	. . . . using mechanical sensing
B23Q 35/122	5-Punkt Untergruppe	. . . . . the feeler opening or closing electrical contacts
B23Q 35/123	5-Punkt Untergruppe	. . . . . the feeler varying the impedance in a circuit
B23Q 35/124	6-Punkt Untergruppe	. . . . . varying resistance
B23Q 35/125	6-Punkt Untergruppe	. . . . . varying capacitance
B23Q 35/126	6-Punkt Untergruppe	. . . . . varying inductance
B23Q 35/127	4-Punkt Untergruppe	. . . . using non-mechanical sensing
B23Q 35/128	5-Punkt Untergruppe	. . . . . Sensing by using optical means
B23Q 35/129	5-Punkt Untergruppe	. . . . . Sensing by means of electric discharges
B23Q 35/13	5-Punkt Untergruppe	. . . . . Sensing by using magnetic means
B23Q 35/14	4-Punkt Untergruppe	. . . . controlling one or more electromotors
B23Q 35/16	4-Punkt Untergruppe	. . . . controlling fluid motors
B23Q 35/18	3-Punkt Untergruppe	. . . involving fluid means (B23Q 35/16 takes precedence)
B23Q 35/20	3-Punkt Untergruppe	. . . with special means for varying the ratio of reproduction
B23Q 35/22	3-Punkt Untergruppe	. . . specially adapted for compensating for wear of the tool
B23Q 35/24	2-Punkt Untergruppe	. . Feelers; Feeler units
B23Q 35/26	3-Punkt Untergruppe	. . . designed for physical contact with a pattern or a model
B23Q 35/28	4-Punkt Untergruppe	. . . . for control of a mechanical copying system
B23Q 35/30	4-Punkt Untergruppe	. . . . for control of an electrical or electro-hydraulic copying system
B23Q 35/32	5-Punkt Untergruppe	. . . . . in which the feeler makes and breaks an electrical contact or contacts, e.g. with brush-type tracers
B23Q 35/34	5-Punkt Untergruppe	. . . . . in which the feeler varies an electrical characteristic in a circuit, e.g. capacity, frequency
B23Q 35/36	4-Punkt Untergruppe	. . . . for control of a hydraulic or pneumatic copying system
B23Q 35/38	3-Punkt Untergruppe	. . . designed for sensing the pattern, model, or drawing without physical contact (sensing by means of a fluid jet B23Q 35/36)
B23Q 35/40	4-Punkt Untergruppe	. . . . involving optical or photoelectrical systems
B23Q 35/42	2-Punkt Untergruppe	. . Patterns; Master models
B23Q 35/44	3-Punkt Untergruppe	. . . provided with means for adjusting the contact face, e.g. comprising flexible bands held by set-screws
B23Q 35/46	3-Punkt Untergruppe	. . . Supporting devices therefor

Symbol	Typ	Titel
B23Q 35/48	1-Punkt Untergruppe	. using a feeler or the like travelling to-and-fro between opposite parts of the outline of the pattern, model, or drawing
		<b><u>Metal-working machines comprising units or sub-assemblies; Associations of metal-working machines or units</u></b>
<b>B23Q 37/00</b>	<b>Hauptgruppe</b>	<b>Metal-working machines, or constructional combinations thereof, built-up from units designed so that at least some of the units can form parts of different machines or combinations; Units therefor in so far as the feature of interchangeability is important (features relating to particular metal-working operations, <u>see</u> the relevant subclasses, e.g. B23P 23/00)</b>
<b>B23Q 39/00</b>	<b>Hauptgruppe</b>	<b>Metal-working machines incorporating a plurality of sub-assemblies, each capable of performing a metal-working operation (B23Q 33/00, B23P 23/00 take precedence; if the operations are similar and the kind of operation is essential, <u>see</u> the relevant subclass for the operation)</b>
B23Q 39/02	1-Punkt Untergruppe	. the sub-assemblies being capable of being brought to act at a single operating station
B23Q 39/04	1-Punkt Untergruppe	. the sub-assemblies being arranged to operate simultaneously at different stations, e.g. with an annular work-table moved in steps (associations of machines connected only by work-transferring means B23Q 41/00)
<b>B23Q 41/00</b>	<b>Hauptgruppe</b>	<b>Combinations or associations of metal-working machines not directed to a particular result according to classes B21, B23, or B24 (B23Q 37/00, B23Q 39/00 take precedence; features relating to operations performed, if the different metal-working operations are of the same kind, <u>see</u> the subclass for the kind of operation, e.g. punching B21D, welding B23K, grinding B24B; features relating to technically specified combinations of different metal-working operations B23P 23/00)</b>
B23Q 41/02	1-Punkt Untergruppe	. Features relating to transfer of work between machines (arrangements for handling work for machine tools co-ordinated in production lines B23Q 7/14)
B23Q 41/04	1-Punkt Untergruppe	. Features relating to relative arrangements of machines
B23Q 41/06	1-Punkt Untergruppe	. Features relating to organisation of working of machines
B23Q 41/08	1-Punkt Untergruppe	. Features relating to maintenance of efficient operation