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ACHTUNG: NEUES SUCHWORTVERZEICHNIS
ATTENTION: NEW INDEX OF KEYWORDS









20. Internationale Messe für Technologien der Metallbearbeitung
20th International Exhibition for Metalworking Technologies

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3.06	Slide and ball bearings	43.19	Levelling jacks
3.07	Main spindles for turning, milling, boring, boring and milling machines	43.20	Grinding spindles
3.08	High speed spindles	43.21	Slideway and leadscrew covers
3.09	Recirculating ballscrews	43.22	Other mechanical components
3.10	Couplings	43.23	Continuously variable transmissions
3.11	Linear guide rails	43.24	Speed reducers
13.12	Air bearing based linear guiding systems		
3.13	Hard rock machine frames		
14	Hydraulic and pneumatic components		
4.01	Fittings, connections	44.09	Hydraulic pumps and distributors
4.02	Gaskets	44.10	Hydropneumatic accumulators
4.03	Rotary unions	44.11	Pneumatic components, controls and accessories
4.04	Compressed air conditioning	44.12	Pneumatic and oil pneumatic jacks
4.05	Pressure reducers and intensifiers	44.13	Pumps
4.06	High pressure lines and hoses, flexible tubing	44.14	Other hydraulic and pneumatic components
4.07	High pressure pumps		
4.08	Hydraulic components, controls and accessories		
15	Electrical and electronic equipment for machine	tools	
	Electrical switchgear, control systems and installations	e tools	Machine lamps
5.01			•
5.01 5.02	Electrical switchgear, control systems and installations	45.10	Detecting, measuring, testing and protecting device. Data input and processing
5.01 5.02 5.03	Electrical switchgear, control systems and installations Electric control panels, cubicles	45.10 45.11	Detecting, measuring, testing and protecting devices Data input and processing Sensors and transducers
5.01 5.02 5.03 5.04	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors	45.10 45.11 45.12	Detecting, measuring, testing and protecting devices Data input and processing
5.01 5.02 5.03 5.04 5.05	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations	45.10 45.11 45.12 45.13	Detecting, measuring, testing and protecting devices Data input and processing Sensors and transducers
5.01 5.02 5.03 5.04 5.05 5.06	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains	45.10 45.11 45.12 45.13 45.14	Detecting, measuring, testing and protecting devices Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies
5.01 5.02 5.03 5.04 5.05 5.06 5.06	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans	45.10 45.11 45.12 45.13 45.14	Detecting, measuring, testing and protecting devices Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and
5.01 5.02 5.03 5.04 5.05 5.06 5.06 5.07 5.08	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators	45.10 45.11 45.12 45.13 45.14 45.15	Detecting, measuring, testing and protecting devices Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies
5.01 5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators Cable duct systems	45.10 45.11 45.12 45.13 45.14 45.15	Detecting, measuring, testing and protecting device. Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies Converters, transformers, rectifiers
5.01 5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators Cable duct systems Power electronics Control and drive systems	45.10 45.11 45.12 45.13 45.14 45.15	Detecting, measuring, testing and protecting device. Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies Converters, transformers, rectifiers
5.01 5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators Cable duct systems Power electronics Control and drive systems Programming systems for CNC	45.10 45.11 45.12 45.13 45.14 45.15 45.16 45.17	Detecting, measuring, testing and protecting device. Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies Converters, transformers, rectifiers Metering and counting instruments and devices Robot controllers
5.01 5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators Cable duct systems Power electronics Control and drive systems Programming systems for CNC CNC for other machines	45.10 45.11 45.12 45.13 45.14 45.15 45.16 45.17	Detecting, measuring, testing and protecting device. Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies Converters, transformers, rectifiers Metering and counting instruments and devices Robot controllers Other position measuring systems
5.01 5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09 16	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators Cable duct systems Power electronics Control and drive systems Programming systems for CNC CNC for other machines CNC for cutting machines	45.10 45.11 45.12 45.13 45.14 45.15 45.16 45.17	Detecting, measuring, testing and protecting device. Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies Converters, transformers, rectifiers Metering and counting instruments and devices Robot controllers Other position measuring systems Other control and drive systems
5.01 5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators Cable duct systems Power electronics Control and drive systems Programming systems for CNC CNC for other machines CNC for cutting machines CNC for forming machines	45.10 45.11 45.12 45.13 45.14 45.15 45.16 45.17	Detecting, measuring, testing and protecting devices Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies Converters, transformers, rectifiers Metering and counting instruments and devices Robot controllers Other position measuring systems Other control and drive systems Spindle drives
15.01 15.02 15.03 15.04 15.05 15.06 15.07 15.08 15.09 16.01 16.02 16.03 16.04 16.05	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators Cable duct systems Power electronics Control and drive systems Programming systems for CNC CNC for other machines CNC for cutting machines	45.10 45.11 45.12 45.13 45.14 45.15 45.16 45.17	Detecting, measuring, testing and protecting devices Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies Converters, transformers, rectifiers Metering and counting instruments and devices Robot controllers Other position measuring systems Other control and drive systems Spindle drives Programmable controller programming devices
45.01 45.02 45.03 45.04 45.05 45.06 45.07 45.08 45.09 46.01 46.02 46.03 46.04 46.04 46.05 46.06 46.06	Electrical switchgear, control systems and installations Electric control panels, cubicles Electric motors Electronic switchgear, control systems and installations Cable holder chains Fans Generators Cable duct systems Power electronics Control and drive systems Programming systems for CNC CNC for other machines CNC for cutting machines CNC for forming machines Electronic and stored program controls	45.10 45.11 45.12 45.13 45.14 45.15 45.16 45.17 46.09 46.10 46.11 46.12 46.13	Detecting, measuring, testing and protecting devices Data input and processing Sensors and transducers Signal processing systems Other electric and electronic components and assemblies Converters, transformers, rectifiers Metering and counting instruments and devices Robot controllers Other position measuring systems Other control and drive systems Spindle drives

47	Lubrication and cooling		
47.01	Oiling and greasing systems	47.06	Oil mist lubricators
47.02	Separators for coolants and lubricants, pumps, filters, centrifuges	47.07	Lubrication equipment and devices
47.03	Refrigerating plants	47.08	Lubricants and cutting fluids for use on machine tools
47.04	Cooling lubricants	47.09	Other lubrication and cooling
47.05	Minimal lubrication technology	47.10	Spraying attachment for forging machines
48	Materials		
48.01	Aluminium and light alloys	48.13	Ceramics
48.02	Fasteners and rivets	48.14	Plastics
48.03	Coatings	48.15	Metal coatings
48.04	Sheet metal	48.16	Polymer concrete
48.05	Fibre reinforced materials	48.17	Blanks for tools – carbide
48.06	Forged parts	48.18	Blanks for tools – HSS
48.07	Castings	48.19	Bolts and screws
48.08	Castings in steel and special alloys	48.20	Filler materials for welding, brazing and soldering
48.09	Hard rock	48.21	Sintered materials
48.10	Resins for models and rapid prototyping	48.22	Other materials
48.11	Industrial gases	48.23	Special shapes and high precision tubes
48.12	Industrial adhesives		
49	Disposal systems		
49.01	Processing of coolants and lubricants	49.08	Oil separation, oil mist separation
49.02	Emulsion breaking	49.09	Package presses for chips
49.03	Oil recovery equipment (chip separator)	49.09	Other disposal systems
49.04	Filters	49.11	Swarf breakers
49.05	Filtration, ultrafiltration	49.11	Chip disposal systems
49.06	Tipping containers for chip removal	49.13	Swarf conveyors
49.07	Oil and oil mist vacuuming systems	47.13	swarr conveyors
50	Safety and environment		
50.01	Exhaust systems	50.10	Safety equipment on machines
50.02	Wastewater purification, plants and components	50.10	Personal safety devices
50.03	Air protection systems and components	50.11	Process water treatment for superfinishing systems
50.04	Industrial safety products	50.12	Protection devices for robots
50.05	Fire protection safety systems	50.13	Workshop safety devices
50.06	Dust separating systems, filtering systems, filters	50.14	Safety devices, solid casing, splash guard
50.07	Industrial air filtration systems	50.16	Other equipment for safety and environment
50.08	Industrial suction plants for cleaning up of machines	50.17	Safety equipment
50.09	Noise reduction systems	50.18	Water treatment, plants and components
51	Workshop equipment		
51.01	Plates and transfer pictures	51.05	Tool cabinets, workbenches, modular metal shelving
51.02	Other workshop equipment		systems
		51.06	Cutting tool packaging
51.03	Lifting and transport equipment	31.00	Corning roof packaging

Manufacturing and process automation

52	Workpiece and tool handling		
52.01	Gripping tools and automatic fixtures	52.08	Vibrating conveyors
52.02	Handling equipment for warehousing input and delivery of workpieces	52.09	Changing devices for clamping parts
52.03	Handling equipment for aligning and positioning of workpieces	52.10	Handling of workpieces
52.04	Lifting magnets	52.11	Workpiece carrier magazines
52.05	Palletising of workpieces and tools	52.12	Press tool changing systems
52.06	Other equipment for workpiece and tool handling	52.13	Tool changers and magazines
52.07	Stackers	52.14	Loading and feeding equipment for machine tools
53	Automation for storage and transportation		
53.01	Components to interlink separate production stages	53.07	Storage of workpieces and tools
3.02	Automated guided vehicles	53.08	Palletising systems
3.03	Cask handling equipment	53.09	Storage and retrieval machines
3.04	Conveying equipment and systems	53.10	Other automation equipment for storage and transportation
53.05	Small hoists	53.11	Other handling, loading and sorting equipment
53.06	Storage equipment and systems		5 - 1 - 1 - 5 - 5 - 1 - 1 - 5 - 1 - 1 -
54	Assembly and handling		
54.01	Automatic riveting machines	54.08	Assembly manipulators
54.02	Units for assembly systems	54.09	Assembly machines with welding units
4.03	Inserting machines for electronic components	54.10	Automatic assembly machines
4.04	Flexible assembling systems	54.11	Assembly robots
4.05	Assembly gripping tools and gripping tool changers	54.12	Other assembling machines and equipment
54.06	Individual assembly workplaces	54.13	Ultrasonic assembly machines
54.07	Assembly lines	54.14	Screwing units
55	Industrial robots		
55.01	Working tools for industrial robots	55.05	Robots for other applications
5.02	Grippers and tools for robots	55.06	Welding robots
55.03	Changing devices for robot grippers		
55.04	Manipulating robots		
56	Software for product development		
6.01	CAD software	56.07	Software for FMEA applications
6.02	CAE software	56.08	Software for product / variant configuration
6.03	CAQ software	56.09	Software for product simulation
56.04	PDM / EDM software	56.10	Software for computational fluid dynamics
6.05	Software for development and design	56.11	Other software for product development
56.06	Software for finite element calculation	56.12	Materials database
57	Software for machines		
57.01	Diagnostic systems and software	57.06	Software for NC simulation
7.02	Predictive maintenance	57.07	Software for programmable logic controllers (PLC)
57.03	Software for CNC controls	57.08	Other software for machines
-704	Software for industrial robots	57.09	Teleservice systems and software (remote service)
57.04	001177410 101 1114031141 105013	37.07	release vice systems and somware fremore services

58 S	oftware for production and production p	lanning	
58.01	CAM software	58.12	Software for DNC
58.02	Apps for production	58.13	Software for production planning and control (PPC)
58.03	Cloud applications for production	58.14	Software for managing manufacturing systems
58.04	Process diagnostics	58.15	Maintenance software
58.05	Software for order processing (ERP)	58.16	Software for capacity and production date scheduling
58.06	Software for operating systems and networks	58.17	Software for warehousing and conveying management
58.07	Software for data security and data protection	58.18	Software for stock and materials management
58.08	Software for production data acquisition	58.19	Manufacturing execution software (MES)
58.09	Software for manufacturing process simulation	58.20	Tool management software
58.10	Software for production process simulation	58.21	Software-based solutions for Industry 4.0 and internet of things
58.11	Software for industrial purchasing management	58.22	Other software for manufacturing
59 C	Computers and peripherals		
59.01	Data processing systems	59.03	Networks, also for FMS
59.02	Input devices	59.04	Peripherals

Services for production

60 Services for production and product development

60.01	Build-to-order production for machine parts	60.09	Degaussing
60.02	Consultation for Industry 4.0 solutions, internet of things	60.10	Heat treatment services
60.03	Coating services	60.11	Maintenance services
60.04	Vibratory and fluidic grinding services	60.12	Machine calibration
60.05	Services for machine erection	60.13	Maintenance of machines
60.06	Service centres for technical documentation	60.14	Other services for production
60.07	Services for design, construction, calculation and simulation	60.15	Maintenance of tools / tool sharpening
60.08	Services for virtual reality applications		·

Additive manufacturing

61 Machines and systems for additive manufacturing

61.01	Other systems for additive manufacturing	61.06	Systems for laser metal deposition welding
61.02	Systems for 3D printing (3DP)	61.07	Systems for metal powder deposition (MPA)
61.03	Systems for fused layer modelling / freeformer (FLM, FDM)	61.08	Systems for polyjet processes
61.04	Systems for hybrid processes	61.09	Systems for selective laser melting / sintering (SLS)
61.05	Systems for lamination processes (LOM)	61.10	Systems for stereolithography (STL and SLA)

Materials for additive processes

62.01	Resins for additive processes	62.03	Metals / metal powders
62.02	Plastic materials (aranules, filaments)	62.04	Other materials for additive processes

63 Additional systems and components for additive manufacturing

63.01	3D digitizer systems	63.04	3D simulation
63.02	3D graphics software	63.05	Software for additive manufacturing
43 03	3D scanners		

64 Services for additive processes

64.01	Consultants for additive processes	64.04	Contract manufacturing for additive manufacturing
64.02	Design development and models for additive processes	64.05	Rapid manufacturing
64.03	Engineering for additive processes	64.06	Software development for additive processes

Pattern, tool and mould making

65	Tools and moulds for plastics		
65.01	Extruder tools	65.08	Foam moulds
65.02	Moulds for processing fibre composites	65.09	Other tools and moulds for plastics
65.03	Moulds for processing rubber materials	65.10	Injection moulding tools
65.04	Blow moulds	65.11	Thermoforming and deep-drawing tools
65.05	Multi-cavity moulds	65.12	Insert moulds
65.06	Multi-component moulds	65.13	Vacuum moulds
65.07	Pressing tools		
66	Metal forming tools and moulds		
66.01	Bending tools	66.15	Special tools
66.02	Bending dies for tubes and sections	66.16	Other metal forming tools
66.03	Die-casting dies	66.17	Blanking and punching dies
66.04	Spinning tools	66.18	Bulging dies and stretching tools
66.05	Fine blanking dies	66.19	Punches and dies
66.06	Multi-stage dies	66.20	Extrusion dies
66.07	Forging dies	66.21	Deep drawing dies
66.08	Thread rolling tools	66.22	Transfer die sets
66.09	Casting tools	66.23	Composite dies
66.10	Roller finishing and deep rolling tools	66.24	Tools for powder metallurgy
66.11	Punching tools	66.25	Tools for screw manufacture
66.12	Knurling tools	66.26	Tools for transfer presses
66.13	Roll forming tools	66.27	Embossing, stamping and marking tools
66.14	Press tools	66.28	Drawing dies
67	Other tools and moulds		
67.01	Moulds for glass	67.04	Injection moulding tools for other materials and processes
67.02	Moulds for ceramics	67.05	Tools and moulds for packaging
67.03	Metal injection moulding (MIM)	07.00	loos and modas for packaging
68	Pattern making and prototyping		
68.01	Sampling	68.06	Prototyping as well as pre-production series and low-volum
68.02	Design model making		production
68.03	Functional model making	68.07	Rapid prototyping
68.04	Foundry model making	68.08	Rapid tooling
68.05	Body and production model making	68.09	Other pattern making and prototyping
69	Components for die and mould making		
69.01	Moulds	69.06	Cooling systems
69.02	Hot runner systems	69.06 69.07	Standard components and ejectors
69.03	Heating elements for moulds	69.08	Die sets
	Sleeves	69.09	Tempering systems
69.04	Landa Para al calca de al característico	07.07	tempeting systems
69.04 69.05	Insulation ducts and materials		
69.05	Services for die and mould making		
69.05 70	Services for die and mould making	70.05	Other services for die and mould making
70 70.01	Services for die and mould making Single-part and low-volume production	70.05	Other services for die and mould making
	Services for die and mould making	70.05 70.06 70.07	Other services for die and mould making Try out of tools and moulds Vacuum casting

Metrology and quality assurance

71 Measuring instruments and sensors

71.01	Distance measurement, non-contact, manual	71.27	Equipment for residual stress measurement
71.02	Marking, measuring and surface plates	71.28	Equipment for electromotive force measurement
71.03	Non-contact displacement measuring systems	71.29	Noise measurement
71.04	Bore measuring equipment	71.30	Thread measurement
71.05	Colour quality control	71.31	Force and moment measurement
71.06	Colorimeters	71.32	Surface measurement
71.07	Match prediction systems	71.33	Profile and shape measurement
71.08	Precision measuring instruments, electric	71.34	Circularity measurement
71.09	Precision measuring instruments, electronic	71.35	Layer thickness measurement
71.10	Precision measuring instruments, pneumatic	71.36	Clamping force testers
71.11	Precision measuring instruments, mechanical	71.37	Temperature measurement
71.12	Hygrometers	71.38	Displacement and distance measurement
71.13	Gas test units	71.39	Angle and inclination measurement
71.14	Geometric measuring, touchless	71.40	Micrometers
71.15	Interferometers	71.41	Pedestals and tripods for tracers, precision dial gauges
71.16	Calibrators	71.42	Measuring device construction
71.17	Linear and circular graduations	71.43	Transducers
71.18	Laser measuring equipment	71.44	Refractometers
71.19	Gauges and callipers	71.45	Vibration meters
71.20	Light meters	71.46	Other measuring instruments
71.21	Magnetic field measurements	71.47	Gap and flush sensors
71.22	Gauges for testing the accuracy of measuring equipment	71.48	Spectrophotometers
71.23	Measuring magnifying glasses	71.49	Pyrometers
71.24	Torque measurement	71.50	Wavelength measuring instruments
71.25	Speed measurement	71.51	Time and speed measuring apparatus
71.26	Pressure measurement		

72 Gauges and measuring machines

72.01	CNC controllers for coordinate measuring machines	72.16	Measured data amplifiers
72.02	Computerised measuring machines	72.17	Optical, 3D, non-contact measuring machines
72.03	Digital read-out systems	72.18	Measuring machines for use in production
72.04	Three-dimensional measuring machines	72.19	Profile projectors
72.05	Optical measuring and testing instruments	72.20	Testing equipment and instruments for electrical safety
72.06	Coordinate and multi-coordinate measuring machines		and function tests
72.07	Dynamometers	72.21	Scanning electron microscope
72.08	Laboratory presses	72.22	Rheological measurement equipment
72.09	Conductivity meters	72.23	Test equipment for grinding burn
72.10	Multi-position measuring devices	72.24	Stereomicroscopes
72.11	Measuring and marking machines	72.25	Scales in general
72.12	Measuring instruments for machine geometry	72.26	Hob testing equipment
72.13	Measuring microscopes	72.27	Gear testing equipment
72.14	Measuring robots	72.28	Centring microscopes
72.15	Measuring tables	72.29	Accessories for measuring equipment

73 Testing machines for manufacturing and laboratory

73.01	Computer tomography systems	73.16	Metallographic testing equipment
73.02	Vibration fatigue testing machines	73.17	Testing machines for tensile, compression, bending
73.03	Leak detectors	73.18	Test benches with automatic operation
73.04	Dynamic fatigue testing machines	73.19	Surface plates and flatness testing
73.05	Electronic unbalance measuring and control equipment	73.20	Crack checking instruments
73.06	Drop impact testing machines	73.21	X-ray metrology systems
73.07	Spring testing machines	73.22	Other testing machines
73.08	Hardness testing machines	73.23	Testing systems for quality assurance
73.09	Power test benches	73.24	Ultrasonic testing machines
73.10	Machines and apparatus for non-destructive testing	73.25	Torsion testing machines
73.11	Surface testing machines	73.26	Equipment for measuring vibration and noise
73.12	Impact testing machines	73.27	Eddy current testers
73.13	Specimen preparation systems	73.28	Gear testing machines and apparatus
73.14	Test installations for noise evaluation	73.29	Tension testing machines
73.15	Corrosion testing equipment	73.30	Accessories and test materials

74	Analytical devices, general		
74.01	Resistance testing	74.07	Laboratory data network
74.02	Energy dispersive spectrometers	74.08	Other devices for specific testing and analytical procedures
74.03	Gas chromatography	74.09	Spectrometers
74.04	Gravimetric analysis	74.10	Dust measuring instruments
74.05	Instruments and apparatus for testing and analysing solid substances	74.11	Temperature test chambers
74.06	Climatic test chambers	7-1.11	ion pordicio resi enambers
75	Components for measuring and testing equipme	nt	
75.01	Components for measuring and testing equipment, general	75.07	Air spring insulators with level control
75.02	Lighting systems	75.08	Measuring machine accessories for workpiece fixation
75.03	Built-in and attachable optics	75.09	Proximity switches
75.04	Automation elements for measuring and control procedures	75.10	Optical components (lenses, prisms, etc.)
75.05	Coded linear and angular measuring systems	75.11	Other optical systems
75.06	Fibre optic systems	75.12	Graduated plates
76	Other apparatus, instruments, etc.		
76.01	Equipment for micro-inspection rooms, general	76.09	Tooling protection fluids
76.02	Illumination systems for visual quality control	76.10	Optical benches
76.03	Products for electronic documentation	76.11	PC measuring technology
76.04	Demagnetising devices	76.12	Other apparatus, instruments, general
76.05	Products for photographic documentation	76.13	Clamping and loading technology for measurement structure
76.06	Apparatus for calibration, tolerance checks, etc.	76.14	Grips and fixtures for tension testing machines
76.07	Holography systems	76.15	Workpiece control and measuring equipment
76.08	Magnetising equipment	76.16	Counters and counting devices
77	Image processing		
77.01	Image processing systems	77.04	Video systems and endoscopes
77.02	Measuring microscopes with digital image processing	77.05	Visual geometry measurement
77.03	Sensor systems for image and signal pattern recognition		
78	Quality assurance, software		
78.01	APQP / PPAP management software	78.14	QFD systems, quality function deployment
78.02	Auditing software	78.15	Quality information and control systems
78.03	Automation of test sequences	78.16	Complaints and error management systems
78.04	Diagnostic systems	78.17	Traceability
78.05	Initial sample report	78.18	Simulation and offline programming of coordinate
78.06	Acquisition of measured electrical data		measurement machines
78.07	Acquisition of measured non-electrical data	78.19	Quality assurance software
78.08	Processing and evaluation of measured data	78.20	Software for quality management (QM)
78.09	Mobile data recording	78.21	Quality control software
78.10	Process visualisation and machine monitoring	78.22	SPC systems
78.11	Measurement system capability	78.23	Statistical analyses
78.12	Testing control and management	78.24	Statistical experiment planning
78.13	Test scheduling and test data evaluation	7012	
79	Services for quality, measuring and testing techn	ology	
79.01	Chemical-physical analyses	70.00	Ouglity management consulting
79.02	Computer tomography	79.09	Quality management consulting
79.03	Calibration (German Calibration Service – DAkkS)	79.10	Training for coordinate measuring technology,
79.04	Testing service for precision and measuring equipment	70.11	quality assurance, non-destructive testing
	ISO 9000 consulting	79.11	Six Sigma
			THE ADMINISTRACT CONTROL HITTON
79.05	· · · · · · · · · · · · · · · · · · ·	79.12	TQM consulting
79.05 79.06 79.07	Calibration services Measurements on payment basis	79.12 79.13 79.14	Non-destructive testing Certification

Production systems and components for medical engineering

80 F	Production machines for medical engineering		
80.01	Production machines for dental implants	80.06	Production equipment for cannulae and needles
80.02	Production machines for human implants	80.07	Clean room technology and installations
80.03	Marking, engraving and laser lettering machines	80.08	Scanners / 3D scanners for medical and dental applications
80.04	Production machines for surgical instruments	80.09	Additive manufacturing systems for medical products
80.05	Production machines for stents	80.10	Packaging machines and installations for medical products
B1 S	Surface technology for medical products		
81.01	Coating systems for medical engineering	81.03	Sterilisation, disinfection and cleaning systems
81.02	Surface treatment for medical and dental applications		
82 <i>I</i>	Medical materials		
82.01	Semi-finished medical products	82.03	Non-metal materials for medical and dental applications
82.02	Medical steels and titanium		
83 (Components for medical engineering and pro	duction	
83.01	Drive systems for medical and laboratory equipment	83.07	Motors for medical and dental applications
83.02	Seals and sealing systems for medical engineering	83.08	Sensors for medical engineering
83.03	EMC shielding	83.09	Simulation software for medical engineering applications
83.04	Filters and diaphragms for medical engineering	83.10	Software for medical production engineering
83.05	Lasers and laser systems for medical and dental applications	83.11	Software for medical equipment and installations
83.06	Mixing and dosing systems for medical and dental applications		
84 <i>I</i>	Medical engineering services		
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Quality assurance software Quality assurance, software

Quality information and control systems

Quality management consulting

Quick-action fixtures for press tools

Quality control software

Rack milling machines Radial drilling machines Rapid manufacturing Rapid prototyping Rapid tooling Reamers Recirculating ballscrews Refractometers Refrigerating plants Relieving devices Research centres Resins for additive processes Resins for models and rapid prototyping Resistance testing Resistance welding machines Reversible carbide tip grinding machines Rheological measurement equipment Ring rolling machines Riveting machines Robot controllers Robots for other applications Roll forming machines Roll grinding machines Roll turning lathes Roller burnishing tools Roller finishing and deep rolling machines Roller finishing and deep rolling tools	10.02 02.06 64.05 68.07 68.08 35.32 43.09 71.44 47.03 38.08 85.06 62.01 48.10 74.01 32.15 09.14 72.22 22.08 21.09 46.09 55.05 18.10 66.13 08.32 01.29 08.11 35.33 22.05
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