

## Overview of product index

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## Product index

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|---|---|---|
| <b>1 Assembly and handling technology</b>                         | 1.4.5 Vibrating feeders, linear                         | 1.7.4 Rivetting units   |
| 1.1 Assembly stations and systems                                 | 1.4.6 Step feeders                                      | 1.7.5 Presses, manual   |
| 1.1.1 Assembly stations and systems, linear transfer              | 1.4.7 Hopper elevators (Steep feeders)                  | 1.7.6 Presses, electrical                                     |
| 1.1.2 Assembly stations and systems, rotary transfer              | 1.4.8 Centrifugal feeders                               | 1.7.7 Presses, pneumatic                                      |
| 1.1.3 Assembly systems (continuous motion)                        | 1.4.9 Flexible feeding systems                          | 1.7.8 Presses, hydropneumatic                                 |
| 1.1.4 Modular assembly platforms                                  | 1.5 Equipment for linking and transport                 | 1.7.9 Presses, hydraulic                                      |
| 1.1.5 Assembly stations, manually feeded                          | 1.5.1 Chain conveyors                                   | 1.7.10 Punching units   |
| 1.1.6 Assembly systems for pliable parts                          | 1.5.2 Belt conveyors                                    | 1.7.11 Welding units  |
| 1.2 Assembly systems for specific fields of application           | 1.5.3 Magnetic monorail systems (linear motors)         | 1.7.12 Soldering units  |
| 1.2.1 Assembly systems for medical/pharmaceutical applications    | 1.5.4 Roller conveyors                                  | 1.7.13 Gluing and sealing units                               |
| 1.2.2 Assembly systems for food industry applications             | 1.5.5 Rotary indexing tables                            | 1.7.14 Tox/Clinching units                                    |
| 1.2.3 Assembly systems for explosive areas                        | 1.5.6 Belt feed unit                                    | 1.8 Equipment for marking                                     |
| 1.2.4 Assembly systems for ESD areas                              | 1.5.7 Workpiece carrier systems                         | 1.8.1 Printing systems  |
| 1.2.5 Assembly systems for electrical engineering and electronics | 1.5.8 Elevators   | 1.8.2 Embossing and engraving systems                         |
| 1.2.6 Assembly systems for clean-rooms                            | 1.5.9 Lifting and tilting units                         | 1.8.3 Laser marking systems                                   |
| 1.2.7 Assembly systems for micro technology                       | 1.5.10 Vacuum lifting devices                           | 1.8.4 Labeling systems  |
| 1.3 Equipment for storage   | 1.6 Components for linking and transportation equipment | 1.9 Test systems  |
| 1.3.1 Storage boxes   | 1.6.1 Chains  | 1.9.1 Test equipment for materials, components and structures |
| 1.3.2 Hoppers   | 1.6.2 Belts   | 1.9.2 Test equipment for functional and durability testing    |
| 1.3.3 Magazines   | 1.6.3 Rollers/wheels                                    | 1.9.3 Test equipment for electronics                          |
| 1.3.4 Pallet systems and palletizing units                        | 1.6.4 Workpiece carriers                                | 1.9.4 Weighing devices  |
| 1.4 Equipment for organising, sorting and feeding                 | 1.6.5 Drives  | 1.9.5 Measuring devices                                       |
| 1.4.1 Separating equipment  | 1.6.6 Conveyor section profiles                         | 1.10 Basis and construction elements                          |
| 1.4.2 Disentangling equipment (separators)                        | 1.6.7 Slide rails                                       | 1.10.1 Levelling elements                                     |
| 1.4.3 Sorting equipment   | 1.6.8 Lateral guides                                    | 1.10.2 Profiles   |
| 1.4.4 Vibrating feeders, rotary                                   | 1.6.9 Leg sets  | 1.10.3 Connections  |
|   | 1.6.10 Return unit stations                             | 1.10.4 Joints   |
|   | 1.6.11 Curves   | 1.10.5 Surface elements                                       |
|   | 1.6.12 Dividers   | 1.11 Manual workplace systems                                 |
|   | 1.6.13 Backstops  | 1.11.1 Manually controlled load manipulating devices          |
|   | 1.6.14 Workpiece carriers orientation                   | 1.11.2 Assembly cells   |
|   | 1.6.15 Lift transverse units                            | 1.11.3 Individual assembly work places                        |
|   | 1.6.16 Transportation controls                          | 1.11.4 Assembly tools   |
|   | 1.6.17 Identification and data-storage systems          | 1.12 Workplace equipment                                      |
|   | 1.7 Equipment for fastening and joining                 | 1.12.1 Assembly tables  |
|   | 1.7.1 Screw driving units, manually operated            | 1.12.2 Work table accessories                                 |
|   | 1.7.2 Screw driving units, automatically operated       | 1.12.3 Supply of materials                                    |
|   | 1.7.3 Screw driving units, stationary                   | 1.12.4 On-hand information                                    |
|   |   | 1.12.5 Lights   |
|   |   | 1.12.6 Chairs   |



## Goods category (Continuation)

### 2 Robotics

- 2.1 Industrial robots, listed by type of construction
  - 2.1.1 Linear robots, gantry robots
  - 2.1.2 Horizontally articulated robots (SCARA-robots)
  - 2.1.3 Vertically articulated robots
  - 2.1.4 Articulated robots
  - 2.1.5 Parallel link robots (e.g. linapods, tripods, hexapods)
  - 2.1.6 Industrial robots, special design
  - 2.1.7 Micro robots
- 2.2 Components for robot systems
  - 2.2.1 Jigs and fixtures
  - 2.2.2 Tool changing systems
  - 2.2.3 Robot measurement systems
  - 2.2.4 Peripherals for painting and coating
  - 2.2.5 Peripherals for sealing and gluing
  - 2.2.6 Peripherals for spot welding
  - 2.2.7 Peripherals for arc welding
  - 2.2.8 Peripherals for processing applications
  - 2.2.9 Peripherals for cutting
  - 2.2.10 Peripherals for laser applications
  - 2.2.11 Peripherals for clean-rooms
- 2.3 Industrial robots for specific fields of application
  - 2.3.1 Industrial robots for painting and coating
  - 2.3.2 Industrial robots for sealing and gluing
  - 2.3.3 Industrial robots for spot welding
  - 2.3.4 Industrial robots for arc welding
  - 2.3.5 Industrial robots for processing
  - 2.3.6 Industrial robots for cutting
  - 2.3.7 Industrial robots for laser applications
  - 2.3.8 Industrial robots for assembling
  - 2.3.9 Industrial robots for measuring and testing
  - 2.3.10 Industrial robots for commissioning and palettising
  - 2.3.11 Industrial robots for loading/unloading presses
  - 2.3.12 Industrial robots for loading/unloading die cast machines
  - 2.3.13 Industrial robots for loading/unloading injection moulding machines
  - 2.3.14 Industrial robots for loading/unloading machine tools

- 2.3.15 Industrial robots for electrical engineering and electronics
- 2.3.16 Industrial robots for food industry applications
- 2.3.17 Industrial robots for clean-rooms
- 2.3.18 Industrial robots for micro technology applications
- 2.3.19 Industrial robots for use in hostile environments
- 2.3.20 Industrial robots for research and training
- 2.4 Service Robots for professional use
  - 2.4.1 Field robotics
  - 2.4.2 Cleaning robots
  - 2.4.3 Inspection systems
  - 2.4.4 Construction and demolition robots
  - 2.4.5 Logistic systems
  - 2.4.6 Medical robotics
  - 2.4.7 Service robots for defence, rescue and security applications
  - 2.4.8 Underwater systems
  - 2.4.9 Mobile platforms
  - 2.4.10 Laboratory robots
  - 2.4.11 Public relation robots
  - 2.4.12 Humanoid robots
- 2.5 Service Robots for personal use
  - 2.5.1 Service robots for domestic tasks
  - 2.5.2 Entertainment and leisure robots
  - 2.5.3 Handicap assistance
  - 2.5.4 Service robots for personal transportation
  - 2.5.5 Service robots for home security and surveillance

### 3 Machine vision

- 3.1 Measuring systems for machine vision
- 3.2 Components for machine vision
  - 3.2.1 Image capture hardware
  - 3.2.2 Optics and illuminations
  - 3.2.3 Image sensors
  - 3.2.4 Optical sensors
  - 3.2.5 Cameras
  - 3.2.6 High speed cameras
  - 3.2.7 Infra-red cameras
  - 3.2.8 Processors and computer components
  - 3.2.9 Intelligent cameras
  - 3.2.10 Smart cameras
- 3.3 Machine vision systems for specific fields of application
  - 3.3.1 Measuring and comparing 2D and 3D
  - 3.3.3 Recognition of the shape and the position

- 3.3.5 Surface inspection and texture analysis
- 3.3.6 X-ray inspection
- 3.3.7 Completeness check
- 3.3.8 Colour inspection
- 3.3.9 Quality inspection
- 3.3.10 Optical code reading for 1D-codes/bar-codes and 2D-codes
- 3.3.12 Optical character recognition (OCR)
- 3.3.13 Identification systems and components
- 3.3.14 Security systems

### 4 Positioning systems

- 4.1 Modules
  - 4.1.1 Rotation modules, swivel units
  - 4.1.2 Linear modules
- 4.2 Grippers
  - 4.2.1 Grippers, electrical
  - 4.2.2 Grippers, pneumatic
  - 4.2.3 Grippers, hydraulic
  - 4.2.4 2-finger parallel grippers
  - 4.2.5 3-finger centric grippers
  - 4.2.6 Suction grippers
  - 4.2.7 Foil gripper systems
  - 4.2.8 Needle grippers
  - 4.2.9 Adhesion grippers
  - 4.2.10 Revolving grippers
  - 4.2.11 Micro-grippers
  - 4.2.12 Carbon grippers
- 4.3 Clamping devices
  - 4.3.1 Clamping devices, manual
  - 4.3.2 Clamping devices, pneumatic
  - 4.3.3 Clamping devices, electrical
  - 4.3.4 Clamping devices, hydraulic
- 4.4 Stop devices
  - 4.4.1 Stop devices, mechanical
  - 4.4.2 Stop devices, electrical
  - 4.4.3 Stop devices, pneumatic
  - 4.4.4 Stop devices, hydraulic
  - 4.4.5 Stop devices, magnetic
- 4.5 Positioning systems, pneumatic
- 4.6 Feed units, pneumatic
- 4.7 Stroke feed units, pneumatic

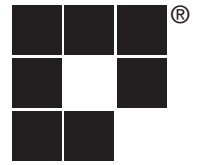
### 5 Drive technology

- 5.1 Bearings
  - 5.1.1 Ball bearings
  - 5.1.2 Roller bearings
  - 5.1.3 Needle roller bearings
  - 5.1.4 Plain bearings
  - 5.1.5 Air bearings (radial)
  - 5.1.6 Magnetic bearings
- 5.2 Linear guides
  - 5.2.1 Sliding guides
  - 5.2.2 Cam roller guides
  - 5.2.3 Linear ball bearing guides
  - 5.2.4 Profiled rail guides



## Goods category (Continuation)

5.2.5	Cage rail guides	5.8.8	Chain guides, electromechanical	6.8.1	Ultrasonic through beam barrier
5.2.6	Telescopic rail guides	5.8.9	Linear lifting magnets	6.8.2	Ultrasonic reflection barrier
5.2.7	Air bearings (axial)	5.8.10	Linear interlocking magnets	6.8.3	Ultrasonic sensors
5.3	Linear motion drive elements and systems	5.8.11	Swing drives, electromechanical	6.9	Micro-sensors
5.3.1	Acme screw drives	5.8.12	Accessories for elektromechanical actuators	6.10	Pneumatic measuring apparatus
5.3.2	Ball screw drives	5.9	Multiple systems	6.11	Pressure switches, pneumatic
5.3.3	Roller screw drives	<b>6</b>	<b>Sensor technology</b>	6.12	Accessories
5.3.4	Gear rack drives	6.1	Proximity switches	<b>7</b>	<b>Control systems technology</b>
5.3.5	Toothed belt drives	6.1.1	Proximity switches, inductive	7.1	Controls, electronic
5.3.6	Linear motors	6.1.2	Proximity switches, capacitive	7.2	Controls, mechanical (cam-controlled)
5.3.7	Chain drives	6.1.3	Cylinder position switches	7.3	Controls, pneumatic
5.3.8	Accessories for linear motion drives elements	6.2	Rotary encoders	7.4	CNC-control systems
5.4	Numeric controlled rotation axes	6.2.1	Rotary encoders, absolute	7.5	Freely programmable controls (FPCs)
5.4.1	Rotation axes, pneumatical driven	6.2.2	Rotary encoders, incremental	7.6	Industrial PCs
5.4.2	Rotation axes, electric driven	6.3	Mechanical limit switches	7.7	Monitors
5.4.3	Rotation axes, electric driven with gear	6.3.1	Single limit switches	7.8	BUS systems
5.4.4	Rotation axes, electric driven without gear	6.3.2	Multiple limit switches	7.9	Bus terminals
5.5	Numeric controlled linear axes	6.4	Linear displacement transducers	7.10	Components for fieldbus systems
5.5.1	Linear axes, pneumatic driven	6.4.1	Optical linear displacement transducers	7.11	Valve islands
5.5.2	Linear axes, electric driven with toothed belt drives	6.4.2	Inductive linear displacement transducers	7.12	Servo controller
5.5.3	Linear axes, electric driven with leadscrew drives	6.4.3	Magnetostrictive linear displacement transducers	7.13	Hand-held programmers and operator terminals
5.5.4	Linear axes, electric driven with gear rack drives	6.4.4	Potentiometric linear displacement transducers	7.14	CPU-cards
5.5.5	Linear axes, electric driven with linear motors	6.4.5	Magnetic linear displacement transducers	7.15	Power supply units
5.6	Gears	6.4.6	LVDT	7.16	Display and operating equipment
5.6.1	Spur gear units	6.5	Sensors for distance and thickness	7.17	Electrical components for controls
5.6.2	Bevel gear units	6.5.1	Distance sensors, optical	<b>8</b>	<b>Safety technology</b>
5.6.3	Worm gear units	6.5.2	Distance sensors, inductive	8.1	Safety and monitoring systems
5.6.4	Planetary gear units	6.5.3	Double sheet control	8.2	Components for safety and monitoring systems
5.6.5	Variable speed drives	6.5.4	Distance sensors, ultrasonic	8.3	Guards
5.7	Industrial motors, motor controls, motor protection devices	6.5.5	Distance sensors, capacitive	8.4	Doors and gates
5.7.1	3-phase Motors	6.5.6	Distance sensors, magnetic	8.5	Anti-collision systems
5.7.2	Direct current motors	6.6	Force torque sensors	8.6	Overload protection equipment
5.7.3	Energy-saving motors	6.7	Optoelectronic sensors	8.7	Shock absorbers
5.7.4	Geared electric motors	6.7.1	Throughbeam photoelectric sensors	<b>9</b>	<b>Supply technology</b>
5.7.5	Servo drives	6.7.2	Retro-reflective photoelectric sensors	9.1	Cable and hose carrier systems
5.7.6	Stepping motors	6.7.3	Diffuse reflection light scanner	9.2	Cable protecton systems
5.7.7	Frequency converters	6.7.4	Diffuse reflection light scanner with background suppression	9.3	Cable and tube bushings
5.7.8	Servo-drive control units	6.7.5	Fiber sensors	9.4	Electrical power supply
5.7.9	Motor protection devices	6.7.6	Mark sensors	9.4.1	Wiring systems, complete
5.8	Special drives	6.7.7	Color sensors	9.4.2	Cable and wires
5.8.1	Pneumatic motors	6.7.8	Luminescence scanner	9.4.3	Cord sets
5.8.2	Cylinders, electromechanical	6.7.9	Photoelectric fork sensors	9.4.4	Cable clips
5.8.3	Cylinders, pneumatic	6.7.10	Light-grills	9.4.5	Connectors
5.8.4	Pressure transformers, pneumatic	6.7.11	Optical windows		
5.8.5	Air-oil actuators, pneumatic	6.8	Ultrasonic sensors		
5.8.6	Lifting columns, electromechanical				
5.8.7	Lifting elements, electromechanical				



## Goods category (Continuation)

9.4.6	Connection material, without soldering	10.1.8	Programming tools	11.2.7	Universities and universities of applied sciences
9.5	Compressed air supply	10.1.9	Software for quality inspection and documentation	11.2.8	Training institutions
9.5.1	Maintenance units for compressed air	10.2	Software for machine vision	11.2.9	Publishers and publications
9.5.2	Filters for compressed air	10.2.1	Machine vision software, general	<b>12</b>	<b>Research and technology</b>
9.5.3	Pressure regulators	10.2.2	Software tools	12.1	Research in the field of industrial automation
9.5.4	Lubrications for compressed air	10.2.3	Fuzzy logic software	12.2	Research in the field of robotics
9.5.5	Compressed air dryer	<b>11</b>	<b>Services and service providers</b>	12.3	Research in the field of machine and plant construction
9.5.6	Tube lines for compressed air	11.1	Services	12.4	Research in the field of transport and traffic
9.5.7	Hose lines for compressed air	11.1.1	General contractors, system integrators	12.5	Research in the field of electrical engineering
9.5.8	Screwed connections and connections for compressed air	11.1.2	Engineering, consultancy, planning	12.6	Research in the field of information transmission and communication
9.5.9	Silencers for compressed air	11.1.3	Feasibility studies	12.7	Research in the field of micro technologies
9.5.10	Sealing devices for compressed air	11.1.4	Simulations	12.8	Research in the field of nanotechnology
9.5.11	Accessories for compressed air	11.1.5	CAD/CAM services	12.9	Research in the field of optical technologies
9.6	Ventilation technology and extraction systems	11.1.6	Optimisation of existing systems	12.10	Research in the field of medical technology
9.7	Components for ventilation technology and extraction systems	11.1.7	Integration in new/existing IT-environments	12.11	Energy and environmental research
9.8	Vacuum technology	11.1.8	Programming	12.12	Material research
9.9	Hydraulic supply	11.1.9	Robot calibrations	12.13	Physics research
<b>10</b>	<b>Software</b>	11.1.10	Trainings		
10.1	Software for robotics, assembly and handling technology	11.1.11	Maintenance		
10.1.1	Software for simulation	11.1.12	Mechanical, electrical, etc services		
10.1.2	Software for robots and plant control systems	11.1.13	Teleservice		
10.1.3	Software for process-controlled programming and visualisation	11.1.14	Certifications, safety inspections		
10.1.4	Software for numerical control systems	11.1.15	Services for research and innovation		
10.1.5	Software for field bus systems	11.2	Service providers		
10.1.6	Software for process control systems	11.2.1	Management consultancies		
10.1.7	Software for remote diagnosis	11.2.2	Banks and financial institutions		
		11.2.3	Insurance institutions		
		11.2.4	Trade associations and organizations		
		11.2.5	Standards committees		
		11.2.6	Official agencies and authorities		