

Symbol	Typ	Titel
G	Sektion	PHYSICS
G01	Untersektion	INSTRUMENTS
G01	Klasse	MEASURING (counting G06M); TESTING
G01L	Unterklasse	MEASURING FORCE, STRESS, TORQUE, WORK, MECHANICAL POWER, MECHANICAL EFFICIENCY, OR FLUID PRESSURE (methods or devices for measuring specially adapted for metal-rolling mills B21B 38/00; sensing pressure changes for compensating measurements of other variables or for compensating readings of instruments for variations in pressure, see G01D or other relevant subclasses for the variable measured; weighing G01G; scanning-probe techniques using atomic force microscopy G01N 13/16; converting a pattern of forces into electrical signals G06K 11/00) [4]
G01L 1/00	Hauptgruppe	Measuring force or stress, in general (measuring force due to impact G01L 5/00; measuring fluid pressure G01L 7/00 to G01L 27/00; measuring deformation of bodies as a result of stress by using gauges G01B) [4]
G01L 1/02	1-Punkt Untergruppe	. by hydraulic or pneumatic means
G01L 1/04	1-Punkt Untergruppe	. by measuring elastic deformation of gauges, e.g. of springs
G01L 1/06	1-Punkt Untergruppe	. by measuring the permanent deformation of gauges, e.g. of compressed bodies
G01L 1/08	1-Punkt Untergruppe	. by the use of counterbalancing forces
G01L 1/10	1-Punkt Untergruppe	. by measuring variations of frequency of stressed vibrating elements, e.g. of stressed strings (using resistance strain gauges G01L 1/22)
G01L 1/12	1-Punkt Untergruppe	. by measuring variations in the magnetic properties of materials resulting from the application of stress
G01L 1/14	1-Punkt Untergruppe	. by measuring variations in capacitance or inductance of electrical elements, e.g. by measuring variations of frequency of electrical oscillators
G01L 1/16	1-Punkt Untergruppe	. using properties of piezo-electric devices
G01L 1/18	1-Punkt Untergruppe	. using properties of piezo-resistive materials, i.e. materials of which the ohmic resistance varies according to changes in magnitude or direction of force applied to the material (resistance strain gauges for measuring linear expansion or contraction G01B)
G01L 1/20	1-Punkt Untergruppe	. by measuring variations in ohmic resistance of solid materials or of electrically-conductive fluids (of piezo-resistive materials G01L 1/18); by making use of electrokinetic cells, i.e. liquid-containing cells wherein an electrical potential is produced or varied upon the application of stress
G01L 1/22	2-Punkt Untergruppe	. . using resistance strain gauges (resistance strain gauges for measuring linear expansion or contraction G01B)
G01L 1/24	1-Punkt Untergruppe	. by measuring variations of optical properties of material when it is stressed, e.g. by photoelastic stress analysis
G01L 1/25	1-Punkt Untergruppe	. using wave or particle radiation, e.g. X-rays, neutrons (G01L 1/24 takes precedence) [4]
G01L 1/26	1-Punkt Untergruppe	. Auxiliary measures taken, or devices used, in connection with the measurement of force, e.g. for preventing influence of transverse components of force, for preventing overload
G01L 3/00	Hauptgruppe	Measuring torque, work, mechanical power, or mechanical efficiency, in general
G01L 3/02	1-Punkt Untergruppe	. Rotary-transmission dynamometers
G01L 3/04	2-Punkt Untergruppe	. . wherein the torque-transmitting element comprises a torsionally-flexible shaft
G01L 3/06	3-Punkt Untergruppe	. . . involving mechanical means for indicating
G01L 3/08	3-Punkt Untergruppe	. . . involving optical means for indicating

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G01L 3/10	3-Punkt Untergruppe	. . . involving electric or magnetic means for indicating
G01L 3/12	4-Punkt Untergruppe	 involving photoelectric means
G01L 3/14	2-Punkt Untergruppe	. . wherein the torque-transmitting element is other than a torsionally-flexible shaft
G01L 3/16	1-Punkt Untergruppe	. Rotary-absorption dynamometers, e.g. of brake type
G01L 3/18	2-Punkt Untergruppe	. . mechanically actuated
G01L 3/20	2-Punkt Untergruppe	. . fluid actuated
G01L 3/22	2-Punkt Untergruppe	. . electrically or magnetically actuated
G01L 3/24	1-Punkt Untergruppe	. Devices for determining the value of power, e.g. by measuring and simultaneously multiplying the values of torque and revolutions per unit of time, by multiplying the values of tractive or propulsive force and velocity (measuring velocity per se G01P)
G01L 3/26	1-Punkt Untergruppe	. Devices for measuring efficiency, i.e. the ratio of power output to power input
G01L 5/00	Hauptgruppe	Apparatus for, or methods of, measuring force, e.g. due to impact, work, mechanical power, or torque, adapted for special purposes (measuring pressure of a fluent medium G01L 7/00 to G01L 21/00; measuring rapid changes of pressure in steam, gas, or liquid G01L 23/00)
G01L 5/03	1-Punkt Untergruppe	. for measuring release force of ski safety bindings
G01L 5/04	1-Punkt Untergruppe	. for measuring tension in ropes, cables, wires, threads, belts, bands, or like flexible members
G01L 5/06	2-Punkt Untergruppe	. . using mechanical means
G01L 5/08	2-Punkt Untergruppe	. . using fluid means
G01L 5/10	2-Punkt Untergruppe	. . using electric means
G01L 5/12	1-Punkt Untergruppe	. for measuring axial thrust in a rotary shaft, e.g. of propulsion plants
G01L 5/13	1-Punkt Untergruppe	. for measuring the tractive or propulsive power of vehicles
G01L 5/14	1-Punkt Untergruppe	. for measuring the force of explosions; for measuring the energy of projectiles
G01L 5/16	1-Punkt Untergruppe	. for measuring several components of force
G01L 5/18	1-Punkt Untergruppe	. for measuring ratios of force
G01L 5/20	1-Punkt Untergruppe	. for measuring wheel side-thrust (in balancing G01M)
G01L 5/22	1-Punkt Untergruppe	. for measuring the force applied to control members, e.g. control members of vehicles, triggers
G01L 5/24	1-Punkt Untergruppe	. for determining value of torque or twisting moment for tightening a nut or other member which is similarly stressed (arrangements in wrenches or screwdrivers B25B 23/14)
G01L 5/26	1-Punkt Untergruppe	. for determining the characteristic of torque in relation to revolutions per unit of time
G01L 5/28	1-Punkt Untergruppe	. for testing brakes
		<u>Measuring fluid pressure</u>
G01L 7/00	Hauptgruppe	Measuring the steady or quasi-steady pressure of a fluid or a fluent solid material by mechanical or fluid pressure-sensitive elements (transmitting or indicating the displacement of mechanical pressure-sensitive elements by electric or magnetic means G01L 9/00; measuring differences of two or more pressure values G01L 13/00; measuring two or more pressure values simultaneously G01L 15/00; measuring tyre pressure or the pressure of other inflated bodies G01L 17/00; vacuum gauges G01L 21/00; hollow bodies deformable or displaceable under internal pressure per se G12B 1/04)
G01L 7/02	1-Punkt Untergruppe	. in the form of elastically-deformable gauges

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G01L 7/04	2-Punkt Untergruppe	. . in the form of flexible, deformable tubes, e.g. Bourdon gauges
G01L 7/06	2-Punkt Untergruppe	. . of the bellows type
G01L 7/08	2-Punkt Untergruppe	. . of the flexible-diaphragm type
G01L 7/10	2-Punkt Untergruppe	. . of the capsule type
G01L 7/12	3-Punkt Untergruppe	. . . with exhausted chamber; Aneroid barometers
G01L 7/14	4-Punkt Untergruppe	 with zero-setting means
G01L 7/16	1-Punkt Untergruppe	. in the form of pistons
G01L 7/18	1-Punkt Untergruppe	. using liquid as the pressure-sensitive medium, e.g. liquid-column gauges
G01L 7/20	2-Punkt Untergruppe	. . involving a closed chamber above the liquid level, the chamber being exhausted or housing low-pressure gas; Liquid barometers
G01L 7/22	2-Punkt Untergruppe	. . involving floats, e.g. floating bells
G01L 7/24	2-Punkt Untergruppe	. . involving balances in the form of rings partly filled with liquid
G01L 9/00	Hauptgruppe	Measuring steady or quasi-steady pressure of a fluid or a fluent solid material by electric or magnetic pressure-sensitive elements; Transmitting or indicating the displacement of mechanical pressure-sensitive elements, used to measure the steady or quasi-steady pressure of a fluid or fluent solid material, by electric or magnetic means (measuring differences of two or more pressure values G01L 13/00; measuring two or more pressure values simultaneously G01L 15/00; vacuum gauges G01L 21/00)
G01L 9/02	1-Punkt Untergruppe	. by making use of variations in ohmic resistance, e.g. of potentiometers
G01L 9/04	2-Punkt Untergruppe	. . of resistance strain gauges
G01L 9/06	2-Punkt Untergruppe	. . of piezo-resistive devices
G01L 9/08	1-Punkt Untergruppe	. by making use of piezo-electric devices
G01L 9/10	1-Punkt Untergruppe	. by making use of variations in inductance
G01L 9/12	1-Punkt Untergruppe	. by making use of variations in capacitance
G01L 9/14	1-Punkt Untergruppe	. involving the displacement of magnets, e.g. electromagnets
G01L 9/16	1-Punkt Untergruppe	. by making use of variations in the magnetic properties of material resulting from the application of stress
G01L 9/18	1-Punkt Untergruppe	. by making use of electrokinetic cells, i.e. liquid-containing cells wherein an electric potential is produced or varied upon the application of stress
G01L 11/00	Hauptgruppe	Measuring steady or quasi-steady pressure of a fluid or a fluent solid material by means not provided for in group G01L 7/00 or G01L 9/00
G01L 11/02	1-Punkt Untergruppe	. by optical means [6]
G01L 11/04	1-Punkt Untergruppe	. by acoustic means [6]
G01L 11/06	2-Punkt Untergruppe	. . Ultrasonic means [6]
G01L 13/00	Hauptgruppe	Devices or apparatus for measuring differences of two or more pressure values
G01L 13/02	1-Punkt Untergruppe	. using elastically-deformable members or pistons as sensing elements
G01L 13/04	1-Punkt Untergruppe	. using floats or liquids as sensing elements
G01L 13/06	1-Punkt Untergruppe	. using electric or magnetic pressure-sensitive elements

Symbol	Typ	Titel
G01L 15/00	Hauptgruppe	Devices or apparatus for measuring two or more pressure values simultaneously
G01L 17/00	Hauptgruppe	Devices or apparatus for measuring tyre pressure or the pressure in other inflated bodies (specially adapted for mounting on vehicles or tyres B60C 23/00; connection of valves to inflatable elastic bodies B60C 29/00)
G01L 19/00	Hauptgruppe	Details of, or accessories for, apparatus for measuring steady or quasi-steady pressure of a fluent medium insofar as such details or accessories are not special to particular types of pressure gauges
G01L 19/02	1-Punkt Untergruppe	. Arrangements for preventing, or for compensating for, effects of inclination or acceleration of the measuring device; Zero-setting means (for aneroid barometers G01L 7/14)
G01L 19/04	1-Punkt Untergruppe	. Means for compensating for effects of changes of temperature
G01L 19/06	1-Punkt Untergruppe	. Means for preventing overload or deleterious influence of the measured medium on the measuring device or vice versa
G01L 19/08	1-Punkt Untergruppe	. Means for indicating or recording, e.g. for remote indication
G01L 19/10	2-Punkt Untergruppe	. . mechanical
G01L 19/12	2-Punkt Untergruppe	. . Alarms or signals
G01L 19/14	1-Punkt Untergruppe	. Housings
G01L 19/16	1-Punkt Untergruppe	. Dials; Mounting of dials
G01L 21/00	Hauptgruppe	Vacuum gauges
G01L 21/02	1-Punkt Untergruppe	. having a compression chamber in which gas, whose pressure is to be measured, is compressed
G01L 21/04	2-Punkt Untergruppe	. . wherein the chamber is closed by liquid; Vacuum gauges of the McLeod type
G01L 21/06	3-Punkt Untergruppe	. . . actuated by rotating or inverting the measuring device
G01L 21/08	1-Punkt Untergruppe	. by measuring variations in the transmission of acoustic waves through the medium, the pressure of which is to be measured
G01L 21/10	1-Punkt Untergruppe	. by measuring variations in the heat conductivity of the medium, the pressure of which is to be measured
G01L 21/12	2-Punkt Untergruppe	. . measuring changes in electric resistance of measuring members, e.g. of filaments; Vacuum gauges of the Pirani type
G01L 21/14	2-Punkt Untergruppe	. . using thermocouples
G01L 21/16	1-Punkt Untergruppe	. by measuring variation of frictional resistance of gases
G01L 21/18	2-Punkt Untergruppe	. . using a pendulum
G01L 21/20	2-Punkt Untergruppe	. . using members oscillating about a vertical axis
G01L 21/22	2-Punkt Untergruppe	. . using resonance effects of a vibrating body; Vacuum gauges of the Klumb type
G01L 21/24	2-Punkt Untergruppe	. . using rotating members; Vacuum gauges of the Langmuir type
G01L 21/26	1-Punkt Untergruppe	. by making use of radiometer action, i.e. of the pressure caused by the momentum of molecules passing from a hotter to a cooler member; Vacuum gauges of the Knudsen type
G01L 21/28	2-Punkt Untergruppe	. . using torsional rotary measuring members
G01L 21/30	1-Punkt Untergruppe	. by making use of ionisation effects (tubes therefor H01J 41/02)
G01L 21/32	2-Punkt Untergruppe	. . using electric discharge tubes with thermionic cathodes
G01L 21/34	2-Punkt Untergruppe	. . using electric discharge tubes with cold cathodes

Symbol	Typ	Titel
G01L 21/36	2-Punkt Untergruppe	. . using radioactive substances
G01L 23/00	Hauptgruppe	Devices or apparatus for measuring or indicating or recording rapid changes, such as oscillations, in the pressure of steam, gas, or liquid; Indicators for determining work or energy of steam, internal-combustion, or other fluid-pressure engines from the condition of the working fluid
G01L 23/02	1-Punkt Untergruppe	. mechanically indicating or recording and involving loaded or return springs
G01L 23/04	1-Punkt Untergruppe	. involving means subjected to known counteracting pressure
G01L 23/06	1-Punkt Untergruppe	. Indicating or recording by optical means
G01L 23/08	1-Punkt Untergruppe	. operated electrically
G01L 23/10	2-Punkt Untergruppe	. . by pressure-sensitive members of the piezo-electric type
G01L 23/12	2-Punkt Untergruppe	. . by changing capacitance or inductance
G01L 23/14	2-Punkt Untergruppe	. . by electromagnetic elements
G01L 23/16	2-Punkt Untergruppe	. . by photoelectric means
G01L 23/18	2-Punkt Untergruppe	. . by resistance strain gauges
G01L 23/20	1-Punkt Untergruppe	. combined with planimeters or integrators
G01L 23/22	1-Punkt Untergruppe	. for detecting or indicating knocks in internal-combustion engines; Units comprising pressure-sensitive members combined with ignitors for firing internal-combustion engines
G01L 23/24	1-Punkt Untergruppe	. for measuring pressure in inlet or exhaust ducts of internal-combustion engines
G01L 23/26	1-Punkt Untergruppe	. Details or accessories
G01L 23/28	2-Punkt Untergruppe	. . Cooling means
G01L 23/30	2-Punkt Untergruppe	. . Means for indicating consecutively positions of pistons or cranks of internal-combustion engines in combination with pressure indicators
G01L 23/32	2-Punkt Untergruppe	. . Apparatus specially adapted for recording pressure changes measured by indicators (apparatus for recording steady or quasi-steady pressure G01L 19/08)
G01L 25/00	Hauptgruppe	Testing or calibrating of apparatus for measuring force, torque, work, mechanical power, or mechanical efficiency [2]
G01L 27/00	Hauptgruppe	Testing or calibrating of apparatus for measuring fluid pressure [2]
G01L 27/02	1-Punkt Untergruppe	. of indicators