Symbol	Typ	Titel
G	**Sektion**	**PHYSICS**
G01	**Untersektion**	**INSTRUMENTS**
G01	**Klasse**	**MEASURING (counting G06M); TESTING**
G01F	**Unterklasse**	**MEASURING VOLUME, VOLUME FLOW, MASS FLOW, OR LIQUID LEVEL; METERING BY VOLUME (milk flow sensing devices in milking machines or devices A01J 5/01; measuring or recording blood flow A61B 5/02 , A61B 8/06; metering media to the human body A61M 5/168; burettes or pipettes B01L 3/02; arrangements of liquid volume meters or volume-flow meters in liquid-delivering apparatus, e.g. for retail sale purposes, B67D 5/16; pumps, fluid motors, details common to measuring or metering devices and pumps or fluid motors F01 to F04; locating, determining distance or velocity using reflection or reradiation of radio waves, analogous arrangements using other waves G01S; systems for ratio control G05D 11/00) [2, 5]** **Measuring volume flow**
G01F 1/00	**Hauptgruppe**	**Measuring the volume flow or mass flow of fluid or fluent solid material wherein the fluid passes through the meter in a continuous flow (measuring a proportion of the volume flow G01F 5/00; measuring speed of flow G01P 5/00; indicating presence or absence of flow G01P 13/00; regulating quantity or ratio G05D) [2]**
G01F 1/05	1-Punkt Untergruppe	. by using mechanical effects [2]
G01F 1/06	2-Punkt Untergruppe	. . using rotating vanes with tangential admission [2]
G01F 1/07	3-Punkt Untergruppe	. . . with mechanical coupling to the indicating device [2]
G01F 1/075	3-Punkt Untergruppe	. . . with magnetic or electromagnetic coupling to the indicating device [2]
G01F 1/08	3-Punkt Untergruppe	. . . Adjusting, correcting, or compensating means therefor [2]
G01F 1/10	2-Punkt Untergruppe	. . using rotating vanes with axial admission [2]
G01F 1/11	3-Punkt Untergruppe	. . . with mechanical coupling to the indicating device [2]
G01F 1/115	3-Punkt Untergruppe	. . . with magnetic or electromagnetic coupling to the indicating device [2]
G01F 1/12	3-Punkt Untergruppe	. . . Adjusting, correcting, or compensating means therefor
G01F 1/20	2-Punkt Untergruppe	. . by detection of dynamic effects of the fluid flow [2]
G01F 1/22	3-Punkt Untergruppe	. . . by variable-area meters [2]
G01F 1/24	4-Punkt Untergruppe	. . . . with magnetic or electric coupling to the indicating device [2]
G01F 1/26	4-Punkt Untergruppe	. . . . of the valve type [2]
G01F 1/28	3-Punkt Untergruppe	. . . by drag-force, e.g. vane type or impact flowmeter [2]
G01F 1/30	4-Punkt Untergruppe	. . . . for fluent solid material [2]
G01F 1/32	3-Punkt Untergruppe	. . . by swirl flowmeter, e.g. using Karman vortices [2]
G01F 1/34	2-Punkt Untergruppe	. . by measuring pressure or differential pressure [2]
G01F 1/36	3-Punkt Untergruppe	. . . the pressure or differential pressure being created by the use of flow constriction [2]
G01F 1/37	4-Punkt Untergruppe	. . . . the pressure or differential pressure being measured by means of communicating tubes or reservoirs with movable fluid levels, e.g. by U-tubes [2]
G01F 1/38	4-Punkt Untergruppe	. . . . the pressure or differential pressure being measured by means of a movable element, e.g. diaphragm, piston, Bourdon tube or flexible capsule [2]

Symbol	Typ	Titel
G01F 1/40	4-Punkt Untergruppe	. . . . Details of construction of the flow constriction devices [2]
G01F 1/42	5-Punkt Untergruppe	. . . . . Orifices or nozzles [2]
G01F 1/44	5-Punkt Untergruppe	. . . . . Venturi tubes [2]
G01F 1/46	5-Punkt Untergruppe	. . . . . Pitot tubes (specially adapted for measuring speed of fluids G01P 5/165) [2]
G01F 1/48	3-Punkt Untergruppe	. . . the pressure or differential pressure being created by a capillary element [2]
G01F 1/50	3-Punkt Untergruppe	. . . Correcting or compensating means [2]
G01F 1/52	2-Punkt Untergruppe	. . by measuring the height of the fluid level due to the lifting power of the fluid flow [2]
G01F 1/54	2-Punkt Untergruppe	. . by means of chains, flexible bands, or wires introduced into, and moved by, the flow [2]
G01F 1/56	1-Punkt Untergruppe	. by using electric or magnetic effects (G01F 1/66 takes precedence) [2]
G01F 1/58	2-Punkt Untergruppe	. . by electromagnetic flowmeters [2]
G01F 1/60	3-Punkt Untergruppe	. . . Circuits therefor [2]
G01F 1/64	2-Punkt Untergruppe	. . by measuring electrical currents passing through the fluid flow; by measuring electrical potential generated by the fluid flow, e.g. by electrochemical, contact, or friction effects (G01F 1/58 takes precedence) [2]
G01F 1/66	1-Punkt Untergruppe	. by measuring frequency, phase shift, or propagation time of electromagnetic or other waves, e.g. ultrasonic flowmeters [2]
G01F 1/68	1-Punkt Untergruppe	. by using thermal effects [2]
G01F 1/684	2-Punkt Untergruppe	. . Structural arrangements; Mounting of elements, e.g. in relation to fluid flow [6]
G01F 1/688	3-Punkt Untergruppe	. . . using a particular type of heating, cooling or sensing element [6]
G01F 1/69	4-Punkt Untergruppe	. . . . of resistive type [6]
G01F 1/692	5-Punkt Untergruppe	. . . . . Thin-film arrangements [6]
G01F 1/696	2-Punkt Untergruppe	. . Circuits therefor, e.g. constant-current flow meters [6]
G01F 1/698	3-Punkt Untergruppe	. . . Feedback or rebalancing circuits, e.g. self heated constant temperature flowmeters [6]
G01F 1/699	4-Punkt Untergruppe	. . . . by control of a separate heating or cooling element [6]
G01F 1/704	1-Punkt Untergruppe	. using marked regions or existing inhomogeneities within the fluid stream, e.g. statistically occurring variations in a fluid parameter (G01F 1/76 , G01F 25/00 take precedence) [4]
G01F 1/708	2-Punkt Untergruppe	. . Measuring the time taken to traverse a fixed distance [4]
G01F 1/712	3-Punkt Untergruppe	. . . using auto-correlation or cross-correlation detection means (measuring speed by using correlation detection means in general G01P 3/80 , G01P 5/22) [4]
G01F 1/716	3-Punkt Untergruppe	. . . using electron paramagnetic resonance (EPR) or nuclear magnetic resonance (NMR) [4]
G01F 1/72	1-Punkt Untergruppe	. Devices for measuring pulsing fluid flows [2]
G01F 1/74	1-Punkt Untergruppe	. Devices for measuring flow of a fluid or flow of a fluent solid material in suspension in another fluid [2]
G01F 1/76	1-Punkt Untergruppe	. Devices for measuring mass flow of a fluid or a fluent solid material (weighing a continuous stream of material during flow G01G 11/00) [2]
G01F 1/78	2-Punkt Untergruppe	. . Direct mass flowmeters [2]

Symbol	Typ	Titel
G01F 1/80	3-Punkt Untergruppe	. . . operating by measuring pressure, force, momentum, or frequency of a fluid flow to which a rotational movement has been imparted [2]
G01F 1/82	4-Punkt Untergruppe	. . . . using a driven wheel as impeller and one or more other wheels or moving elements which are angularly restrained by a resilient member, e.g. spring member, as the measuring device [2]
G01F 1/84	4-Punkt Untergruppe	. . . . Gyroscopic mass flowmeters [2]
G01F 1/86	2-Punkt Untergruppe	. . Indirect mass flowmeters, e.g. measuring volume flow and density, temperature, or pressure [2]
G01F 1/88	3-Punkt Untergruppe	. . . with differential-pressure measurement to determine the volume flow [2]
G01F 1/90	3-Punkt Untergruppe	. . . with positive-displacement meter or turbine meter to determine the volume flow [2]
G01F 3/00	**Hauptgruppe**	**Measuring the volume flow of fluids or fluent solid material wherein the fluid passes through the meter in successive and more or less isolated quantities, the meter being driven by the flow (measuring a proportion of the volume flow G01F 5/00)**
G01F 3/02	1-Punkt Untergruppe	. with measuring chambers which expand or contract during measurement
G01F 3/04	2-Punkt Untergruppe	. . having rigid movable walls
G01F 3/06	3-Punkt Untergruppe	. . . comprising members rotating in a fluid-tight or substantially fluid-tight manner in a housing
G01F 3/08	4-Punkt Untergruppe	. . . . Rotary-piston or ring-piston meters
G01F 3/10	4-Punkt Untergruppe	. . . . Geared or lobed impeller meters
G01F 3/12	4-Punkt Untergruppe	. . . . Meters with nutating members, e.g. discs
G01F 3/14	3-Punkt Untergruppe	. . . comprising reciprocating pistons, e.g. reciprocating in a rotating body
G01F 3/16	4-Punkt Untergruppe	. . . . in stationary cylinders
G01F 3/18	5-Punkt Untergruppe	. . . . . involving two or more cylinders
G01F 3/20	2-Punkt Untergruppe	. . having flexible movable walls, e.g. diaphragms, bellows (diaphragms or bellows therefor G01F 15/16)
G01F 3/22	3-Punkt Untergruppe	. . . for gases
G01F 3/24	1-Punkt Untergruppe	. with measuring chambers moved during operation (wet gas-meters G01F 3/30)
G01F 3/26	2-Punkt Untergruppe	. . Tilting-trap meters
G01F 3/28	2-Punkt Untergruppe	. . on carriers rotated by the weight of the liquid in the measuring chambers
G01F 3/30	1-Punkt Untergruppe	. Wet gas-meters
G01F 3/32	2-Punkt Untergruppe	. . comprising partitioned drums rotating or nutating in a liquid
G01F 3/34	2-Punkt Untergruppe	. . comprising bells reciprocating in a liquid
G01F 3/36	1-Punkt Untergruppe	. with stationary measuring chambers having constant volume during measurement (with measuring chambers which expand or contract during measurement G01F 3/02)
G01F 3/38	2-Punkt Untergruppe	. . having only one measuring chamber
G01F 5/00	**Hauptgruppe**	**Measuring a proportion of the volume flow**
G01F 7/00	**Hauptgruppe**	**Volume-flow measuring devices with two or more measuring ranges; Compound meters**
G01F 9/00	**Hauptgruppe**	**Measuring volume flow relative to another variable, e.g. of liquid fuel for an engine**
G01F 9/02	1-Punkt Untergruppe	. wherein the other variable is the speed of a vehicle
		Metering by volume
G01F 11/00	**Hauptgruppe**	**Apparatus requiring external operation adapted at each repeated and identical operation to**

Symbol	Typ	Titel
		measure and separate a predetermined volume of fluid or fluent solid material from a supply or container, without regard to weight, and to deliver it
G01F 11/02	1-Punkt Untergruppe	. with measuring chambers which expand or contract during measurement
G01F 11/04	2-Punkt Untergruppe	. . of the free-piston type
G01F 11/06	3-Punkt Untergruppe	. . . with provision for varying the stroke of the piston
G01F 11/08	2-Punkt Untergruppe	. . of the diaphragm or bellows type (diaphragms or bellows therefor G01F 15/16)
G01F 11/10	1-Punkt Untergruppe	. with measuring chambers moved during operation
G01F 11/12	2-Punkt Untergruppe	. . of the valve type, i.e. the separating being effected by fluid-tight or powder-tight movements (involving the tilting or inverting of the supply vessel G01F 11/26)
G01F 11/14	3-Punkt Untergruppe	. . . wherein the measuring chamber reciprocates
G01F 11/16	4-Punkt Untergruppe	. . . . for liquid or semiliquid
G01F 11/18	4-Punkt Untergruppe	. . . . for fluent solid material
G01F 11/20	3-Punkt Untergruppe	. . . wherein the measuring chamber rotates or oscillates
G01F 11/22	4-Punkt Untergruppe	. . . . for liquid or semiliquid
G01F 11/24	4-Punkt Untergruppe	. . . . for fluent solid material
G01F 11/26	2-Punkt Untergruppe	. . wherein the measuring chamber is filled and emptied by tilting or inverting the supply vessel, e.g. bottle-emptying apparatus
G01F 11/28	1-Punkt Untergruppe	. with stationary measuring chambers having constant volume during measurement (with measuring chambers which expand or contract during measurement G01F 11/02)
G01F 11/30	2-Punkt Untergruppe	. . with supply and discharge valves of the lift or plug-lift type
G01F 11/32	3-Punkt Untergruppe	. . . for liquid or semiliquid
G01F 11/34	3-Punkt Untergruppe	. . . for fluent solid material
G01F 11/36	2-Punkt Untergruppe	. . with supply or discharge valves of the rectilinearly-moved slide type
G01F 11/38	3-Punkt Untergruppe	. . . for liquid or semiliquid
G01F 11/40	3-Punkt Untergruppe	. . . for fluent or solid material
G01F 11/42	2-Punkt Untergruppe	. . with supply or discharge valves of the rotary or oscillatory type
G01F 11/44	3-Punkt Untergruppe	. . . for liquid or semiliquid
G01F 11/46	3-Punkt Untergruppe	. . . for fluent solid material
G01F 13/00	**Hauptgruppe**	**Apparatus for measuring by volume and delivering fluids or fluent solid materials, not provided for in the preceding groups**
G01F 15/00	**Hauptgruppe**	**Details of, or accessories for, apparatus of the preceding groups insofar as such details or appliances are not adapted to particular types of such apparatus**
G01F 15/02	1-Punkt Untergruppe	. Compensating or correcting for variations in pressure, density, or temperature
G01F 15/04	2-Punkt Untergruppe	. . of gases to be measured
G01F 15/06	1-Punkt Untergruppe	. Indicating or recording devices, e.g. for remote indication
G01F 15/07	1-Punkt Untergruppe	. Integration to give total flow, e.g. using mechanically-operated integrating mechanism [2]

Symbol	Typ	Titel
G01F 15/075	2-Punkt Untergruppe	. . using electrically-operated integrating means [2]
G01F 15/08	1-Punkt Untergruppe	. Air or gas separators in combination with liquid meters; Liquid separators in combination with gas-meters
G01F 15/10	1-Punkt Untergruppe	. Preventing damage by freezing or excess pressure or insufficient pressure
G01F 15/12	1-Punkt Untergruppe	. Cleaning arrangements; Filters (filters in general B01D)
G01F 15/14	1-Punkt Untergruppe	. Casings, e.g. of special material
G01F 15/16	1-Punkt Untergruppe	. Diaphragms; Bellows; Mountings therefor
G01F 15/18	1-Punkt Untergruppe	. Supports or connecting means for meters
		Measuring volume
G01F 17/00	**Hauptgruppe**	**Methods or apparatus for determining the capacity of containers or cavities, or the volume of solid bodies (measuring linear dimensions to determine volume G01B)**
G01F 19/00	**Hauptgruppe**	**Calibrated capacity measures for fluids or fluent solid material, e.g. measuring cups**
G01F 22/00	**Hauptgruppe**	**Methods or apparatus for measuring volume of fluids or fluent solid material, not otherwise provided for [5]**
G01F 22/02	1-Punkt Untergruppe	. involving measurement of pressure [5]
		Level indicators
G01F 23/00	**Hauptgruppe**	**Indicating or measuring liquid level, or level of fluent solid material, e.g. indicating in terms of volume, indicating by means of an alarm (in wells E21B 47/04; adaptation to, or mounting on, steam boilers F22B 37/78; level regulation G05D; alarm devices G08B)**
G01F 23/02	1-Punkt Untergruppe	. by gauge glasses or other apparatus involving a window or transparent tube for directly observing the level to be measured or the level of a liquid column in free communication with the main body of the liquid
G01F 23/04	1-Punkt Untergruppe	. by dip members, e.g. dip-sticks
G01F 23/14	1-Punkt Untergruppe	. by measurement of pressure (measuring pressure in general G01L)
G01F 23/16	2-Punkt Untergruppe	. . Indicating, recording, or alarm devices being actuated by mechanical or fluid means, e.g. using gas, mercury, or a diaphragm as transmitting element, or by a column of liquid
G01F 23/18	2-Punkt Untergruppe	. . Indicating, recording, or alarm devices actuated electrically
G01F 23/20	1-Punkt Untergruppe	. by measurement of weight, e.g. to determine the level of stored liquefied gas (weighing in general G01G)
G01F 23/22	1-Punkt Untergruppe	. by measurement of physical variables, other than linear dimensions, pressure, or weight, dependent on the level to be measured, e.g. by difference of heat transfer of steam or water (involving the use of floats G01F 23/30)
G01F 23/24	2-Punkt Untergruppe	. . by measuring variations of resistance of resistors due to contact with conductor fluid
G01F 23/26	2-Punkt Untergruppe	. . by measuring variations of capacity or inductance of capacitors or inductors arising from the presence of liquid or fluent solid material in the electric or electromagnetic fields
G01F 23/28	2-Punkt Untergruppe	. . by measuring the variations of parameters of electromagnetic or acoustic waves applied directly to the liquid or fluent solid material [6]
G01F 23/284	3-Punkt Untergruppe	. . . Electromagnetic waves [6]
G01F 23/288	4-Punkt Untergruppe	. . . . X-rays; Gamma rays [6]
G01F 23/292	4-Punkt Untergruppe	. . . . Light [6]
G01F 23/296	3-Punkt Untergruppe	. . . Acoustic waves [6]
G01F 23/30	1-Punkt Untergruppe	. by floats (switches operated by floats H01H 35/18) [4]

Symbol	Typ	Titel
G01F 23/32	2-Punkt Untergruppe	. . using rotatable arms or other pivotable transmission elements [4]
G01F 23/34	3-Punkt Untergruppe	. . . using mechanically actuated indicating means [4]
G01F 23/36	3-Punkt Untergruppe	. . . using electrically actuated indicating means [4]
G01F 23/38	3-Punkt Untergruppe	. . . using magnetically actuated indicating means [4]
G01F 23/40	2-Punkt Untergruppe	. . using bands or wires as transmission elements [4]
G01F 23/42	3-Punkt Untergruppe	. . . using mechanically actuated indicating means [4]
G01F 23/44	3-Punkt Untergruppe	. . . using electrically actuated indicating means [4]
G01F 23/46	3-Punkt Untergruppe	. . . using magnetically actuated indicating means [4]
G01F 23/48	2-Punkt Untergruppe	. . using twisted spindles as transmission elements [4]
G01F 23/50	3-Punkt Untergruppe	. . . using mechanically actuated indicating means [4]
G01F 23/52	3-Punkt Untergruppe	. . . using electrically actuated indicating means [4]
G01F 23/54	3-Punkt Untergruppe	. . . using magnetically actuated indicating means [4]
G01F 23/56	2-Punkt Untergruppe	. . using elements rigidly fixed to, and rectilinearly moving with, the floats as transmission elements [4]
G01F 23/58	3-Punkt Untergruppe	. . . using mechanically actuated indicating means [4]
G01F 23/60	3-Punkt Untergruppe	. . . using electrically actuated indicating means [4]
G01F 23/62	3-Punkt Untergruppe	. . . using magnetically actuated indicating means [4]
G01F 23/64	2-Punkt Untergruppe	. . of the free float type [4]
G01F 23/66	3-Punkt Untergruppe	. . . using mechanically actuated indicating means [4]
G01F 23/68	3-Punkt Untergruppe	. . . using electrically actuated indicating means [4]
G01F 23/70	4-Punkt Untergruppe	. . . . for sensing changes in level only at discrete points [4]
G01F 23/72	3-Punkt Untergruppe	. . . using magnetically actuated indicating means [4]
G01F 23/74	4-Punkt Untergruppe	. . . . for sensing changes in level only at discrete points [4]
G01F 23/76	2-Punkt Untergruppe	. . characterised by the construction of the float [4]
G01F 25/00	**Hauptgruppe**	**Testing or calibrating of apparatus for measuring volume, volume flow, or liquid level, or for metering by volume**