Unit of measure value in SI units

Name of values	Unit of measure value in SI units	Designation	
		Russian	international
I. Length, mass, volume, pressure, temperature			
Length	M - a measure of length, numerically equal to the length of the international standard m; 1 m=100 cm ($1\cdot 10^2$ cm)=1000 mm ($1\cdot 10^3$ mm)	m	m
	Cm = 0.01 m ($1\cdot 10^{-2}$m)=10 mm	cm	cm
	Mm = 0.001 m($1\cdot 10^{-3}$ m) = 0.1 cm=1000 MK ($1\cdot 10^3$ MK)	mm	mm
	Microns (micrometers) = 0.001 mm ($1\cdot 10^{-3}$mm) = 0, 0001 cm ($1\cdot 10^{-4}$cm)= 10 000	MK	m
	Angstrem=one ten-billionth of a meter ($1\cdot 10^{-10}$ m) or one hundred-million centimeters (1×10^{-8} cm)	+	+
Weight	Kilogram - the basic unit of mass in the metric system of measures and the SI system, numerically equal to the mass of the international prototype kilogram; 1 kg=1000 g	kg	kg
	Gram=0.001 kg ($1\cdot 10^{-3}$kg)	g	g
	Ton= 1000 kg ($1\cdot 10^3$ kg)	t	t
	Centner=100 kg ($1\cdot 10^2$ kg)	C	
	Carat is the common unit of mass, numerically equal to 0.2 g		ct
	Gamma=one millionth of a gram ($1\cdot 10^{-6}$ g)		γ
Volume	Liter=1,000028 DM^3= $1{,}000028\cdot 10^{-3}$ m^3	l	l
Pressure	Physical or normal atmosphere pressure, balance the mercury column of height of 760 mm at temperature 0 OC= 1,033 at= = $1{,}01\cdot 10^{-5}$n/m^2=1,01325 bar= 760 Torr= 1, 033 kgf/cm^2	ATM	atm

	Technical atmosphere pressure, equal to 1 kgf/] = $9{,}81 \cdot 10^4$ n/m^2=0,980655 bar =$0{,}980655 \cdot 10^6$ Dyne/cm^2 = 0, 968 ATM= 735 tor	at	at
	Mm Hg= 133,32 n/m^2	mm RT. Art.	mm Hg
	Top - name-of-system unit of pressure, equal to 1 mm RT. Art.; given in honor of the Italian scientist E. Torricelli	tor	
	Bar - unit atmospheric pressure = $1 \cdot 10^5$n/m^2= $1 \cdot 10^6$ Dyne/cm^2	bar	bar
Pressure (sound)	Bar-unit sound pressure (acoustic): bar - 1 Dyne/cm^2; currently, as the unit of sound pressure recommended unit with a value of 1 n/m^2 = 10 Dyne/cm^2	bar	bar
	The logarithmic unit of measurement of the level of excessive sound pressure equal to 1/10 of a unit of measurement of gauge pressure - Bela	dB	db
Temperature	The degrees Celsius, the temperature in K (Kelvin), equal to the temperature in degrees C (the Celsius scale) + 273,15 °	°	°
II. Strength, power, energy, work, quantity of heat, viscosity			
Power	Dina is the unit of force in the GHS system(sm-g-s.), when the body with a mass of 1 g reported acceleration equal to 1 cm/sec^2; 1 DIN - $1 \cdot 10^{-5}$ n	Dean	dyn
	Kilogram-force, indicating to the body with a mass of 1 kg acceleration equal 9,81 m/s^2; 1kg=9,81 n=$9{,}81 \cdot 10^5$ DIN	kg, kg	
Power	HP =735,5 W	HP	HP
Energy	Electron-volt is the energy obtained by electron moving in an electric field in a vacuum between the points with a potential difference of 1 V; 1 EV= 1.6 x 10^{-19} J.. Use of multiple units: kiloelectron-volt (It)=10^3EV million electron volts (MeV)= 10^6EV. In modern accelerators of charged particles the particle energy is measured in Bev - billion (billion) EV; 1 BSV=10^9 EV	EV	eV

	Erg=1·10^{-7} j; erg is also used as a unit of work that is numerically equal to the work done by the power of 1 Dean on the way to 1 cm	erg	erg
Work	Kilogram-force meter (kilogrammes) - a unit of work that is numerically equal to the work done by a constant force in 1 kg when moving the point of application of this force over a distance of 1 m in her direction; KGM=9,81 j (simultaneously KGM is a measure of energy)	KGM, kgf·m	kGm
The quantity of heat	A calorie is the common unit of measurement for the amount of heat equal to the amount of heat needed to heat 1 g of water from 19.5 C to 20,5 ° N 1 cal=4,187 j; common multiple of the unit kilocalorie (kcal kcal), equal to 1000 cal	cal	cal
Viscosity (dynamic)	Poise is a unit of viscosity in the system of units GHS; viscosity, which stratified flow with velocity gradient equal to 1 sec^{-1} 1 cm^2surface layer, the force viscosity 1 DIN; 1 PZ = 0,1 n·s/m^2	PZ	P
Viscosity (kinematic)	Stokes is a unit of kinematic viscosity in the GHS system; equal viscosity of liquids having a density of 1 g/cm^3, resisting force in 1 DIN mutual movement of two layers of a liquid with an area of 1 cm^2at a distance of 1 cm one from another and moving relative to each other with the speed of 1 cm / sec	article	St
III. Magnetic flux, magnetic induction, magnetic field strength, the inductance and electric capacity			
Magnetic flux	Maxwell - a unit measuring magnetic flux in the system of GHS; 1 ISS is equal to the magnetic flux passing through the area in 1 cm^2, located perpendicular to the lines of magnetic field induction, induction, equal to 1 GS; 1 MS= 10^{-8} WB (Weber) - unit of magnetic current in the SI system	ISS	Mx
Magnetic induction	Gauss - unit in the system of GHS; 1 GS is the induction of such a field in which straightforward guide 1 cm long, located perpendicular to the vector field experiences a force in 1 Dean, if this guide is current in 3·10^{10} units GHS; 1 g=1·10^{-4} t (Tesla)	GS	Gs
The magnetic	OE - a unit of magnetic field strength in the system of GHS; for one Oersted (1 e) adopted the tension in this	E.	Oe

field strength	point of the field in which 1 electromagnetic unit number of magnetism force 1 Dean (Dean); 1 e=1/4π·10^3 a/m		
Inductance	Cm is the unit of inductance in the GHS system; 1 cm= 1·10^{-9} GN (Henry)	cm	cm
Electric capacity	Cm - unit capacity in the system of GHS = 1·10^{-12} f (parade)	cm	cm
IV. Force of light, a stream of light, brightness, illumination			
Force of light	Candle - a unit of luminous intensity, the Value of which is such that the full brightness of the emitter at a temperature of solidification of platinum was equal to 60 St 1 cm^2	St.	cd
Luminous flux	Lumen - a unit of luminous flux; 1 lumen (LM) is emitted within a solid angle in 1 erased point light source with in all directions, the power of the light in the 1 St	LM	lm
	Lumen-second - corresponds to the light energy generated a luminous flux of 1 LM, emitted or perceived per 1 sec	LM·s	lm·sec
	Lumen-hour 3,600 lumen-seconds	LM·h	lm·h
Brightness	Still - unit of brightness in the GHS system; corresponds to the brightness of a flat surface, 1 cm^2 which gives you a direction perpendicular to that surface, the light power, equal to 1 CE; sat 1=1·10^4 HT (bat) (unit of brightness in the SI system)	sat	sb
	Lambert is the common unit of brightness, a derivative of stillbe; 1 l=1/PI St= 3193 HT		
	Apostilb= 1/PI St/m^2		
Illumination	Fot - light units in the system SGSL (sm-g-s-LW; 1 fot corresponds surface luminance of 1 cm^2 evenly distributed light output 1 LM; 1 f=1·10^4 LX (Lux)	f	ph
V. the Intensity of radiation and dose			

The intensityof radioactivity	Curie - the basic unit of measurement of the intensity of radiation, Curie corresponding to $3.7 \cdot 10^{10}$ decay in 1 sec. any radioactive isotope	Curie	C or Cu
	millicurie= 10^{-3} Curie, or $3.7 \cdot 10^{7}$ acts of radioactive decay in 1 sec.	mkori	mc or mCu
	microcurie= 10^{-6} Curie	mccoury	mC or nCu
Dose	X - amount (dosage) of x or γ-rays, which in 0,001293 g of air (i.e., 1 cm^3 of dry air at a temperature of 0 degrees and 760 mm RT. Art.) causes the formation of ions carrying one electrostatic unit of the amount of electricity each character; 1 R causes the formation of $2.08 \cdot 10^{9}$ pairs of ions in 1 cm^3air	R	r
	Milli-roentgen = 10^{-3}p	Mr	mr
	microroentgens = 10^{-6} p	MCR	µr
	Happy is the unit of absorbed dose of any of ionizing radiation equal glad 100 ergs per 1 g of irradiated environment; air ionization of x or g-rays 1 R equal 0,88 happy, and when ionization tissue almost 1 R is equal to 1 rad	glad	rad
	REM (roentgen equivalent) - the amount (dosage) of any kind of ionizing radiation, causing the same biological effect as of 1 p (or 1 rad) hard x-rays. Different biological effects at equal ionization of different types of radiation led to the need to introduce another concept: the relative biological effectiveness of the radiation-RBE; dose (L) and a dimensionless coefficient (RBE) is expressed as $D_{REM}=D_{glad} \cdot RBE$, where RBE=1 for x -, gamma rays and β-rays and RBE=10 for protons up to 10 MeV fast neutrons andα-chaSTIC natural (on the recommendation of the International Congress of radiologists in Copenhagen, 1953)	REM, EW	rem

Note. Multiples and Dolny units, except for units of time and angle, formed by multiplying them by appropriate powers of 10, and their names attached to the names of units of measure. Never use two consoles to the entity's name. For example, you cannot write millimetrovie (mkwt) or microstructured (MMF), you must write NW (NRT) or PF (PF). You should not use prefixes for names such units, which represent a multiple or fraction of a unit (for example, micron). To Express the duration of processes and designations of calendar dates of the event allowed the use of multiple units of time.

The most important units of the international system of units (SI)

Main unit
(length, mass, temperature, time, strength of an electric current, the power light)

Name of values	Units; their definition	Designation	
		Russian	international
Length	Meter - length equal 1650763,73 wavelength radiation in the vacuum corresponding to the transition between levels $2P_{10}$ and $5d_5$ atom krypton 86 *	m	m
Weight	The kilogram is the mass corresponding to the mass of the international prototype kilogram	kg	kg
Time	Second - 1/31556925,9747 of the tropical year (1900) **	sec	S, S
Power of electric current	Ampere - power unchanging current, which passes through two parallel straight conductors of infinite length, and a negligible circular cross-section located at the distance of 1 m from one another in a vacuum, would produce between conductors force equal to $2 \cdot 10^{-7}$ h for every meter of the length	and	A
Force of light	Candle - a unit of luminous intensity, the value of which is such that the brightness of the full (absolute black) emitter at a temperature of solidification of platinum was equal to 60 CE 1 cm^2 ***	St.	cd
Temperature (thermodynamic)	Degrees Kelvin (Kelvin) - a unit of measurement temperature thermodynamic temperature scale in which the temperature of the triple point of water**** set is 273.16 K	K	°K

* Ie metre equal to the specified number of waves of radiation with a wavelength 0,6057 MK obtained from a special lamp and its orange spectral lines of neutral gas krypton. Such a definition of the length unit allows you to play meter with the most accurate, and most importantly, in any laboratories with proper equipment. This eliminates the need for periodic tests of the standard meter, with its international standard stored in Paris.
** I.e. second is a specific part of a time interval between two successive transits of the Earth in orbit around the Sun of the point corresponding to the spring equinox. This gives more precision in the definition of a second than defining it as a part of the day, because the duration of the day.
*** I.e. per unit adopted luminous intensity of a specific reference source that emits light at a temperature of melting of platinum. The previous international standard candles is 1,005

new standard candles. Thus, within the usual practical accuracy of their values can be considered a match.
**** Triple point is the temperature of ice melting in the presence of over him saturated water vapor.

Additional and derived units

Name of values	Units; their definition	Designation	
		Russian	international
I. plane angle solid angle, power, work, energy, the quantity of heat power			
Flat angle	Radian angle between two radii of a circle, the clip on the circle glad arc, the length of which is equal to the radius	glad	rad
The solid angle	Steradian - solid angle whose peak is situated in the center of the sphere erased and that cut on the surface of the sphere the area equal to the area of a square with sides equal to the radius of the sphere	erased	sr
Power	Newton is the force, under the action which the body with a mass of 1 kg acquires an acceleration of 1 m/s^2	n	N
Work energy quantity of heat	Joule - work, which makes acting on a body constant force in 1 n on the way to 1 m, covered by the body in the direction of the force	J.	J
Power	Watt - power of over 1 sec. is performed the work in 1 j	W	W
II. The amount of electricity, voltage, electric resistance, electrical capacity			
The amount of electricity, the electric charge	Pendant - the amount of electricity flowing through the cross-section for 1 sec. when power DC to 1 and	to	C
Voltage, electric potential difference, an electromotive force (EMF)	Voltage - the voltage at the phase electrical circuit, when passing through that amount of electricity in 1, work is done in 1 j	in	V
Electrical resistance	Om - conductor resistance, which at a constant	om	Ω

	voltage at the ends in 1 in undergoes constant current of 1 a		
Electric capacity	Farada - the capacitor, the voltage between the plates which changes to 1 when charging the amount of electricity in 1 to	f	F
III. Magnetic induction, the flow of the magnetic induction, inductance, frequency			
Magnetic induction	Tesla - induction of a uniform magnetic field, which to plot a straight conductor of length 1 m, placed perpendicular to the direction of the field, acts with the power of 1 h at passage through the conductor DC to 1 and	TL	T
The flow of magnetic induction	Weber - magnetic flux generated by a homogeneous magnetic field induction in 1 of THB through the area in 1 m^2perpendicular to the direction of the magnetic induction vector	WB	Wb
Inductance	Henry - inductance Explorer (coil), which Indochinese EMF into 1 in the current change it to 1 and 1 second.	Mr.	H
Frequency	Hertz frequency of the periodic process, which for 1 sec. takes one oscillation (cycle, period)	Hz	Hz
IV. Luminous flux of light energy, brightness, illumination			
Luminous flux	Lumen - luminous flux, which gives the inside solid angle in 1 erased point light source in the 1 St, radiates equally in all directions	LM	lm
The light energy	Lumen-second	LM·s	lm·s
Brightness	Neath Arnost glowing plane, each square meter which gives you a direction, perpendicular to the plane, the power of the light in the 1 St	HT	nt
Illumination	Deluxe illumination created a luminous flux of 1 LM uniform distribution on the area of 1 m^2	LK	lx
The amount of lighting	Suite-second	Luke·s	lx·s