Physical quantity	Symbol	Legal units		Other legal units (non-exhaustive list)	Units or notations that are no longer permitted	Recommended units	Comments
		SI units					
Length	l	m	Metre	km, dm, cm, mm, µm		m	Base unit
Volume	V	m^3		dm^3, cm^3, mm^3, ... litre (1 l = 1 dm^3)	cbm, cdm, …	m^3	
Flow rate, volume flow rate	Q, $\dot{V}$	m^3/s		m^3/h, l/s		l/s and m^3/s	
Time	t	s	Second	s, ms, µs, ns, … min, h, d		s	Base unit
Speed	n	s^{-1}		min^{-1}		s^{-1} and min^{-1}	
Mass	m	kg	Kilogramme	g, mg, µg, ... Ton (1 t = 1000 kg)	Pound, hundredweight	kg	Base unit The mass of goods is called "weight".
Density	ρ	kg/m^3		kg/dm^3		kg/dm^3 and kg/m^3	The term "specific weight" should not be used any longer, as it is ambiguous (see DIN 1305).
Mass moment of inertia	J	kg m^2				kg m^2	Moment of inertia $mD^2 = 4$ J
Mass flow rate	$\dot{m}$	kg/s	t/s, t/h, kg/h			kg/s and t/s	
Force	F	N	Newton (=kg m/s^2)	kN, mN, µN, …	kp, Mp, …	N	1 kp = 9.81 N. Weight is the product of the mass m and the magnitude of the local acceleration due to gravity
Pressure	p	Pa	Pascal (=N/m^2)	bar (1 bar=10^5 Pa)	kp/cm^2, at, m WS, Torr, …	bar	1 at=0.981 bar=9.81•10^4 Pa 1 mm Hg=1.333 mbar 1 mm WS=0.098 mbar
Stress (strength)	σ, τ	Pa	Pascal (=N/m^2)	N/mm^2, N/cm^2, …	kp/cm^2, …	N/mm^2	1 kp/mm^2 = 9.81 N/mm^2
Bending moment, torque	M, T	N m			kp m, …	N m	1 kp m = 9.81 N m
Energy, work Quantity of heat	W, Q	J	Joule (= Nm = Ws)	kJ, Ws, kW h, …; 1 kWh=3600kJ	kpm kcal, cal, WE	J and kJ	1 kpm=9.81 J 1 kcal=4.1868 kJ
Head	H	m	Metre		mLC (metres of liquid)	m	Head is the useful mechanical energy (work) transferred to the unit mass of the fluid in J = N m, per weight of fluid in N.
Power	P	W	Watt (=J/s=N m/s)	MW, kW, …	kp m/s, PS	kW	1 kp m/s=9.81 W; 1 PS=736 W
σ, Temperature difference	T	K	Kelvin	°C	°K, deg	K	Base unit
Kinematic viscosity	v	m^2/s			St (Stokes), °E, …	m^2/s	1 St=10^{-4} m^2/s
Dynamic viscosity	η	Pa s	pascal− second (= N s/m^2)		P (Poise), …	Pa s	1 P=0.1 Pa s

Fig. 2 Unit: Legal base units, excerpt for centrifugal pumps