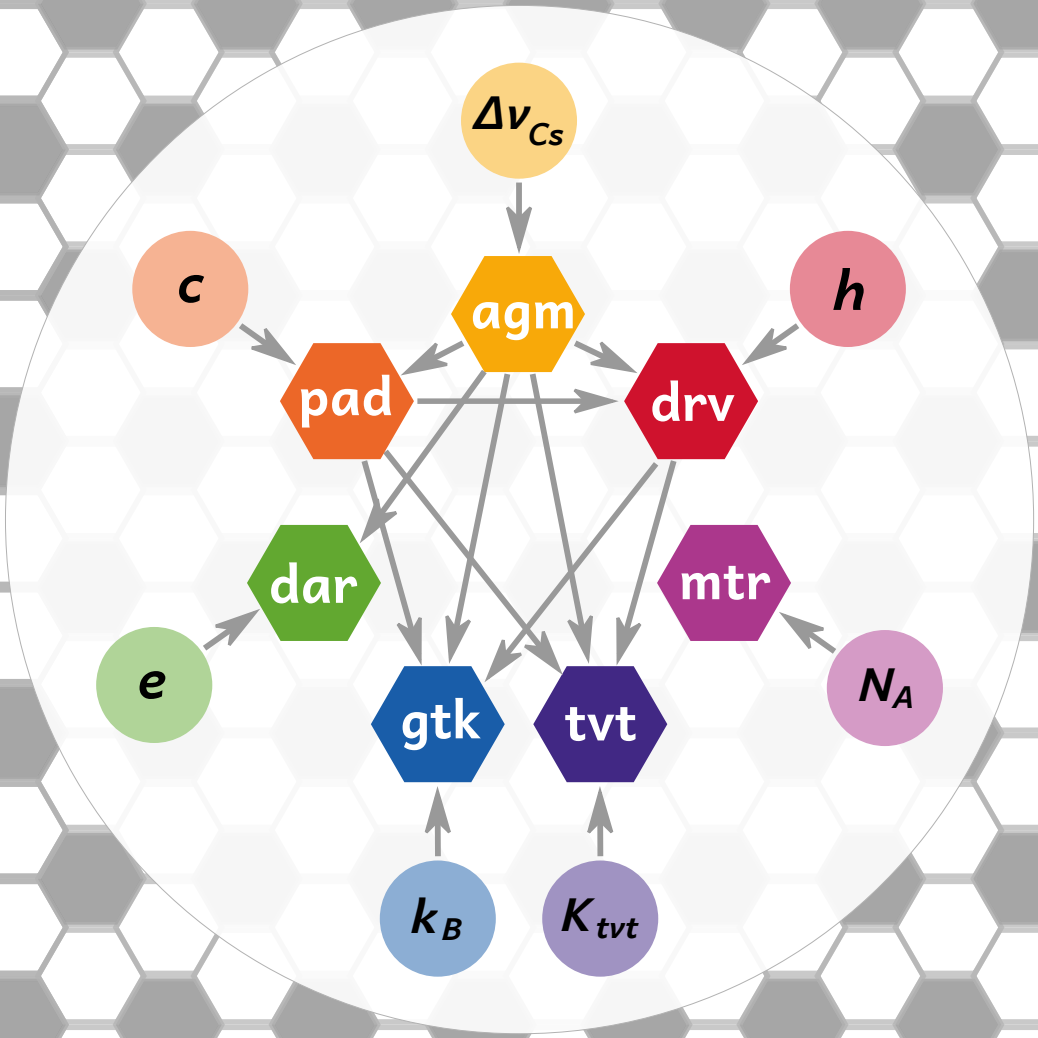

Shastadari Units

Shastadari

Sezimal Units of Measurement

"Light said: I know nothing of your time, and yet, I lift your day from darkness, I nourish all life, I lead your thoughts into the infinite; follow me, if only in your pace, and I shall let you see all, and measure all there is."

Shastadari is a coherent system of Units of Measurement based on the same physical constants as the International System of Units, known as the S.I., from it's original French name "Système international d'unités", with the following differences:

1st, values are expressed using base six (sezimal) instead of base ten (decimal);

2nd, the most important one, is that time is measured in agrimas instead of seconds, and, since the agrima is 1.504 $1.\overline{851}$ times bigger than the second, all units adjust accordingly;

3rd, in order to mark the difference of both the time unit and the base used, the names of the units are inspired in Sanskrit, instead of Latin or Greek, or names of people, like in the SI; hence, Shastadari, which means Sezimal, in steps of six, in Sanskrit (see in the Appendix – Names, the original words in Sanskrit, their original pronunciation and meaning, and how we used them);

4th, prefixes are not limited to a pre-determined set, but are constructed from the exponents themselves, through a series of regular affixes;

5th, the units' symbols are always formed by three lower case letters;

It's 11 7 base units are:

1. the **agrima**, the unit of time (symbol **agm**), defined based on the hyperfine transition frenquency of Cs – $\Delta\nu_{Cs}$;

2. the **pada**, the unit of length (symbol **pad**), based on the speed of light *c* and the agrima;

3. the **dravya**, the unit of mass (symbol **drv**), based on the Planck constant *h*, the pada and the agrima;

4. the **dara**, the unit of electric current (symbol **dar**), based on the elementary charge *e* and the agrima;

5. the **gatika**, the unit of thermodynamic temperature (symbol **gtk**), based on the Boltzmann constant k_B, the dravya, the pada and the agrima;

10. the **matra**, the unit of amount of substance (symbol **mtr**), base on the Avogadro constant N_A;

11. the **tivrata**, the unit of luminous intensity (symbol **tvt**), based on the luminous efficacy of 2.5121 0310 5104 TSavt, the dravya, the pada and the agrima;

Prefixes

Prefixes are formed by combining one or more affixes for the power represented by the prefix, and an infix that shows if the exponent is positive or negative;

The symbols for the prefixes are the combination of the first letter of each digit affix, uppercase when the exponent is positive, lowercase when negative;

So, for each digit of the exponent, we will combine the following:

Digit	Affix	+ Exp. Sym.	− Exp. Sym.
0	shun	S	s
1	eka	E	e
2	di	D	d
3	tri	T	t
4	cha	C	c
5	pan	P	p

Positive Exponent Infix	Negative Exponent Infix
ma	ti

For euphonic reasons, the ‹n› at the end of ‹shun› and ‹pan› is dropped when they are used imediately before ‹ma›.

To convert to and from S.I. prefixes, find the exponent conversion factor using the formula:

Shast. → S.I.	S.I. → Shast.
$14^d \div 10^s$	$10^s \div 14^d$
$10^d \div 6^s$	$6^s \div 10^d$

s is the absolute sezimal exponent, and *d* is the absolute decimal one

Finally, if the exponents are positive, divide the original number by the calculated factor; if they're negative, multiply;

With that in mind, we can create a mapping for which Shastadari prefix can accommodate all the magnitude expressed by a SI prefix, or, in other words, which Shastadari prefix is roughly equivalent to which SI prefix:

Positive Exponents

Shastadari			Factor		~ S.I.		
10^x	Sym.	Name	÷ to S.I	÷ to Shast.	Name	Sym.	14^x
+1	E	ekama	1.4 da	0.6 E			
+2	D	dima	0.14 da	3.6 D	deca	da	+1
+3	T	trima	0.244 h	2.16 T	hecto	h	+2
+4	C	chama	0.4344 k	1.296 C	kilo	k	+3
+5	P	pama	0.0434 4 k	7.776 P			
+10	ES	ekashuma	0.0043 44 k	46.656 ES			
+11	EE	ekaekama	0.0004 344 k	279.936 EE			
+12	ED	ekadima	0.3323 3344 M	1.679 616 ED	mega	M	+10
+20	DS	dishuma	0.2431 2124 5344 G	2.176 782 336 DS	giga	G	+13
+24	DC	dichama	0.2043 2210 1030 1344 T	2.821 109 907 456 DC	tera	T	+20
+32	TD	tridima	0.1350 2453 3540 4331 3344 P	3.656 158 440 062 976 TD	peta	P	+23
+40	CS	chashuma	0.1133 3022 2253 5553 0432 5344 E	4.738 381 338 321 616 896 CS	exa	E	+30
+44	CC	chachama	0.0551 0131 0423 0421 4411 1334 1344 Z	6.140 942 214 464 815 497 216 CC	zetta	Z	+33
+52	PD	pandima	0.0430 5014 3110 4401 4251 2151 1035 3344 Y	7.958 661 109 946 400 884 391 936 PD	yotta	Y	+40
+100	ESS	ekashunshuma	0.0325 3521 2433 0015 0430 2345 1012 5140 5344 R	10.314 424 798 490 535 546 171 949 056 ESS	ronna	R	+43
+104	ESC	ekashunchama	0.0240 5413 1352 3532 3301 2011 1021 3040 2042 1344 Q	13.367 494 538 843 734 067 838 845 976 576 ESC	quetta	Q	+50

Negative Exponents

Shastadari			Factor		~ S.I.		
10^x	Sym.	Name	× to S.I	× to Shast.	Name	Sym.	14^x
−1	e	ekati	1.4 d	0.6 e			
−2	d	diti	0.14 d	3.6 d	deci	d	−1
−3	t	triti	0.244 c	2.16 t	centi	c	−2
−4	c	chati	0.4344 m	1.296 c	milli	m	−3
−5	p	panti	0.0434 4 m	7.776 p			
−10	es	ekashunti	0.0043 44 m	46.656 es			
−11	ee	ekaekati	0.0004 344 m	279.936 ee			
−12	ed	ekaditi	0.3323 3344 µ	1.679 616 ed	micro	µ	−10
−20	ds	dishunti	0.2431 2124 5344 n	2.176 782 336 ds	nano	n	−13
−24	dc	dichati	0.2043 2210 1030 1344 p	2.821 109 907 456 dc	pico	p	−20
−32	td	triditi	0.1350 2453 3540 4331 3344 f	3.656 158 440 062 976 td	femto	f	−23
−40	cs	chashunti	0.1133 3022 2253 5553 0432 5344 a	4.738 381 338 321 616 896 cs	atto	a	−30
−44	cc	chachati	0.0551 0131 0423 0421 4411 1334 1344 z	6.140 942 214 464 815 497 216 cc	zepto	z	−33
−52	pd	panditi	0.0430 5014 3110 4401 4251 2151 1035 3344 y	7.958 661 109 946 400 884 391 936 pd	yocto	y	−40
−100	ess	ekashunshunti	0.0325 3521 2433 0015 0430 2345 1012 5140 5344 r	10.314 424 798 490 535 546 171 949 056 ess	ronto	r	−43
−104	esc	ekashunchati	0.0240 5413 1352 3532 3301 2011 1021 3040 2042 1344 q	13.367 494 538 843 734 067 838 845 976 576 esc	quecto	q	−50

Units

Time and frequency

Formally, the base unit of time is the ***agrima*** (symbol ***agm***), that is defined as the fixed numerical value of the Caesium frequency, $\Delta\nu_{Cs}$, the unperturbed ground-state hyperfine transition frequency of the Caesium 341 133 atom, to be 11,4531,1421,2434.4 17,023,392,166.$\overline{6}$ when expressed in the unit ***avrita*** (symbol ***avt***), which is equal one cycle or event per agrima, or agm^{-1}.

Compare it to the S.I. definition of the second: Second

Civil time is divided as such:

1 day is comprised of **100,0000** 46,656 agrimas (symbol ***agm***);
1 day is divided into **100** 36 **utas** (symbol **uta**);
1 uta is divided into **100** 36 **poshas** (symbol **psh**);
1 posha is divided into **100** 36 **agrimas** (symbol ***agm***);
1 agrima is divided into **100** 36 **anugas** (symbol ***ang***);
1 anuga is divided into **100** 36 **bodas** (symbol **bod**).

55:**55**:**55**(.**5555**55)

Since civil time is coherently measured in regular powers of six, civil time can also be expressed in terms of agrimas or days, using prefixes:

	Agrima	Day
day	10^{+10} ekashumaagrima ESagm 100,0000 46,656 agm	— x —
uta	10^{+4} chamaagrima Cagm 1,0000 1,296 agm	10^{-2} dititiday ddday 0.01 0.02$\overline{7}$ day
posha	10^{+2} dimaagrima Dagm 100 36 agm	10^{-4} chatiday cday 0.0001 0.000 771 604... day
agrima	— x —	10^{-10} ekashuntiday esday 0.0000 01 0.000 021 433... day
anuga	10^{-2} dititiagrima dagm 0.01 0.02$\overline{7}$ agm	10^{-12} ekadititiday edday 0.0000 0001 0.000 000 595 374... day
boda	10^{-4} chatiagrima cagm 0.0001 0.000 771 604... agm	ekachatiday ecday 0.0000 0000 01 .000 000 016 538 171... day

Time			
1 agm agrima	1.504 s 1.$\overline{851}$ s	1 s second	0.$\overline{3123\ 50}$ agm 0.54 agm
Frequency			
1 avt avrita	1.504 Hz 1.$\overline{851}$ Hz	1 Hz Hertz	0.$\overline{3123\ 50}$ avt 0.54 avt
Civil Time			
1 uta uta	0.4 h 0.$\overline{6}$ h	1 h hour	1.3 uta 1.5 uta
1 psh posha	1.04 min 1.$\overline{1}$ min	1 min minute	1.5$\overline{2}$ psh 0.9 psh
1 agm agrima	1.504 s 1.$\overline{851}$ s	1 s second	0.$\overline{3123\ 50}$ agm 0.54 agm
1 ang anuga	0.0150 4 s 0.051 440… s	1 s second	31.$\overline{2350\ 1}$ ang 19.44 ang
1 bod boda	0.0001 504 s 0.001 428… s	1 s second	3123.$\overline{5012\ 3}$ bod 699.84 bod

Length, Speed, Acceleration, Area, Volume

The unit of length is the ***pada*** (symbol **pad**), defined as the path travelled by light in a vacuum during a time interval of $^{1}/_{1352,5510,4032}$ $^{1}/_{599,584,916}$ of an agrima.

Compare it to the S.I. definition of the metre: Metre

From the pada and the agrima, we define the following coherent derived units:

1 ***vega*** (symbol **veg**) is a speed of 1 pada per 1 agrima (pad · agm^{-1}; pad / agm), or 1 pada times 1 avrita (pad · avt);

1 ***tevara*** (symbol **tvr**) is an acceleration of 1 pada per 1 square agrima (pad · agm^{-2}; pad / agm^2), or 1 pada times 1 square avrita (pad · avt^2);

1 **keshe** (symbol **ksh**) is an area of 1 square pada (pad^2);

1 ***aytan*** (symbol **ayt**) is a volume of 1 cubic pada (pad^3);

Pay attention that, for the square and cubic units, prefixes act on the unit itself, and are not affected by the exponent (square or cube) of the original unit, so that:

1 **C**ksh = 1 **D**pad^2 = 1,0000 ksh = 1,0000 pad^2,
but 1 **C**pad^2 = 1 **ED**ksh = 1,0000,0000 ksh = 1,0000,0000 pad^2

1 **c**ksh = 1 **d**pad^2 = 0.0001 ksh = 0.0001 pad^2,
but 1 **c**pad^2 = **ed**ksh = 0.0000 0001 ksh = 0.0000 0001 pad^2

1 **C**ayt = 10 **E**pad^3 = 1,0000 ayt = 1,0000 pad^3,
but 1 **C**pad^3 = 1 **DS**ayt = 1,0000,0000,0000 ayt = 1,0000,0000,0000 pad^3

1 **c**ayt = 0.1 **e**pad^3 = 0.0001 ayt = 0.0001 pad^3,
but 1 **c**pad^3 = 1 **ds**ayt = 0.0000 0000 0001 ayt = 0.0000 0000 0001 pad^3

For civil or day-to-day measure of volume, it may be more convenient to deal with a smaller, even though non-coherent, unit:

1 **varti** (symbol **vrt**) is a volume of 1 chatiaytan cayt = 0.0001 $0.000\,7\overline{716\,049\,382}$ aytan, that is equal to 0.0001 $0.000\,7\overline{716\,049\,382}$ pad^3.

Length			
1 pad pada	0.532 m $0.\overline{925}$ m	1 m metre	$1.\overline{0251\,4}$ pad 1.08 pad
1 Cpad chamapada	$1.\overline{1}$ km 1.2 km	1 km 1 kilometre	0.5 Cpad $0.8\overline{3}$ Cpad
1 tpad tritipada	0.2323 32 cm 0.428 669... cm	1 cm 1 centimetre	2.1555 1504... tpad 2.332 8 tpad
1 cpad chatipada	0.4141 532 mm 0.714 449... mm	1 mm millimetre	1.2221 5524... cpad 1.399 68 cpad
Speed			
1 veg vega	0.3 m / s 0.5 m / s	1 m / s metre per second	2 veg 2 veg
1 veg vega	$1.\overline{4}$ km / h 1.8 km / h	1 km / h kilometre per hour	0.32 veg $0.\overline{5}$ veg

Since veg = pad / agm, and since the relation between agrimas and utas (chamaagrimas) is the same as padas and chamapadas, i.e., 1,0000 1,296*, vegas are the same for pad / agm and Cpad / uta or Cpad / Cagm, quite unlike km / h vs. m / s*

Acceleration			
1 tvr tevara	$0.13\overline{41\ 530}$ m / s² 0.27 m / s²	1 m / s² metre per square second	3.412 tvr $3.\overline{703}$ tvr
Area			
1 ksh keshe	0.5051 04 m² 0.857 338… m²	1 m² square metre	1.0555 3532… ksh 1.166 4 ksh
1 EDksh ekadimakeshe	$1.\overline{2350\ 1}$ km² 1.44 km²	1 km² square kilometre	0.41 EDksh $0.69\overline{4}$ Cksh
Volume			
1 ayt aytan	0.4432 4501 2 m³ 0.793 832… m³	1 m³ cubic metre	1.1320 3304… ayt 1.259 712 ayt
1 vrt varti	0.0000 4432 4501 2 m³ 0.000 612… m³	1 m³ cubic metre	1,1320.3304 2330… vrt 1,632.586 752 vrt
1 vrt varti	0.3401 4554 3301 2 L 0.612 524… L	1 L litre	1.3443 4554… vrt 1.632 586 752 vrt

Mass and Density

The unit of mass is the **dravya** (symbol **drv**), defined by taking the fixed numerical value of the Planck constant h to be:

$$3.4543\ 0014\ 0450\ 1501\ 1250\ 1044\ 2053\ 2541\ 1323\ 3341\ 4355\ 5032$$
$$1540\ 3052\ 5124\ 5313\ 1411\ 3320\ 1222\ 2211\ 5234\ 5401\ 5451\ 1430$$
$$1230\ 5132\ 5410\ 0552\ 4411\ 0511\ 5342\ 1551\ 5255\ 1010\ 0200\ 3043$$
$$2305\ 0430\ 0125\ 4215\ 1435\ 0432\ 0053\ 4054\ 4332\ 3335\ 0321\ 4555$$
$$3425\ 4445\ 3430\ 5013\ 4354\ 3331 \times 10^{-111}$$
$$1.252\ 140\ 30 \times 10^{-33}\ [2 \times 6.626\ 070\ 15 \times 10^{-34}]$$

when expressed in the unit kry · agm, which is equal to drv · pad² · agm⁻¹, where the pada and the agrima are defined in terms of c and $\Delta\nu_{Cs}$.

Defined in terms of those units, the dravya is formulated as:

$$\text{drv} = c^2 \div (h \times \text{agm})\ \mathbf{h \cdot \Delta\nu_{Cs} \cdot c^{-2}}$$

$$\text{drv} = (1352{,}5510{,}4032)^2 \div (3.4543\,0014\ldots \times 10^{-111} \times 11{,}4531{,}1421{,}2434.4)\ \mathbf{h \cdot \Delta\nu_{Cs} \cdot c^{-2}}$$

$$\text{drv} = (599{,}584{,}916)^2 \div (1.252\,140\,30 \times 10^{-33} \times 17{,}023{,}392{,}166.\overline{6})\ \mathbf{h \cdot \Delta\nu Cs \cdot c^{-2}}$$

$$\text{drv} \approx 3.1414\,3120\,5233\,4521\,1233\ldots \times 10^{51}\ \mathbf{h \cdot \Delta\nu_{Cs} \cdot c^{-2}}$$

$$\text{drv} \approx 1.593\,563\,111\,714\,092\ldots \times 10^{40}\ \mathbf{h \cdot \Delta\nu_{Cs} \cdot c^{-2}}$$

Compare it to the S.I. definition of the kilogram: Kilogram

From the dravya and the pada, we define the following coherent derived unit:

1 **gana** (symbol **gan**) is a density of 1 dravya per 1 cubic pada ($\text{drv} \cdot \text{pad}^{-3}$; $\text{drv} / \text{pad}^3$), or 1 dravya per 1 aytan ($\text{drv} \cdot \text{ayt}^{-1}$; drv / ayt);

There are also the following non-coherent units:

1 **taranga** (symbol **trg**) is a mass of 1 chamadravya Cdrv = 1,0000 *1,296* dravyas.

1 **manu** (symbol **mnu**) is a mass of 2.3505 3001 2141 2314 0410 1152 0230 3041 4551 3131 5555 4200 5050 3515 × 10^{-55} 1.537 536 172 73$\overline{1\ 48}$ x 10^{-27} drv, equivalent to 1/20 1/2 of the mass of an unbound neutral atom of carbon-20 carbon-12 in its nuclear and electonic ground state and at rest.

Mass			
1 drv dravya	1.$\overline{0251\ 4}$ kg 1.08 kg	1 kg kilogram	0.532 drv 0.$\overline{925}$ drv
1 cdrv chatidravya	0.5 g 0.8$\overline{3}$ g	1 g gram	1.$\overline{1}$ cdrv 1.2 cdrv
1 eddrv ekaditidravya	0.3505 2 mg 0.643 004 mg	1 mg milligram	1.3155 3122... eddrv 1.555 2 eddrv
1 trg taranga	1,0251.$\overline{4025\ 1}$ kg 1,399.68 kg	1 kg kilogram	0.0000 532 trg 0.000 714 449... trg
1 trg taranga	1.2221 5524... t 1.399 68 t	1 t tonne	0.4141 5320 trg 0.714 449... trg
1 manu mnu	1 dal 1 dal	1 dal Dalton	1 mnu 1 mnu

Density			
1 gan gana	1.2055 1055… kg / m^3 *1.360 488 960 kg / m^3*	1 kg / m^3 kilogram per cubic metre	0.4224 3331 5224 gan *0.735 029… gan*

Mechanical Units

Force / Weight, Pressure, Energy / Work / Heat, Power

The set of coherent units defined below, defined from the dravya, the pada, and the agrima, all have a lot of interrelationship between then:

1 **bara** (symbol **bar**) is a force or weight of 1 dravya times 1 pada per 1 square agrima (drv · pad · agm^{-2}; (drv · pad) / agm^{-2});

1 **daba** (symbol **dab**) is a pressure of 1 dravya per 1 pada per 1 square agrima (drv · pad^{-1} · agm^{-2}; drv / (pad · agm^2));

1 **karya** (symbol **kry**) is the work done when a force of 1 bara displaces a mass of 1 dravya through a distance of 1 pada, or 1 dravya times 1 square pada per 1 square agrima (drv · pad^2 · agm^{-2});

1 **shati** (symbol **sht**) is the rate at which work is done, when an object velocity is held constant at 1 pada per 1 agrima against a constant opposing force of 1 bara, or 1 dravya times 1 square pada per 1 cubic agrima (drv · pad^2 · agm^{-3}; (drv · pad^2) / agm^3);

Unit	Can be expressed as
bara	drv · pad · agm^{-2} ; drv · pad · avt^2
bar	drv · tvr
daba	drv · pad^{-1} · agm^{-2} ; drv · pad^{-1} · avt^2
dab	bar · pad^{-2} ; bar · ksh^{-1}
	kry · pad^{-3} ; kry · ayt^{-1}
karya	drv · pad^2 · agm^{-2} ; drv · ksh · avt^2
kry	bar · pad
	dab · pad^3 ; dab · ayt
	sht · agm

shati	drv · pad^2 · agm^{-3} ; drv · ksh · avt^3
sht	kry · agm^{-1} ; kry · avt
	bar · pad · agm^{-1} ; bar · pad · avt
	dab · pad^3 · agm^{-1} ; dab · ayt · avt

Force / Weight			
1 bar	0.1425 5252… N	1 N	3.2324 24 bar
bara	0.291 600 N	Newton	3.429 355… bar
Pressure			
1 dab	0.2012 4442… Pa	1 Pa	2.5350 2211 3344 dab
daba	0.340 122 240 Pa	Pascal	2.940 119… dab
Energy / Work / Heat			
1 kry	0.1341 5304… J	1 J	3.412 kry
karya	0.27 J	Joule	$3.\overline{703}$ kry
Power			
1 sht	0.0512 5424… W	1 W	10.5052 52 sht
shati	0.145 8 W	Watt	6.858 710… sht

Electro-Magnetic Units

Electric Current, Charge, Potential Difference, Resistance, Conductance, Inductance, Capacitance, Magnectic Flux and Magnectic Flux Density

The **dara** (symbol **dar**) is the unit of electric current and it is defined by fixing the numerical value of the elementary charge *e* to be

$$4.3155\ 1540\ 3043\ 1014\ 4532\ 5122\ 0312\ 3253\ 1454\ 3223\ 0423\ 4513 \times 10^{-41}$$

$$1.602\ 176\ 634 \times 10^{-19}$$

when expressed in the unit of electric charge avesha (vsh), and the dara as equal to 1 avesha per 1 agrima (vsh · agm^{-1}; vsh/agm), or:

$$4.1335\ 0242\ 1135\ 1021\ 3252 \times 10^{-35}$$

$$3.370\ 414\ 899\ 960 \times 10^{18}$$

electrons worth of charge moving past a point in an agrima. From the dara and the avesha, we derive the following coherent units:

1 **vibava** (symbol **vbv**) is the electric potential difference of 1 karya per 1 avesha (kry/vsh);

1 **pratiroda** (symbol **ptr**) is the measure of electrical resistance, given by 1 vibava per 1 dara (vbv/dar);

1 **chalana** (symbol **chl**) is the measure of electrical conductance, given by 1 dara per 1 vibava (dar/vbv), or the inverse of the pratiroda (1/ptr);

1 **preraka** (symbol **prk**) is the measure of electrical inductance, given by 1 pratiroda times 1 agrima (ptr · agm);

1 **samai** (symbol **sam**) is the measure of electrical capacitance, given by 1 avesha per 1 vibava (vsh/vbv);

1 **abiva** (symbol **abv**) is the measure of a magnetic flux of 1 vibava per 1 agrima (vbv/agm);

1 **vistara** (symbol **vst**) is the mesure of the density of a magnectic flux of 1 abiva per 1 keshe, or 1 abiva per 1 square pada (abv/ksh; abv/pd^2);

As with the mechanical units, here are the interrelations between those units defined above:

Unit	Can be expressed as
dara dar	vsh · agm^{-1}
avesha vsh	dar · agm
vibava vbv	kry · vsh^{-1} dar · ptr abv · agm^{-1} sht · dar^{-1} drv · ksh · agm^{-3}· dar^{-1} ; drv · pad^2 · agm^{-3} · dar^{-1}
pratiroda ptr	vbv · dar^{-1} chl^{-1}

	sht · dar^{-2}
	vbv^{2} · sht^{-1}
	agm · sam^{-1}
	prk · agm^{-1}
	kry · agm · vsh^{-2}
	drv · ksh · agm^{-1} · vsh^{-2} ; drv · pad^{2} · agm^{-1} · vsh^{-2}
	kry · agm^{-1} · dar^{-2}
	drv · ksh · agd^{-3} · dar^{-2} ; drv · pad^{2} · agm^{-3} · dar^{-2}
chalana chl	dar · vbv^{-1}
	ptr^{-1}
	dar^{2} · sht^{-1}
	sht · vbv^{-2}
	sam · agm^{-1}
	agm · prk^{-1}
	vsh^{-2} · kry^{-1} · agm^{-1}
	agm · vsh^{2} · drv^{-1} · ksh^{-1} ; agm · vsh^{2} · drv^{-1} · pad^{-2}
	agm · dar^{2} · kry^{-1}
	agm^{3} · dar^{2} · drv^{-1} · ksh^{-1} ; agm^{3} · dar^{2} · drv^{-1} · pad^{-2}
preraka prk	ptr · agm
	ptr · vrt^{-1}
	drv · ksh · agm^{-2} · dar^{-2} ; drv · pad^{2} · agm^{-2} · dar^{-2}
	bar · pad · dar^{-2}
	drv · ksh · vsh^{-2} ; drv · pad^{2} · vsh^{-2}
	kry · dar^{-2}
	vrt · ksh · dar^{-1} ; vrt · pad^{2} · dar^{-1}
	abv · dar^{-1}
	vbv · agm · dar^{-1}
	agm^{2} · sam^{-1}
samai sm	vsh · vbv^{-1}
	agm^{4} · dar^{2} · ksh^{-1} · drv^{-1} ; agm^{4} · dar^{2} · pad^{-2} · drv^{-1}
	agm^{2} · vsh^{2} · ksh^{-1} · drv^{-1} ; agm^{2} · vsh^{2} · pad^{-2} · drv^{-1}
	dar · agm · vbv^{-1}
	sht · agm · vbv^{-2}
	kry · vbv^{-2}
	bar · drv · vbv^{-2}
	vbv^{2} · kry^{-1}
	vbv^{2} · bar^{-1} · drv^{-1}
	agm · ptr^{-1}
	ptr^{-1} · vst^{-1}

	chl · vrt^{-1} agm^{2} · prk^{-1}

Electric Current			
1 dar dara	0.3 $\overline{1235\,0}$ A 0.54 A	1 A Ampere	1.504 dar 1.$\overline{851}$ dar
Electric Charge			
1 vsh avesha	1 C 1 C	1 C Coulomb	1 vsh 1 vsh
Electric Potential Difference			
1 vbv vibava	0.1341 5304… V 0.27 V	1 V Volt	3.412 vbv 3.$\overline{703}$… vbv
Electrical Resistance			
1 ptr pratiroda	0.3 Ω 0.5 Ω	1 Ω Ohm	2 ptr 2 ptr
Electrical Conductance			
1 chl chalana	2 S 2 S	1 S Siemens	0.3 chl 0.5 chl
Electrical Inductance			
1 prk preraka	0.532 H 0.$\overline{925}$ H	1 H Henry	1.$\overline{0251\,4}$ prk 1.08 prk
Electrical Capacitance			
1 sam samai	3.412 F 3.$\overline{703}$… F	1 F Farad	0.1341 5304… sam 0.27 sam
Magnectic Flux			
1 abv abiva	0.3 Wb 0.5 Wb	1 Wb Weber	2 abv 2 abv
Magnectic Flux Density			
1 vst vistara	0.3255 4544… T 0.583 2 T	1 T Tesla	1.4142 12 vst *1.714 677… vst*

Temperature

1 **gatika** (symbol **gtk**) corresponds to a change of thermal energy kT by

$$1.3013\,2354\,1345\,2021\,5010\,3323\,3340\,5002\,2302\,2114\,5503\,3222 \times 10^{-45}\ \text{kry}$$

so that the Boltzmann constant k if defined exactly as

$$k = 1.3013\,2354\,1345\,2021\,5010\,3323\,3340\,5002\,2302\,2114\,5503\,3222 \times 10^{-45}\ \text{kry} \cdot \text{gkt}^{-1}$$

For civil temperature, we define the **tapa** (symbol **tap**), equal to the gatika, which scale starts 1325.2343 341.437 5 gtk, so that 1 tap equals to the temperature change of 1 gtk.

Contrary to the recommendation of the S.I. board to not use ° with Kelvin, usign just K, we can use °G for the gatika and for the tapa, as a parallel to °C for Celsius degrees, also called centigrade degrees, we can °S for the tapa, for sezimal degrees;

Thermodynamic Temperature			
1 gtk gatika	$0.\overline{4}$ K 0.8 K	1 K Kelvin	1.13 gtk 1.25 gtk
Civil Temperature			
1 tap tapa	$0.\overline{4}$ °C 0.8 °C	1 °C Degree Celsius	1.13 tap 1.25 tap

	Gatika	Kelvin	Celsius	Tapa
Absolute zero	0	0	−273.15	-1325.2343
Lowest recorded surface temperature on Earth	1021.5343	183.95	−89.2	-303.3
Ice melts	1325.2343	273.15	0	0
Triple point of water	1325.24$\overline{1}$	273.16	0.01	0.0024$\overline{1}$
Average surface temperature on Earth	1400.1043	288.15	15	30.43
Comfortable room temperature - lowest threshold	1403	290.75	18	34
Comfortable room temperature - highest threshold	1415	297.15	24	50
Human body hypothermia threshold below	1441.1043	308.15	35	112
Average human body temperature	1443.2343	309.95	36.8 ± 0.7	114 ± 1
Human body fever threshold above	1444.1513	310.65	37.5	115
Highest recorded surface temperature on Earth	1525.5343	331.15	58	200.3
Water boils	2054.2343	373.15	100	325
The surface of the Sun	5,3224	5,773	5,500	5,1455

The average human body temperature is 1442.3213 ~ 1443.2343 ~ 1444.1513 gtk = 113.043 ~ 114 ~ 114.513 tap (fever is 115 and above, hypothermia 112.5 and below);

Comfortable room temperatures are between 1404 ~ 1420 gkt ≅ 34.3 ~ 50.3 tap;

the avogadro number = 2.4202 2044 1202 5151 3504 4212 1413 4400 × 10^{50}

6.022 140 76 × 10^{23}

Appendix

"Light said: I know nothing of your time, and yet, I lift your day from darkness, I nourish all life, I lead your thoughts into the infinite; follow me, if only in your pace, and I shall let you see all, and measure all there is."

Names

Original Transliteration Pronunciation	Meaning	Used as base for
षष्ठाधारी ṣaṣṭhādhārī / ʂəʂʈʰaːɖʰaːriː /	षष्ठा ṣaṣṭhā = sixth, धारी dhārī = flows; that flows in sixths, sezimal	Shastadari
शून्य	Zero 0	shun

śūnya / ɕuːnjə /		
एक eka / eːkə /	One 1	eka
द्वि dṛvi / ɖ̤vi /	Two 2	di
त्रि tri / ʈ̤ri /	Three 3	tri
चतुर् catur / cəʈ̤ur /	Four 4	cha
पञ्चन् pañcan / pəɲcən /	Five 5	pan
मह maha / məɦə /	Abundant, great	ma
षष्ठ्य ṣaṣṭhya / ʂəʂʈʰjə /	One-sixth (it also has a bouba/kiki effect when paired with ma)	ti
उत्थानम् utthānam / uʈ̤ʈʰaːnəm /	Lift up	uta
पोषण poṣaṇa / poːʂəɳə /	Nourishing	posha
अग्रिम agrima / əgrimə /	Leading, preceding, first	agrima
अनुगामी anugāmī / ənugaːmiː /	Follower	anuga
बोध	Knowledge	boda

bodha / boːd̪ʰə /		
पद pada / pəd̪ə /	Pace, step	pada
द्रव्यमान dravyamāna / d̪rəvjəmaːnə /	Mass; द्रव्य dravya = thing	dravya
तरंग taraṃga /t̪ərəⁿgə/	Wave; the original etymology for tonne is a Proto-Celtic word for wave	taranga
परमाणु paramāṇu /pərəmaːɳu/	Atom	manu
आयतन āyatana / aːjət̪ənə /	Volume; the Hindi pronunciation is aytan / aːj.t̪ən / [äːj.t̪ə̃n̪]	aytan
वर्ती vartī / vərt̪iː /	Wrap, bandage, object rolled round, hence, container for a volume (it also lightly resembles vase)	varti
वेग vega / veːgə /	Speed	vega
क्षेत्रफल kṣetraphala / kʂeːt̪rəpʰələ /	Area	keshe
घनत्व ghanatva / gʰənət̪və /	Density	gana
भार bhāra / bʰaːrə /	Load, weight	bara
दाब dāba / d̪aːbə /	Pressure	daba

कार्य kārya / kaːrjə /	Work (physical)	karya
शक्ति śakti / ɕəkʈi /	Power (physics)	shati
धारा dhārā / ɖʰaːraː /	Stream (as in electric stream or current)	dara
आवेश āveśa / aːveːɕə /	Charge (as in electric charge)	avesha
विभव vibhava /vibʰəvə/	Potencial	vibava
प्रतिरोध pratirodha /prəʈiroːɖʰə/	Resistance	pratiroda
चालन cālana /caːlənə/	Conductance	chalana
प्रेरकत्व prerakatva /preːrəkəʈvə/	Inductance, persuasion	preraka
समाई samāī /səmaːiː/	Capacitance	samai
अभिवाह abhivāha /əbʰivaːɦə/	Flow	abiva
विस्तार vistāra /visʈaːrə/	Expansion, spread	vistara
ऊष्मागतिक ūṣmāgatika /uːʂmaːgəʈikə/	Thermodynamic, literally “the motion of steam”; गतिक gatika is motion, going, and ऊष्मा ūṣmā, vapor, steam	gatika

तापमान tāpamāna /t̪aːpəmaːnə/	Temperature, literally “heat measurement”; ताप is heat, मान is measurement	tapa
मात्रा mātrā /maːt̪raː/	Quantity, amount (mole)	matra
तीव्रता tīvratā /t̪iːvrət̪aː/	Intensity (candela)	tivrata
कोण kōṇa /koːɳə/	Angle	kona
घूर्णन ghūrṇana /gʱuːrɳənə/	Rotation	gurnan