

# Dimensions

## Quaestor dimensions or unit of measurement

In Quaestor every [parameter](#) should have a name, dimension and reference. Below the available dimensions are presented. In addition to the official dimension, an alternative presentation can be created using the [@WB DIM](#) attribute.

Wikipedia: [\[Unit of measurement\]](#)

*Please note that Quaestor automatically performs a dimension analysis for relations in the knowledge base. Whether the dimensions on the left and the right side of an expression match, is communicated to the user in the Frame viewer or the [Explanation windows](#). Furthermore, the dimension is used to calculate the proper input based on the DimensionConversion input provided with alternative dimensions.*

| Dimension description | Name | Available units          | Derivation           | Domain          |
|-----------------------|------|--------------------------|----------------------|-----------------|
| non-dimensional       | -    | -                        | -                    | Non-dimensional |
| meter                 | m    | k,d,c,m,mu,n,p,f,a       | m                    | Length          |
| Feet                  | Ft   | -                        | 0.3048*m             | Length          |
| Inches                | In   | -                        | 0.0254*m             | Length          |
| Statutory Miles       | Mi   | -                        | 1609.344*m           | Distance        |
| Nautical miles        | NMi  | -                        | 1852.009*m           | Distance        |
| liter                 | l    | -                        | 0.001*m <sup>3</sup> | Volume          |
| gram                  | g    | m,mu,n,p,f,a             | 0.001*kg             | Mass            |
| kilogram              | kg   | -                        | kg                   | Mass            |
| ton                   | t    | E,P,T,G,M,k              | 1000*kg              | Mass            |
| Pounds                | Pnd  | -                        | 0.45359*kg           | Mass            |
| second                | s    | m,mu,n,p,f,a             | s                    | Time            |
| minute                | min  | -                        | 60*s                 | Time            |
| hour                  | h    | -                        | 3600*s               | Time            |
| day                   | d    | -                        | 86400*s              | Time            |
| week                  | wk   | -                        | 604800*s             | Time            |
| year                  | yr   | -                        | 31557960*s           | Time            |
| knots                 | kts  | -                        | 0.514447*m/s         | Speed           |
| Newton                | N    | E,P,T,G,M,k              | kg*m/s <sup>2</sup>  | Force           |
| kgforce               | kgf  | -                        | 9.80665*N            | Force           |
| Joule                 | J    | E,P,T,G,M,k              | N*m                  | Energy          |
| electronVolt          | eV   | E,P,T,G,M,k              | 1.6020E-19*J         | Particle energy |
| calory                | cal  | k                        | 4.19*J               | Energy          |
| KiloWattHour          | kWh  | -                        | 3600000*W*s          | Energy          |
| Watt                  | W    | E,P,T,G,M,k,m,mu,n,p,f,a | J/s                  | Power           |
| Horsepower            | HP   | -                        | 736*W                | Power           |
| Pascal                | Pa   | E,P,T,G,M,k              | N/m <sup>2</sup>     | Pressure        |
| Bar                   | bar  | m                        | 100000*Pa            | Pressure        |
| Atmosphere            | at   | -                        | 98066.5*Pa           | Pressure        |
| PSI                   | PSI  | -                        | 6894.69*Pa           | Pressure        |
| centigrade            | c    | -                        | K                    | Temperature     |
| fahrenheit            | f    | -                        | 5/9*K                | Temperature     |
| Kelvin                | K    | -                        | K                    | Temperature     |
| Ampere                | A    | E,P,T,G,M,k,m,mu,n,p,f,a | A                    | Current         |

|             |         |                          |               |                              |
|-------------|---------|--------------------------|---------------|------------------------------|
| Volt        | V       | E,P,T,G,M,k,m,mu,n,p,f,a | W/A           | Voltage                      |
| VoltAmpere  | VA      | k                        | V*A           | Electric power               |
| Coulomb     | C       | E,P,T,G,M,k              | A*s           | Electric charge              |
| Farad       | F       | m,mu,n,p,f,a             | C/V           | Electric capacity            |
| Ohm         | Ohm     | -                        | V/A           | Electric resistance          |
| Siemens     | S       | -                        | 1/Ohm         | Electric conduction          |
| Hertz       | Hz      | E,P,T,G,M,k              | 1/s           | Frequency                    |
| mol         | mol     | -                        | mol           | Quantity of matter           |
| radians     | rad     | -                        | rad           | Angle                        |
| degrees     | deg     | -                        | Pi*rad/180    | Angle                        |
| steradians  | sr      | -                        | sr            | Space angle                  |
| Weber       | Wb      | -                        | V*s           | Magnetic flux                |
| Tesla       | T       | E,P,T,G,M,k,m,mu,n,p,f,a | Wb/m2         | Magnetic induction           |
| Henry       | H       | -                        | Wb/A          | Inductance                   |
| candela     | cd      | -                        | cd            | Light strength               |
| lumen       | lm      | -                        | cd*sr         | Light stream                 |
| lux         | lx      | -                        | cd*sr/m2      | Light strength               |
| Becquerel   | Bq      | -                        | 1/s           | Radiation activity           |
| Gray        | Gy      | -                        | m2/s2         | Radiation absorbed dose      |
| Curie       | Ci      | -                        | m2/s2         | Radiation absorbed dose      |
| rad         | rd      | -                        | 0.01*Gy       | Radiation absorbed dose      |
| Roentgen    | R       | -                        | 0.000258*C/kg | Radiation exposure           |
| decibel     | dB      | -                        | dB            | Ratio between two quantities |
| Items       | #       | -                        | #             | Object                       |
| Euro        | EUR     | M,k                      | EUR           | Money                        |
| EuroCents   | EUROCT  | -                        | 0.01*EUR      | Money                        |
| USDollars   | USD     | -                        | USD           | Money                        |
| Identifier  | ID      | -                        | ID            | General                      |
| Boolean     | BLN     | -                        | BLN           | General                      |
| Percent     | %       | -                        | %             | General                      |
| Object      | Obj     | -                        | Obj           | Function or Object           |
| Telitab set | Telitab | -                        | Str           | Telitab parameter            |
| String      | Str     | -                        | Str           | Function or parameter        |
| Numeric     | Num     | -                        | Num           | Functions                    |
| Logical     | Log     | -                        | Log           | Operators                    |
| Argument    | Arg     | -                        | Arg           | Functions                    |
| Various     | Var     | -                        | Var           | Various dimension            |

Quick links: [Functions overview](#) | [Attribute overview](#) | [Constants overview](#) | [Dimensions overview](#)