A.2 Standard units of measure and conversions for HI-EDE transactions using HI 50.7

Unit Group	Standard metric unit used for EDE	To convert from	to	Multiply by
Concentration	kg/m^3	lb/ft^3	kg/m^3	1.601846E+01
		lb/gal (US)		1.198264E+02
		ppm (Note 2)		1.000000E-03
Flow rate	m^3/s	ft^3/min (cfm)	m^3/s	4.719474E-04
		US gal/min (US gpm)		6.309020E-05
		m^3/h		2.777778E-04
		million US gal/day (US mgd)		4.381264E-02
Force	N	oz_f	N	2.780139E-01
		lb_f		4.448222E+00
Frequency	hz	1/s	hz	1.000000E+00
Head	m	ft	m	3.048000E-01
Length	m	ft	m	3.048000E-01
		mm		1.000000E-03
		in		2.540000E-02
Moment of Inertia	$kg•m^2$	$lb•ft^2$	$kg•m^2$	4.214011E-02
		$lb•in^2$		2.926397E-04
Power	W	hp	W	7.456999E+02
		kW		1.000000E+03
Pressure	Pa	atm	Pa	1.013250E+05
		bar		1.000000E+05
		ft of water		2.989067E+03
		in of Hg (60 °F)		3.386389E+03
		mm of Hg		1.333224E+02
		lbf/in^2 (psi)		6.894757E+03
Rotating Speed	rad/s	rpm (revolutions per minute)	rad/s	1.047198E-01
Specific Heat	j/(kg•K)	Btu/(lb•°F)	j/(kg•K)	4.184000E+03
		kJ/(kg•°C)		1.000000E+03
		cal/(gr•°C)		4.184000E+03
Specific Speed	n_s calculated using m^3/s, m	N_s calculated using US gpm, ft	n_s calculated using m^3/s, m	1.937984E-02
Suction Specific Speed	S calculated using m^3/s, m	N_{ss} calculated using US gpm, ft	S calculated using m^3/s, m	1.937984E-02
Temperature	°C	°F	°C	(°F–32)/1.8
Time	s	hours	s	3.600000E+03
Viscosity, Kinematic	m^2/s	cSt	m^2/s	1.000000E-06

NOTE 1: This table provides conversions for typical units of measure into the standard metric units adopted for a Hydraulic Institute EDE transaction. This is not intended to be an exhaustive list of unit conversions. Additional unit conversions may be obtained from NIST Publication 811 (2008). See http://physics.nist.gov/Pubs/SP811/.

NOTE 2: Parts per million (ppm) denotes the amount of a given substance in a total amount of 1,000,000 units, regardless of the units of measure used as long as they are the same, e.g., 1 milligram per kilogram. The concentration of a solute in a solvent is typically defined as the number of milligrams of solute per liter of solvent. For solutes with density near that of water, concentration values known in units of parts per million (ppm) can be equated to units of grams per cubic meter (g/m^3) = 1.0E-03 kg/m^3.