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## Nomenclature

$a$	Number of Carbon atoms
$b$	Number of Hydrogen atoms
$c$	Number of Oxygen atoms
$d$	Number of Nitrogen atoms
$c_p$	Mole specific heat at constant pressure
$c_{p,i}$	Specific heat of species i
$\bar{h}$	Mole specific enthalpy
$\bar{h}_{f,i}^0$	Enthalpy of formation
$H_R$	Enthalpy of reactants
$H_p$	Enthalpy of products
$K$	Equilibrium constant
$m_i$	Mass of species i
$M_i$	Molecular weight of species i
$n$	Total number of moles
$n_i$	Number of moles of species i
$n_{R,i}$	Number of moles of species i for reactants
$n_{p,i}$	Number of moles of species i for products
$P$	Total pressure
$P_1, P_2$	Total pressure at states 1and2
$Q$	Heat loss
$R$	Gas constant
$\bar{R}$	Universal gas constant
$\bar{s}$	Mole specific entropy
$T_a$	Adiabatic flame temperature
$T_R$	Reactants temperature
$T_p$	Products temperature
$T_{ref}$	The reference temperature
$U_1, U_2$	Internal energy at states 1and 2
$V_1, V_2$	Total volume at states 1and 2
$W$	Work done
$x_i$	Mole fraction of species i
$z_i$	Number of mole of species i
$\Phi$	Equivalence ratio
$\varepsilon$	Molar fuel air ratio

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