THREE PARAMETER EQUATION-1

Equation Parameters for Water

$A := -1.94 \quad B := -4.80 \quad C := 6.74$

Reference Values for Water

$\mu_0 := 1.7916 \text{ MPa s} \quad T_0 := 273.15 \text{ K}$

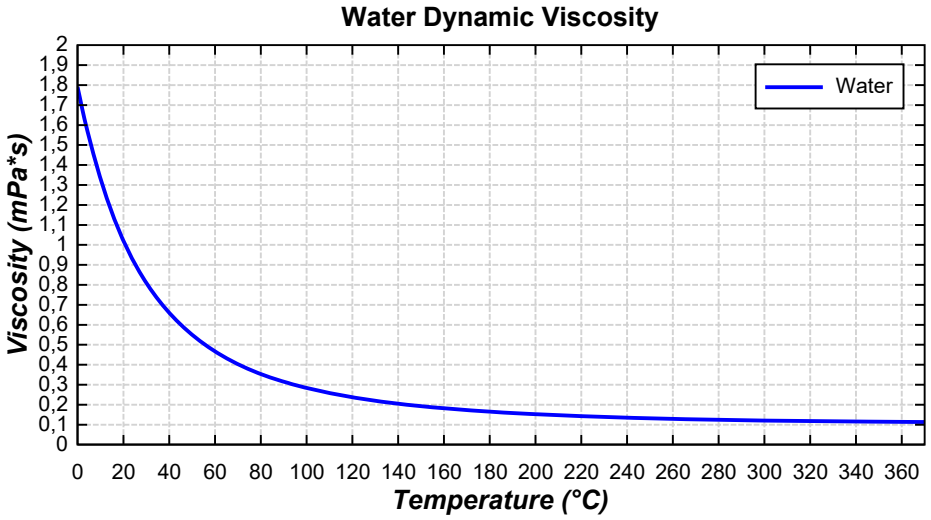
Temperature Table

$T := [0..370] \text{ °C}$

Viscosity Table

$$\mu := \mu_0 \cdot e^{\overrightarrow{A + B \cdot \left(\frac{T_0}{T}\right) + C \cdot \left(\frac{T_0}{T}\right)^2}}$$

Temperature (°C)	Viscosity (mPa·s)
0	1.7916
10	1.3297
20	1.0225
30	0.8107
40	0.6599
50	0.5496
60	0.4669
70	0.4037
80	0.3544
90	0.3153
100	0.2839



THREE PARAMETER EQUATION-2

Equation Parameters for Water

$A := -3.7188 \quad B := 578.919 \text{ K} \quad C := -137.546 \text{ K}$

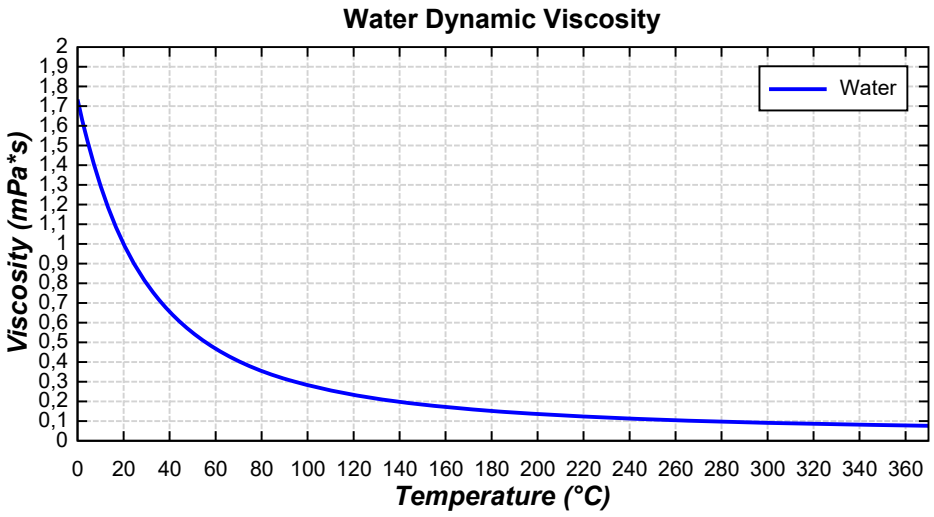
Temperature Table

$T := [0..370] \text{ °C}$

Viscosity Table

$$\eta := e^{\overrightarrow{A + \frac{B}{C + T}}}$$

Temperature (°C)	Viscosity (mPa·s)
0	1.7339
10	1.2933
20	1.0017
30	0.8001
40	0.6557
50	0.549
60	0.4681
70	0.4053
80	0.3557
90	0.3158
100	0.2832



FOUR PARAMETER EQUATION

Equation Parameters for Water

$$A := 1.856 \cdot 10^{-11} \quad B := 4209\ \mathrm{K} \quad C := \frac{0.04527}{\mathrm{K}} \quad D := \frac{-3.376 \cdot 10^{-5}}{\mathrm{K}^2}$$

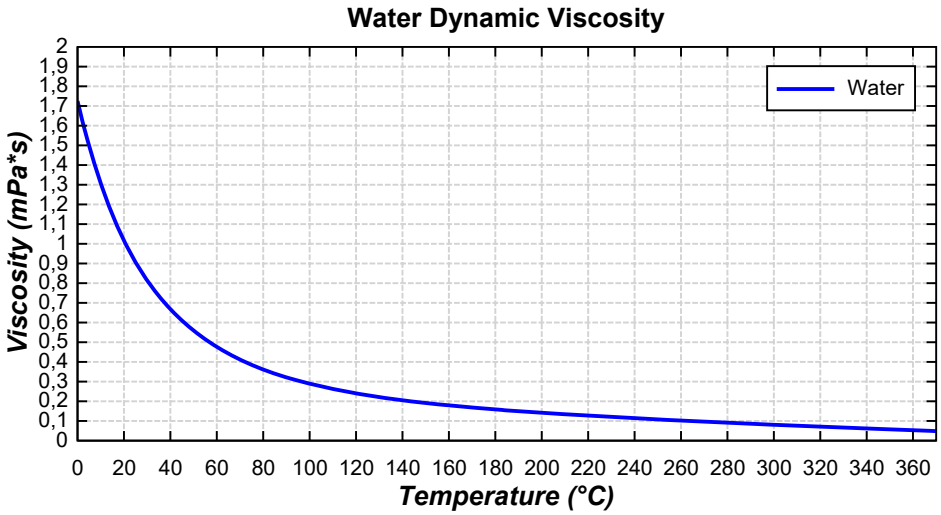
Temperature Table

$$T := [0..370]\ ^\circ\mathrm{C}$$

Viscosity Table

$$\eta := A \cdot e^{\frac{B}{T} + C \cdot T + D \cdot T^2}$$

Temperature (°C)	Viscosity (mPa·s)
0	1.7259
10	1.3053
20	1.0176
30	0.8149
40	0.668
50	0.559
60	0.4765
70	0.4127
80	0.3625
90	0.3223
100	0.2898



VOGEL-FULSCHER-TAMMANN EQUATION

Equation Parameters for Water

$$A := 0.02939\ \mathrm{MPa\ s} \quad B := 507.88\ \mathrm{K} \quad C := 149.3\ \mathrm{K}$$

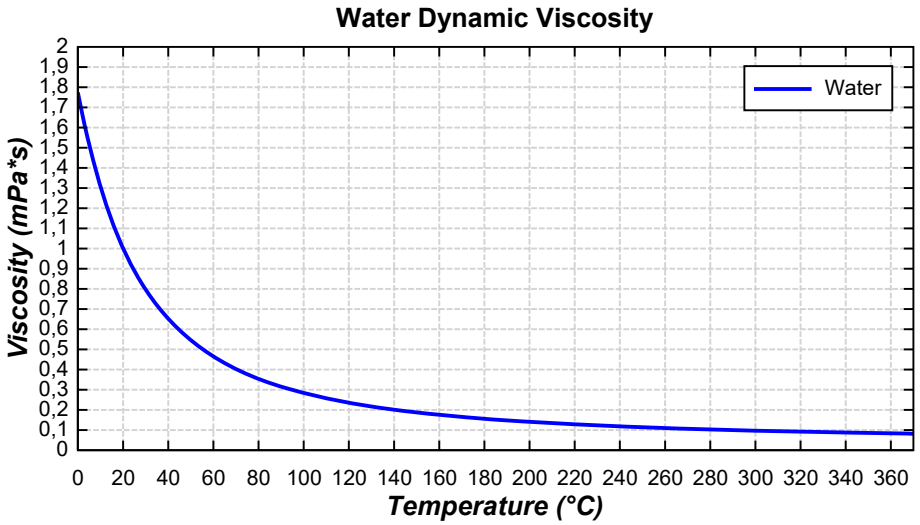
Temperature Table

$$T := [0..370]\ ^\circ\mathrm{C}$$

Viscosity Table

$$\mu := A \cdot e^{\frac{B}{(T - C)}}$$

Temperature (°C)	Viscosity (mPa·s)
0	1.7748
10	1.3064
20	1.0035
30	0.7977
40	0.6522
50	0.5457
60	0.4655
70	0.4037
80	0.355
90	0.316
100	0.2841



DERIVED EMPIRICAL EQUATION

Temperature Table

$T := [0..370]\ °C$

Formula

for $i \in [0..370]$

if $i < 95$

$\mu_{i+1} := \left(2.77388442 \cdot i^{6} - 1243.59703683 \cdot i^{5} + 229813.89243372 \cdot i^{4} - 23103721.0686735 \cdot i^{3} + 143393546\right.$

else

$\mu_{i+1} := \left((-0.45450686) \cdot i^{5} + 592.47759433 \cdot i^{4} - 315306.5024333 \cdot i^{3} + 86868859.3636402 \cdot i^{2} - 12933861\right.$

Temperature (°C)	Viscosity (mPa·s)
0	1.7916
10	1.3076
20	1.0005
30	0.797
40	0.6539
50	0.5474
60	0.4656
70	0.4024
80	0.3537
90	0.315
100	0.2814