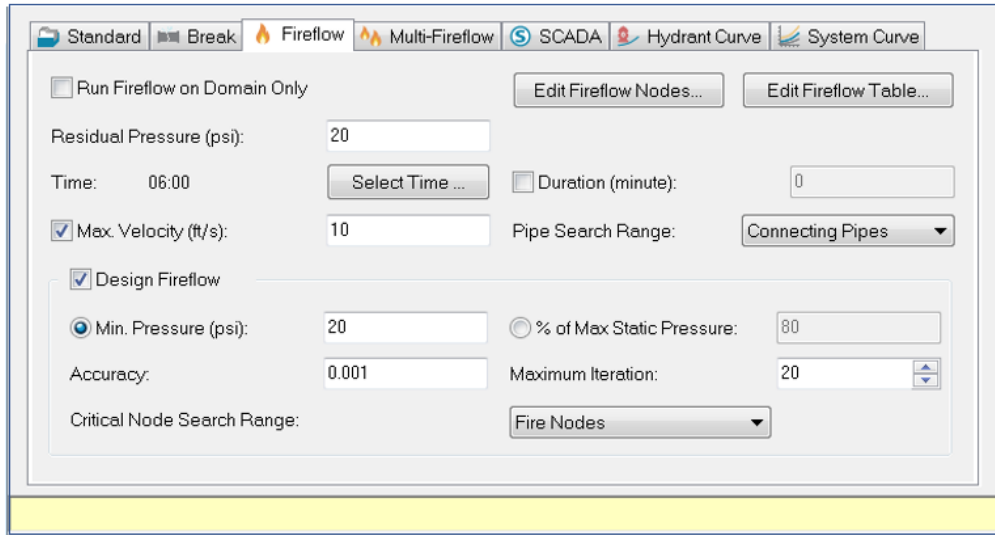


Fireflow

From the [Run Manager Dialog Box](#), use the Fireflow Tab to conduct Fire Flow Modeling Analysis. The Fire flow modeling process is a batch analysis of either all nodes with a fire flow demand assigned or all nodes within a domain with a fire flow demand assigned. The basic fire-flow analysis is a two-step process and it will automatically assign the fire-flow demand to each junction and solve for the residual pressure. Then it will set the residual pressure to the specified value and solve for the resulting flow. You can then determine the available pressure at the desired fire flow demand and the available flow at the minimum residual pressure.

InfoWater Pro provides comprehensive fire flow modeling capabilities. Fire demand requirements can be specified based on the various types of building structure (e.g., single-family residential, multi-family residential, commercial, industrial, etc.) or other fire demand characteristic.

Based on the fire flows specified, InfoWater Pro will calculate the maximum flow available at the hydrant while maintaining the user-specified residual pressure and, optionally, a maximum velocity constraint can also be applied. [Click here](#) to learn more about fire-flow demands and how to model a fire-flow simulation.



Run Fire Flow on Domain Only

If checked, fire-flow analysis will be performed on domain only.

Edit Fireflow Nodes

Opens the Group Edit function. See [Group Editing-Fire-Flow](#).

Edit FireFlow Table


Opens DB Editor -- Fire Flow Demand Table.

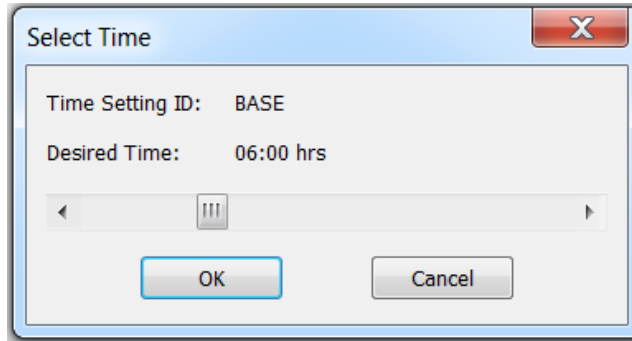
BASE	ID (Char)	Fire Flow (gpm)	Residual Pressure (psi)	Design Pressure (psi)	Generate Model Output (Boolean)
1	11	1,000.00			No
2	13	1,000.00			Yes
3	15	1,000.00			No
4	19	1,000.00			No
5	21	1,000.00			No
6	23	1,000.00			No
7	25	1,000.00			No
8	27	1,000.00			No
9	29	1,000.00			No
10	31	1,000.00			Yes
11	33	1,000.00			No
12	35	1,000.00			No
13	37	1,000.00			No
14	39	1,000.00			No
15	41	1,000.00			No

Residual Pressure

The minimum residual pressure, usually 20 psi, targeted at each hydrant (junction node) in the modeled fireflow set. InfoWater Pro will calculate the maximum flow available at the hydrant while maintaining the user-specified residual pressure.

Select Time

The hydraulic time period at which fire flows will be calculated. A hydraulic simulation will be performed for all timesteps up to and including the specified time period where fire flow simulation will be performed. Click **Select Time**  to launch the **Select Time** dialog box as shown below:



Left click on the Status bar and move the bar to specify the Fire Flow time step. Click **OK** to save and exit. Click **Cancel** to cancel and exit from the Select Time dialog box.

Duration

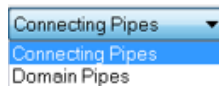
If this option is selected it allows you to extend the fireflow run over an extended time period from the defined fireflow instant. The duration entry in minutes is enabled only if the duration option is selected and the value entered is greater than zero. The module maintains the fireflow at the junction for the entire fire-flow duration. During this extended time period, the program will search for critical junction with the lowest pressure and the critical pipe with the highest velocity from the currently defined searching range. A separate report type "Fireflow Extended Time" will then be available from the Output Report Manager. The report highlights the critical conditions for this extended time run period.

Max. Velocity Constraint

The maximum velocity constraint targeted at the assigned pipes (Connecting Pipes or Domain Pipes). InfoWater Pro will calculate the maximum flow available at the hydrant while maintaining the user-specified residual pressure and satisfying the maximum velocity constraint.

Pipe Search Range

Used to specify which pipes will be selected for the maximum velocity constraint during the fireflow simulation. Choose either **Connecting Pipes** or **Domain Pipes**.



Design Fireflow

Minimum Pressure

When checked, InfoWater Pro determines the design flow (or the maximum flow available) from each junction node being simulated such that pressure within the [Critical Node Searching Range](#) does not drop below the minimum design pressure specified.

% of Max Static Pressure

When checked, InfoWater Pro determines the design flow (or the maximum flow available) from each junction node being simulated such that pressure within the [Critical Node Searching Range](#) does not drop below the percent of the maximum static pressure specified.

Accuracy

This is the convergence criterion used to signal that a solution has been found to the nonlinear fire flow equations. Trials end when the sum of all flow changes divided by the sum of all link flows is less than this number.

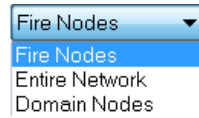
Suggested value is 0.001.

Maximum Iteration

Maximum number of trials used to solve the nonlinear fire flow equations. Suggested value is 40.

Critical Node Searching Range

Used to specify which nodes will be evaluated for minimum pressures during the fireflow simulation. Choose one option from the following: **Fire Nodes**, **Entire Network**, and **Domain**.



A dropdown menu with a blue header and a white body. The header contains the text 'Fire Nodes' and a small downward-pointing triangle. The body contains three options: 'Fire Nodes' (highlighted in blue), 'Entire Network', and 'Domain Nodes'.

The Domain option will be available only when a domain has already been created.



A Critical Node Searching Range must be set to a domain of junctions or an error message will be generated.