

# TECH NOTES

## FT-3500 Insertion Electromagnetic Flow Meter



### HOW TO USE ONICON AUTODESK® REVIT® FAMILY

#### OVERVIEW

The ONICON Revit Family is easy to use and incorporate into any project using Revit 2018 or later. The meter(s) will automatically connect to the piping system at the same elevation, inherit system types and provide installation guidance.

Further explanation of properties are provided with Tool Tips. Tool Tips are accessible by hovering over each parameter in the properties window.

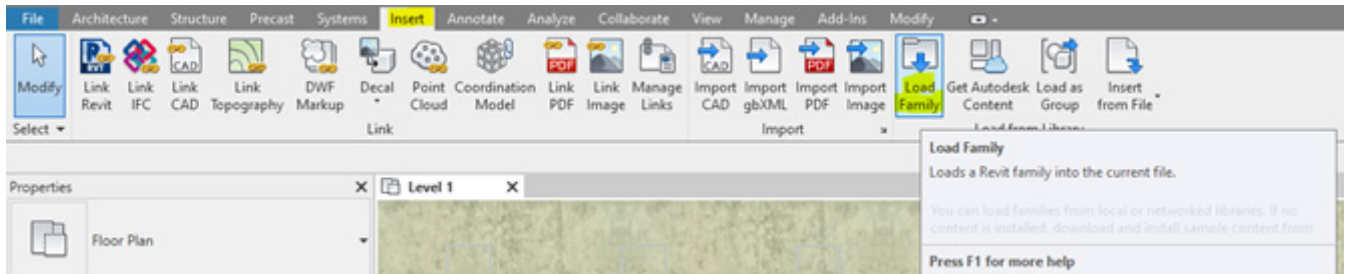
#### TOOLS REQUIRED

- Revit 2018 or later
- ONICON Revit zip file, located on the product page of the website.

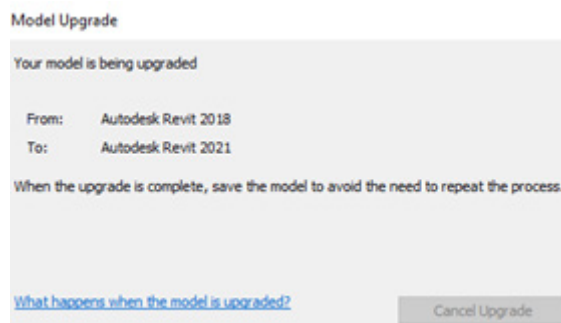


#### INSERT THE FAMILY INTO A PROJECT

1. Unzip the downloaded file and place the folder in a desired location.
2. In a floor plan view (Revit 2018 or later), navigate to the Insert tab on the ribbon and select **Load Family**.



3. Locate the .RFA file in your saved location and select **Open**. The model will automatically upgrade if the current version of Revit is 2018 or later.

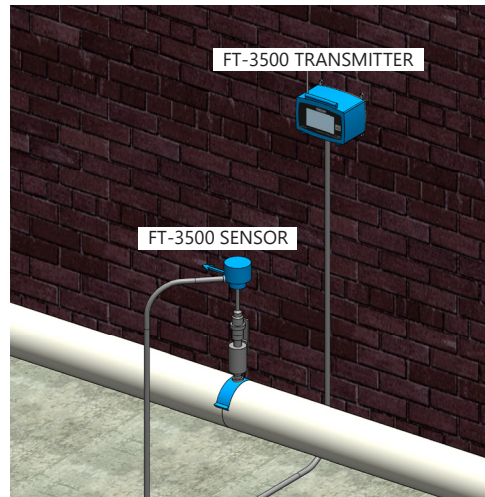


4. The family will be added to the Project Browser in the Families section, located under the **Pipe Accessory** category.

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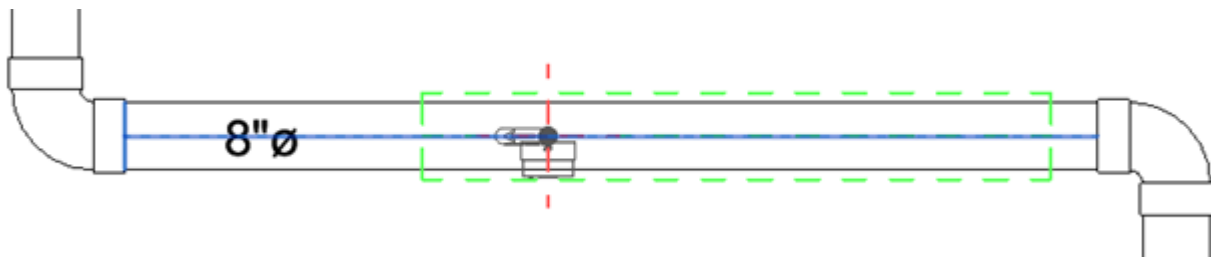
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5. Repeat as necessary for the transmitter and sensor families.



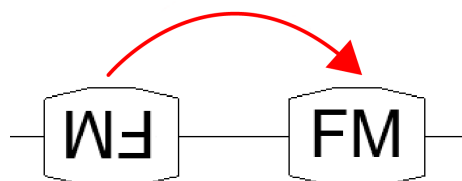
### ADDING THE FAMILY TO A PIPE SYSTEM

1. Click and drag the family from the Project Browser into a pipe. The centerline of the pipe, where the meter will cut into, will be highlighted.



With the meter selected, in the properties window, the following sections apply:

- 1.1 **GRAPHICS**  
**Symbol Flip** - In a medium or course detail level, if the text is not upright, select this toggle box to correct.



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### 1.2 TEXT

Change this form from the default "FM" to "FT" or user define for your nomenclature for a flow meter.

### 1.3 ELECTRICAL

- Select desired cable length from the predetermined list of lengths based on the distance to the transmitter (including bends and drops).
- By default, the ONICON Temp Sensor is selected, if RTDs are required, check the box for RTD.
- For the temperature sensors, you will also need to select hot tap or dry tap. Hot Tap is the default and recommended method.

### 1.4 DIMENSIONS

Input the nominal pipe diameter in the PIPE DIAMETER parameter.

### 1.5 MECHANICAL

**Max Flow - Design** - Allows the user to input a value for maximum design flow rate.

### 1.6 MECHANICAL - FLOW

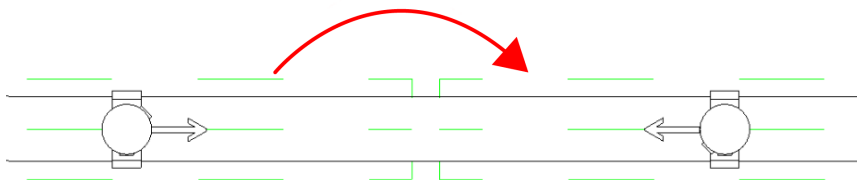
- Displays min and max flow rate of meter at selected size
- Select the nearest upstream obstruction from the checkbox list. This will automatically update the flow stream recommendation box to the recommended upstream straight run distance.

### 1.7 DATA

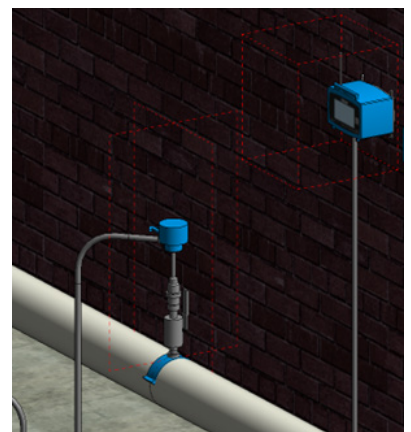
This section of check boxes aids in the ordering of the flow meter and the options available for the model (flow and energy, communications, Bluetooth, enclosure type, adapter type, temperature, etc.)

### 1.8 VISIBILITY

- One Way Flow Direction** - Toggle this box to change the flow direction arrow. This will change the stream recommendation box accordingly for upstream and downstream clearances.



- Bi-directional Flow Meter** - This toggle box will remove the flow directional arrow from the top of the meter and will update the flow recommendation box accordingly.
- Installation Clearance Vis** - This box toggles the visibility of the red installation clearance box required for installing the flow meter.

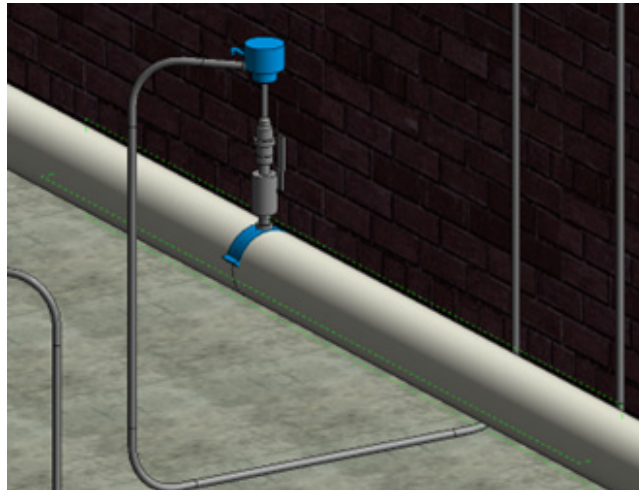


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- d. **Flow Stream Recommendation Box** - This box toggles the green stream recommendation box. This is a recommendation for straight run of pipe before and after obstructions. Please speak with your ONICON representative if you cannot meet this recommendation in your piping as there are options for meters that do not have the amount of straight run recommended.



- e. **Pipe Saddle Installation** - Toggles visibility of the Pipe Saddle for PVC or Carbon Steel installation.
- f. **Weldolet Installation** - Toggles visibility of the Weldolet installation.

### 1.9 OTHER

**...Tap for...** - Select the specific application of pipe for the installation kit required with the meter.

### 1.10 IDENTITY DATA

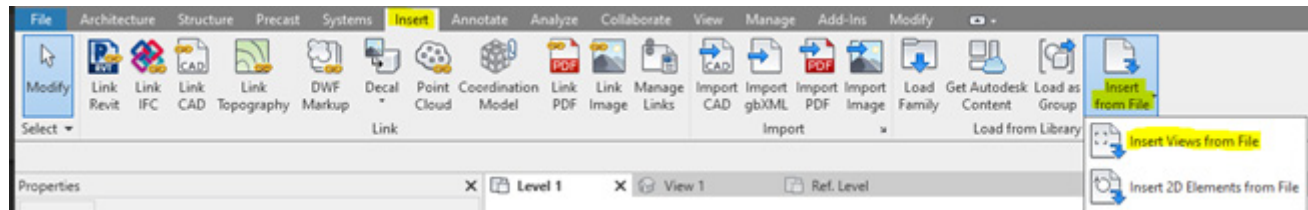
**Mark** - User input for name of individual meter mark value Ex.) FM-1, FM-2, etc. ONICON recommends labeling both the transmitter and the sensor with a tag that relates the two to each other. For instance FM-1S and FM-1T (for Flow Meter - 1 sensor and Flow Meter - 1 transmitter)

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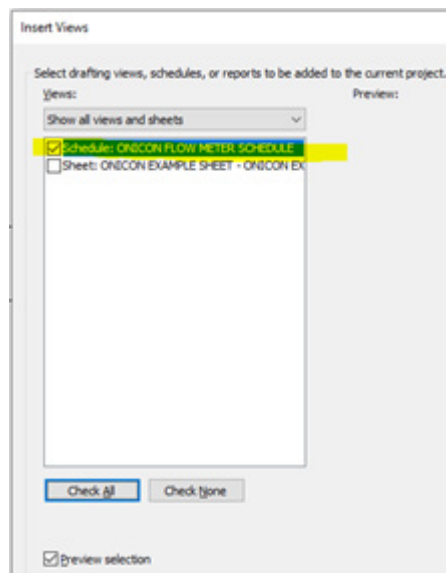
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### INSERT ONICON SCHEDULE INTO PROJECT

1. In a floor plan view (in Revit 2018 or later), navigate to the insert tab on the ribbon and select **Insert Views from File** and navigate to **ONICON\_FLOW\_METER\_SCHEDULE**



2. Select the Schedule: **ONICON FLOW METER SCHEDULE** and insert into project.



3. In the Project Browser under Schedules/Quantities, the newly added schedule **ONICON FLOW METER SCHEDULE** is listed. ONICON Meters in the project will automatically be populated into this schedule. If an installation kit or transmitter cable length are not specified, the cell will highlight as an alert.

ONICON FLOW METER SCHEDULE														
TAG #	QTY	MODEL	PIPE DIAMETER	MANUFACTURER	SYSTEM TYPE	MAX DESIGN FLOW RATE	Cable Length (ft)	ONICON Installation Kit (FM / Temp)	(A) Meter Configuration & I/O	(B) Communications	(C) Bluetooth	(D) Enclosure Type and Cable	(E) Pipe Size Range and Meter Length	(F) Wetted Material
FM-1	1	FT-3500	1 1/2"	ONICON	Hydronic Supply	50 GPM	25	Not Specified	1 - FLOW ONLY	1 - RS-485 & IP COM	0 - NO BLUETOOTH	0 - CONDUIT ADAPTERS	A2	F - NOT SELECTED
FM-1	1	FT-3500 (Transmitter)	10"	ONICON	Undefined									
FM-2	1	FT-3500 (Transmitter)	10"	ONICON	Domestic Cold Water	2500 GPM	50	Not Specified	2 - FLOW AND ENERGY	0 - NO COM	0 - NO BLUETOOTH	1 - STRAIN RELIEF	C3	2 - Temp <250F
FM-2	1	FT-3500 (Transmitter)	16"	ONICON	Undefined									
FM-3	1	FT-3500 (Transmitter)	16"	ONICON	Hydronic Supply	1000 GPM	100	INSTL0018-FMD	1 - FLOW ONLY	1 - RS-485 & IP COM	0 - NO BLUETOOTH	0 - CONDUIT ADAPTERS	D4	F - NOT SELECTED
FM-3	1	FT-3500 (Transmitter)	20"	ONICON	Undefined									
FM-4	1	FT-3500	20"	ONICON	Other	5000 GPM	150	Not Specified	2 - FLOW AND ENERGY	1 - RS-485 & IP COM	0 - NO BLUETOOTH	0 - CONDUIT ADAPTERS	E5	F - NOT SELECTED
FM-4	1	FT-3500 (Transmitter)	24"	ONICON	Undefined									
FM-5	1	FT-3500	24"	ONICON	Undefined	20000 GPM	200	INSTL01DW-FMD	2 - FLOW AND ENERGY	1 - RS-485 & IP COM	1 - BLUETOOTH	0 - CONDUIT ADAPTERS	F6	1 - Temp <150F
FM-5	1	FT-3500 (Transmitter)	1 1/2"	ONICON	Undefined									
FM-6	1	FT-3500	1 1/2"	ONICON	Hydronic Return	50 GPM	25	Not Specified	1 - FLOW ONLY	1 - RS-485 & IP COM	0 - NO BLUETOOTH	0 - CONDUIT ADAPTERS	A2	F - NOT SELECTED

