



GF Piping Systems

Revit Manual



May 2018

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1 Quick Start guide

GF Piping Systems Revit Packages

- GF Piping Systems Revit Packages contains 3D elements as well as ancillary items such as tags, schedules of pipes, fittings and accessories. It includes warning signs for customized products, as well as a Product Check View for validation for every product line.
- The user should import files as indicated in GF Piping Systems manual to get all benefits from GF Piping Systems Revit Package.
- The GF Piping Systems packages for Revit also include COBie parameters and, if applicable, CIBSE. In general the shared parameters from the Revit Standards Foundation are used.

Insert Pipes, Pipe Fittings and Accessories.

- To start creating piping systems choose a pipe type as well as diameter. Once you change the direction of the pipe pre-defined and preferred piping fittings will be inserted automatically with the desired and available angle.
- For further information please read a relevant chapter.

Orientation management and different types of fittings

- With Revit Packages from GF Piping Systems you can easily manage orientation of fittings, accessories as well as substituting
- A created non-existing fitting would give you a customized fitting pop-up warning message and a red exclamation mark.

Completed solutions for Accessories and fittings

- GF Piping Systems provides unique solutions for fittings as well as accessories. Using GF Piping Systems with a few clicks you will be able to apply couplers to fittings as well as flange adaptors to certain type of valves. Easy, quick and effective!

Always use the updated packages

- Revit Packages from GF Piping Systems will be updated time by time therefore please make sure you have the newest version of the package. Revit Packages contain data for Package releases as well as modification dates at family-level.

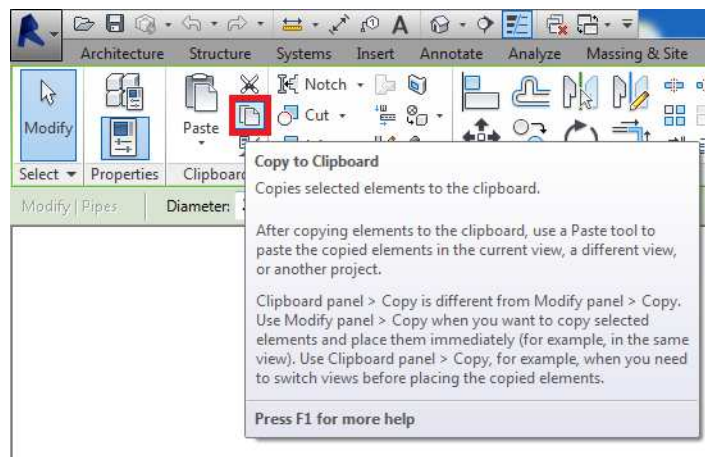
2 General Information

GF Revit Packages contain more than standard Revit pre-modelled families, therefore please follow the instructions inserting packages into your project in order to keep all GF Piping Systems benefits.

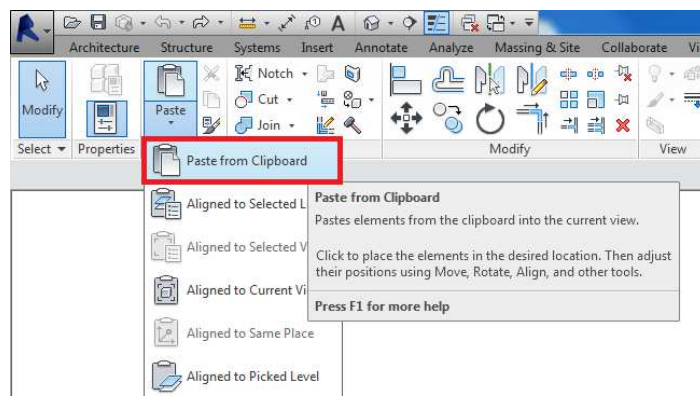
2.1 How to transfer GF Revit products into a Revit Project

To transfer GF Revit products:

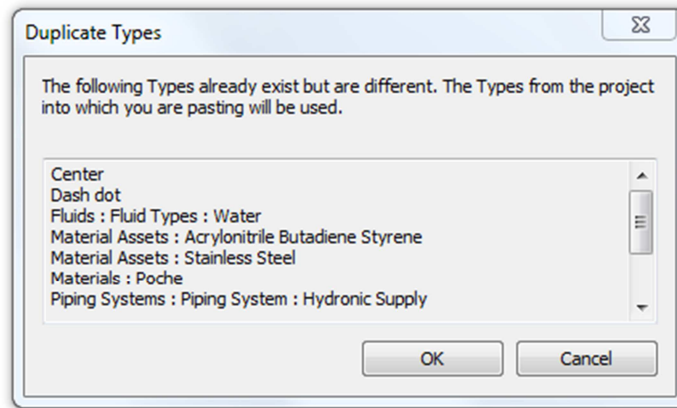
1. Open a GF Piping Systems Revit Package
2. Select a pipe from GF Piping Systems Revit Package and click 'Copy to Clipboard' (Picture 1.)
3. Open your Revit Project where you would like to copy the package and click 'Paste from Clipboard' (Picture 2.)
4. Once the copying process starts some messages will pop up for Duplicate Types (Picture 3.)
5. Once the copying is completed some part of GF Piping Systems Package is transferred into your Revit Project together with pre-defined routing preferences and preferred pipe fittings



Picture 1. Copy to Clipboard



Picture 2. Paste from Clipboard



Picture 3. Duplicate Types message copying Pipes

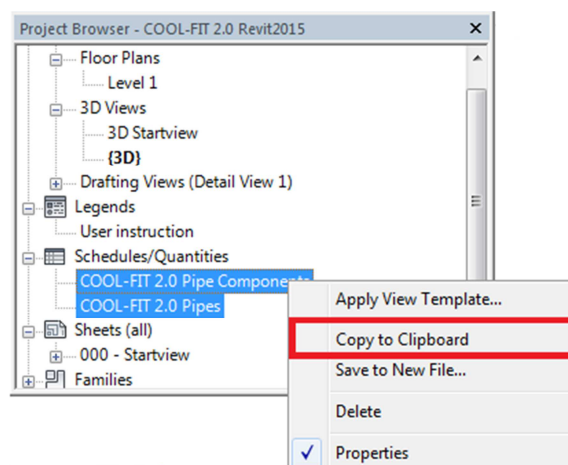
2.3 How to transfer other GF Piping Systems Revit Families into a Revit Project

Copying a pipe from GF Piping Systems Revit Package to another Revit Project transfers all preferences and fittings from one file to another. Some fittings as well as pipe accessories will not be copied at the same time as they are not included in routing preferences. In order to copy those families please copy it separately using the same procedure as mentioned in clause 2.2 The only difference is that you might not experience 'Duplicate types' message.

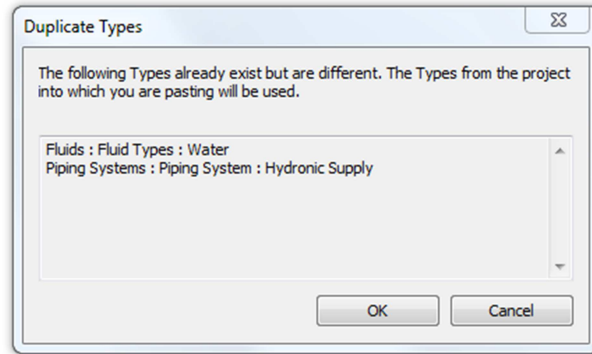
2.4 How to transfer GF Piping Systems Revit Schedules into a Revit project

In order to keep the article number for the pipes you can easily copy customized GF Piping Systems schedules into your project. To copy customized schedules:

1. Open GF Piping Systems Revit Package
2. Select pipes and pipe components from Schedules/Quantities and click 'Copy to Clipboard' (Picture 4)
3. Open your Revit Project where you would like to copy the package and click 'Paste from Clipboard' (Picture 2)
4. Once the copying process starts a message will pop up for 'Duplicate Types' (Picture 5)
5. Once a copying procedure is completed GF Piping Systems Revit Customized Schedule will be transferred into your Revit Project and will be ready to use.



Picture 4. Copy to Clipboard from Project Browser



Picture 5. Duplicate Types copying Schedules

2.5 How to insert pipe fittings and accessories into a Revit Project

To insert pipe fittings:

1. From System Tab find Plumbing & Piping panel
2. From Plumbing & Piping toolbox click Pipe Fitting or Pipe Accessories;
3. From drop down menu in property pallet choose desired fitting/accessory or use search function to find a fitting
4. Once the desired fitting/accessory is selected you are able to insert it into a project

2.6 How to transfer GF Piping Systems Product Check View into a Revit Project

GF Piping Systems Product Check View facilitates to identify all GF products as well as customized products. For further information please see page 9.

To insert a GF Piping Systems Product Check View:

1. Open your Revit Project file as well as GF Piping Systems Revit Package
2. Once your Revit Project file is opened from Mange tab click 'Transfer Project Standards'
3. Once a table is opened click 'Check None' and select only 'View templates'. Please make sure standards are copied from GF Piping Systems Revit Project
4. Click OK
5. In Revit Project using any existing 3D view or creating a new view the user should find 'View template' in a 'Properties palette choose GF Piping Systems Product Check
6. Click Ok to enable this function

2.7 How to make changes for pipes, fittings as well as accessories

To make changes:

1. Select a component you would like to replace
2. From drop down menu located in properties pallet choose a new component you would like to use
3. Once the family-type is selected (not the family-name) it will be replaced within seconds

2.8 How to transfer GF Piping Systems Revit Tags into a Revit Project

To copy GF Piping Systems Tags:

1. Select a GF Piping Systems Tag once a GF Piping Systems Revit Package is opened
2. From *Modify | Pipe Fitting* Tags find Mode toolbox and click 'Edit Family'
3. Once family is opened click 'Load into Project and Close'

3 Working with Pipes, Fittings and Accessories

3.1 Nominal Diameter VS Outer Diameter

At the moment GF Piping Systems Revit Packages offer various ranges of pipes for each product line using DN (Nominal diameter) as the key diameter. The main reasons why Nominal Diameter and not OD (Outer Diameter) used are: it supports design and engineering methodology for planners and it is the only way for material interchange.

3.2 Comparison

<i>Standard Revit</i>	<i>GF Piping Systems Revit Package</i>
<ul style="list-style-type: none"> • Any sizes available are allowed • Generic data and limited shapes • Only standard plumbing components 	<ul style="list-style-type: none"> • All available sizes and angles from the catalogue only • Accurate dimensions • Includes article number • Include various adapter components • For some elements there are additional features for 'reverse direction' • Modelled with data-protective technique • Error exclamation • Clearance zones for valves • Direction-sensitive for valves • Non-standard components • Contains all necessary technical data • COBie • CIBSE parameters • Revit Standards Foundation Parameters • GF Product Validation View

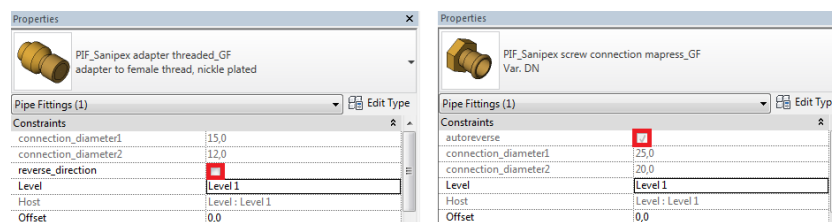
3.3 Comparison highlights

- Only available sizes from a catalogue are available in GF Piping Systems Revit Packages to ensure maximum benefits and efficiency for designers and planners
- Accurate dimensions ensure the highest accuracy as well as predictability designing piping systems
- Every product has a unique article number (catalogue code). Possessing a unique catalogue code a user is able to find a part in seconds (Picture 6)

A	B	C	D	E	F	G
		size			Article Nr.	Article Descr.
wc	c01	c02	c03	*		
Ball valve type 546 PP - PB-flange adaptor - socket fusion						
1	15	15			760000337	Ball valve type 546 PP - PB-flange adaptor - socket fusion d20
1	32	32			760000340	Ball valve type 546 PP - PB-flange adaptor - socket fusion d40
1	50	50			760000342	Ball valve type 546 PP - PB-flange adaptor - socket fusion d63

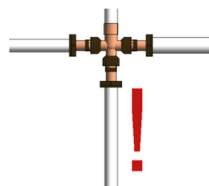
Picture 6. GF catalogues with catalogue code (article number)

- 'Reverse direction' and 'auto reverse' functions allow transitions to be designed more efficiently and accurately with minimal efforts (Picture 7)



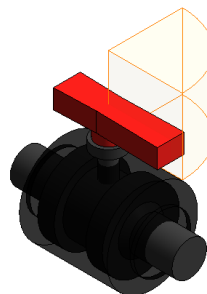
Picture 7. 'reverse direction' and 'autoreverse' functionality

- Some digital parts might be sensitive for changes therefore GF Piping Systems digital models include all necessary protection measures to ensure resistance to unpredictable changes
- To avoid any customized products red exclamation mark function is included in all GF Piping Systems Revit packages



Picture 8. Red exclamation mark

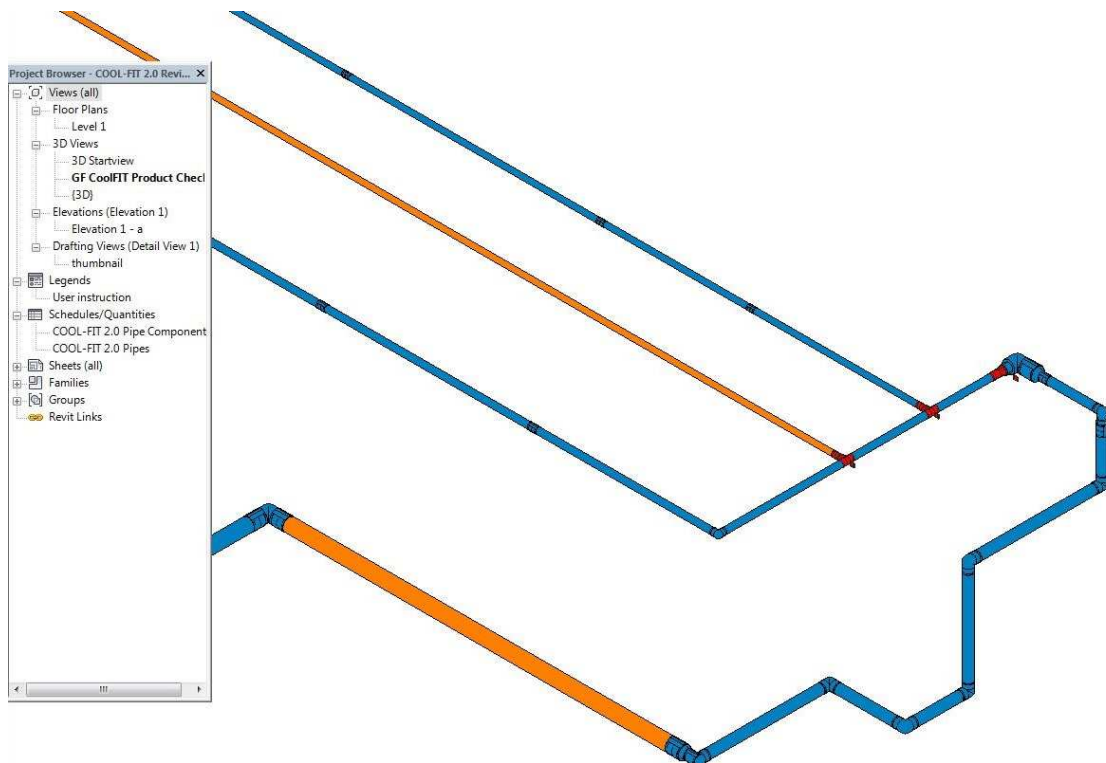
- To ensure accessibility and full functionality GF Piping Systems Revit packages includes clearance zones for valves (Picture 9)



Picture 9. Clearance zone

- All valves and some other accessories in GF Piping Systems Revit Packages are direction-sensitive (placing valves or other elements it aligns the correct direction)
- Some GF Piping Systems Revit Packages provide non-standard components such as filters, boxes, distributors, built-in boxes and much more

- The models contain all necessary data for common use in projects. It includes the majority of parameters required for BIM projects
- BIM desired COBie parameters have been added in all pipes, fittings and accessories
- The crucial Product Data Template (PDT) parameters from CIBSE are also included in all valves
- Revit Standards Foundation parameters allow smoother collaboration between design teams
- GF Piping Systems Product Validation View helps customers to identify mistakes. Validation View indicates available GF Piping Systems products in blue, non-standard pipe lengths in orange and customized parts in red (Picture 10)



Picture 10. GF Piping Systems Product Check View

3.4 Notes

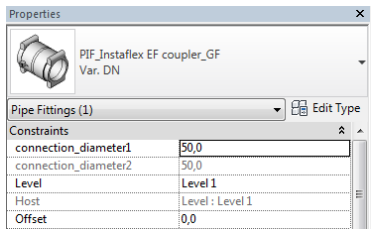
A user should be aware of used nested families in some products. Using a product which has nested families affects functionality in schedule. The key disadvantage is that system information is missing.

4 Tips

4.1 Splitting pipes into different lengths

To split a pipe:

1. Place 'Aligned Dimension' between centers of two targeted couplers
2. Once it is completed a coupler which will change the location should be selected
3. Selecting the coupler activates a dimension which becomes editable (Picture 11)

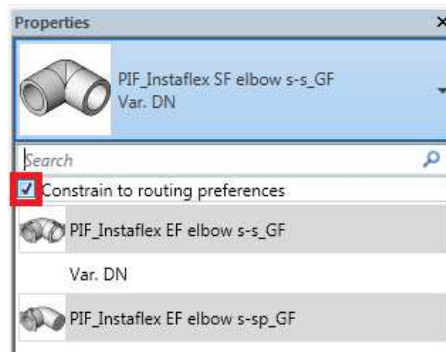


Picture 11. Changing pipe length

4.2 Choosing only available options for changing components

To replace one or another component:

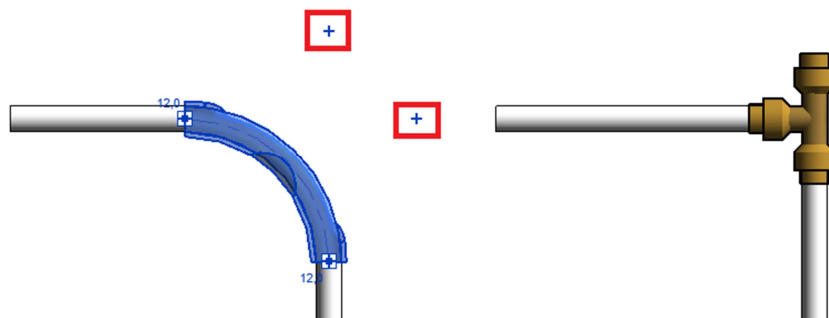
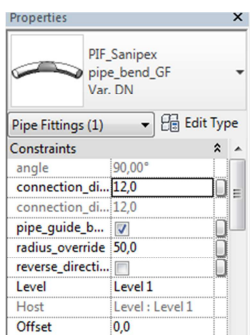
1. Select the component and choose a new component from drop down menu list as mentioned in the clause 2.7
2. To refine an option list tick a box 'Constrain to routing preferences' located in drop down menu list (Picture 12)



Picture 12. Refining an option list

4.3 Changing elbows to branches

The easiest way to swap branches for bends and vice versa is to use small + or - signs located near branches and elbows. Converting from bend to branch you would need to click '+' sign meanwhile converting from branch to elbow you would have to click '-' (Picture 10).



Picture 10. Swapping bends and branches

4.4 Multi-reducer

The reducing or enlarging difference might be so much that it requires a cascade of reducers. Such is called a multi-reducer. The Revit-packages do automatically validate the available reducing components needed to adapt to the large and small diameters.