Products & Professional Services

**Fully Constructible BIM**

We provide solutions that enable contractors to develop fully constructible CAD or Revit models with “real world” intelligent MEP components and ductwork.

Estimate, draw, fabricate & install. All this from a fully integrated single database using Building Data.

This yields speed and accuracy in the construction process, and reduces labor costs which increases efficiency, productivity, and improves quality in the shop and on the jobsite.

[www.building-data.net](http://www.building-data.net)

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**Training, Support, & Setup**

The most reliable credential is experience, and that’s why our staff is comprised of individuals that got started in the mechanical trades and moved on to find their home in software and support.

While not the most rare cross section of expertise, it’s still specialty enough to provide a unique method of deploying on-site training personnel and configuration assistance.

Meanwhile, our remote software support is also equipped with trade experience and screen capture technology using Zendesk to assist you in your day to day tasks.

[www.tsi-software.com](http://www.tsi-software.com)

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**Trimble & Autodesk Partner**

As an Autodesk partner, you can package any Autodesk software or suites with our bolt on applications for AutoCAD & Revit, establishing a single resource for support, training, and maintenance.

As soon as the preconstruction process is finished, our Trimble packages come with benefits like a yearly firmware upgrade, calibration, and cleaning for your Trimble equipment and scanners. Plus the three week loaner program as insurance, should any of your equipment become inoperable, including accidents.

It’s truly a single stop for all of your MEP needs, from estimation all the way up through fabrication.
The Level of Development (LOD) Specification

“...defines and illustrates characteristics of model elements of different building systems at different Levels of Development. This clear articulation allows model authors to define what their models can be relied on for, and allows downstream users to clearly understand the usability and the limitations of models they are receiving.”

- BIMForum website

LOD 100
Conceptual design, the model consists of overall building massing and the downstream users are authorized to perform whole building types of analysis (volume, building orientation, cost per square foot, etc.)

LOD 200
Similar to schematic design or design development, the model would consist of “generalized systems or assemblies with approximate quantities, size, shape, location and orientation.” Authorized uses would include “analysis of selected systems by application of generalized performance criteria.”

LOD 300
Model elements are suitable for the generation of traditional construction documents and shop drawings. As such, analysis and simulation is authorized for detailed elements and systems

LOD 350
Detailed Elements

LOD 400
Contractor or Manufacturer Elements

LOD 500
The final level of development represents the project as it has been constructed, the as-built conditions. The model is suitable for maintenance and operations of the facility.

 SysQue & Revit

The SysQue Addin for Revit’s MEP systems enables the platform to detail at all levels of development, from LOD 100 - LOD 500, additionally providing tools for the up and coming LOD 350.
The Backbone of our BIM

It’s like the workhorse that won’t be sold without a fancy saddle. You’ll see many amazing things offered to you by the SysQue product, but make no mistake; none of this would be possible without the thorough and intensive work behind the BuildingData service.

It truly is a one of a kind library, because the work and dedication required to make this happen takes years of dedication.

BuildingData can exist without SysQue, but SysQue cannot exist without BuildingData. Understand that by virtue of being a SysQue user, you would inherently become a BuildingData user. But you won’t miss the additional workload of creating and maintaining each component for your systems.

Built From Scratch

Have you ever downloaded a manufacturer Revit family file for equipment or components, only to find that the geometry was entirely unreliable? We’ve seen that. That’s why BuildingData starts from the submittal first, always. The components for our libraries are then fashioned according to ISO9001 standards and checks.

After the library items are developed, we keep the PDF file on our webhost so that your BIM model items will inherently link back to the submittal that your components were built from.

Essentially, what we’re saying here is that we don’t trust anyone else to build your content correctly for you, nor do we trust anyone else to maintain your submittal libraries for you. So we do it all from start to finish.

Millions of Items

Some ideas are great on paper, but don’t pan out so well once they’re applied. BuildingData is an idea that has proven itself.

Our catalogues contain, in total, 2,138,928 items as of April of 2014. Out of the few services out there that have endeavored to compete, none have come close. And you’re more than welcome to vet this claim.

Complimentary to our existing libraries, we also provide easy ways to request new content, or provide feedback about products that are already in the library. All of these as a part of our BuildingData subscription service.

www.building-data.net
Real vs Generic
If the piping content in the model doesn’t match a manufacturer’s geometry and standards, it’s not SysQue. Out of the box Revit draws what we like to call “cartoon” items. This includes monolithic straight pipe, elbows and tees without connectors, and there’s no cost or labor data associated with it. SysQue Pipe, however, has all of these features and it achieves this automatically.

Convert or Design
With engineers and architects drawing in Revit, it will often be the case that the piping systems will already be modeled at the start of the project. With SysQue, you have the choice between converting existing generic revit models, or drawing from a blank project. Or, realistically speaking, you can mix both methods.

Connectivity Rules
SysQue uses connectivity rules from one component to the next. This drives a multitude of ways that your Revit systems will now automatically spot when to use weld gaps, tee drills, thread o’lets, and male to female connections. As you would expect, this keeps all of your pipe lengths true to the real world product.
### CH_2 CS-5 Pipe Schedule

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Size</th>
<th>Length</th>
<th>Material Description</th>
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</thead>
<tbody>
<tr>
<td>10</td>
<td>12&quot;</td>
<td>1' - 11 1/4&quot;</td>
<td>Pipe Mill List CS Std Wt A53 ERW Gr-B Pipe Grv x Grv CS GRY Victaulic</td>
</tr>
<tr>
<td>11</td>
<td>12&quot;</td>
<td>3' - 4 1/8&quot;</td>
<td>Pipe Mill List CS Std Wt A53 ERW Gr-B Pipe Grv x Grv CS GRY Victaulic</td>
</tr>
<tr>
<td>12</td>
<td>12&quot;</td>
<td>1' - 6 3/4&quot;</td>
<td>Pipe Mill List CS Std Wt A53 ERW Gr-B Pipe Grv x Grv CS GRY Victaulic</td>
</tr>
<tr>
<td>13</td>
<td>12&quot;</td>
<td>2' - 0&quot;</td>
<td>Pipe Mill List CS Std Wt A53 ERW Gr-B Pipe Grv x Grv CS GRY Victaulic</td>
</tr>
<tr>
<td>14</td>
<td>12&quot;</td>
<td>6' - 4 5/8&quot;</td>
<td>Pipe Mill List CS Std Wt A53 ERW Gr-B Pipe Grv x Grv CS GRY Victaulic</td>
</tr>
</tbody>
</table>

### CH_2 CS-5 Fitting Schedule

<table>
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<th>Manufacturer</th>
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<tr>
<td>1</td>
<td>2</td>
<td>12&quot;-12&quot;</td>
<td>Victaulic</td>
<td>Victaulic DI IPS Painted NO 10 90 Elbow</td>
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<tr>
<td>2</td>
<td>1</td>
<td>12&quot;-12&quot;-12&quot;</td>
<td>Victaulic</td>
<td>Victaulic DI IPS Painted NO 20 Tee</td>
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<tr>
<td>3</td>
<td>11</td>
<td>12&quot;-12&quot;</td>
<td>Victaulic</td>
<td>Victaulic DI Style 107N Quick Vic Rigid Cplg EHP Gskt</td>
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</table>

### CH_2 CS-5 Accessory Schedule

<table>
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<th>Item No.</th>
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<th>Size</th>
<th>Manufacturer</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>12&quot;-12&quot;</td>
<td>Victaulic</td>
<td>Victaulic CS IPS Painted Class 150 NO 45F Flanged Adapter Nipple</td>
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<tr>
<td>5</td>
<td>3</td>
<td>12&quot;-12&quot;</td>
<td>Victaulic</td>
<td>Victaulic DI Series 761 Butterfly Valve Gear Operated STD-Disc E-Seat</td>
</tr>
</tbody>
</table>
Due to the Revit platform’s intelligent use of hardware resources, all of your spool sheets can now exist within the same Revit project file (.RVT). No more hunting through dozens of drawing files for the spool that you want because the software slows down when they are all together in one place. Revit knows what you want it to render, and more to the point, it knows what you don’t want it to render.

Select the sections of pipe that you want to spool, tell SysQue the names of the spools, and hit “Create”. From this point, SysQue will generate sheets from a Revit template file (.RTE) that automatically creates accurate schedules, isometric views, and titleblocks. And if you want to change the appearance of the template, that is made openly available.

So you finished spooling eighteen sections of pipe and now the main line has to move two inches. Time to burn the midnight oil?

Nope. When your model changes, SysQue’s spool schedules update automatically to reflect these changes, leaving you with correct views and schedules, immediately.
Some things don’t belong in a model because they don’t help for coordination. But they do belong in reports. This is where BuildingData shines as a partner with SysQue. With SysQue BOM, your model asks the cloud what the MCAA Labor, Harrison Pricing, and many other reporting values are for your current system.

BuildingData reports back with up to date values.

**Putting the I in BIM**

While SysQue could report out to some proprietary format, we think it’s better for you to receive your bills of material in a format that is universal and easy to tailor. Every company is capable of using Microsoft Excel for some of the most elaborate functions and formulas. You can treat our BOM like an information storehouse to build your own spreadsheets from, custom tailored to your own purposes.

**Excel Format**

With so many other programs vying for your attention about updates and notifications, SysQue bypasses this trend entirely. The only time that your item libraries will be updated will be when the model-specific properties of your components change. Like geometry. Metadata gets updated on our database. You can do a bill of materials at any time with the fullest confidence that your cost and labor values are up to date, because there’s no other outcome to expect.

**A Quiet System Tray**
Real vs Generic

With generic Revit duct, twenty foot long sticks of rectangular duct are par for the course, and so are elbows with two inch throats. But that’s okay, we like Revit for its routing and parametric relationships. After defining the route of your ductwork with SysQue, our product will recalculate the entire system and apply connectors at cut lengths, all depending on the pressure class you set up, and prepares the items for export to plasma cutting software.

Customized Specifications

Sheet Metal shops like to fabricate differently from their peers, which is why SysQue opens up your materials, gauges, cut lengths, connectors, and much more to customization. With the Specification Setting tool, you can redefine how SysQue Systems Duct will calculate and populate your duct.

Fabrication Reports

Now that you have a Revit model complete with ductwork that can be fabricated, it is important to give you reporting tools so that the contents of your project can be easily reviewed. Your duct model will export as a fabrication report straight to excel, which is driven by a template that is fully customizable so that our fabrication reports can serve your needs, or used as a template toward an ultimate fabrication report tailored by you, for you.
No AutoCAD About It

Old habits die hard, and creating CAM files from AutoCAD is a habit that’s so hard to put down. Most customers have to see SysQue Process Duct to believe that a CAM file is coming out of another platform entirely.

That’s what it does, though. Your Revit model will have every bit of intelligence needed to feed your CAM software. So don’t let anyone tell you that duct cannot be burnt out from a Revit model. It can. We proved it.

Native CAMduct or Vulcan

SysQue process duct outputs files straight to Autodesk Fabrication CAMduct (.MAJ) or Vulcan cutting software (.import). The long term goal is create a fully compatible modeling workflow that works with a growing list of cutting software. In time, this list of compatibility will grow. And since SysQue is purchased once, and subscribed to yearly, any new output filetypes that are added to the program are yours at no additional cost.

SysQue Scripting Utility

For some companies, the fabrication shop would rather manage the ductwork specifications while the detailers create models. With this in mind, SysQue comes with a standalone application that requires no licensing, and operates without Revit.

So if your fabrication shop uses CAMduct, they can develop a script generating database that will automatically convert SysQue duct to your standards right from the shop’s computer.
Real vs Generic
Whether it's conduit, field bent conduit, cable tray, or flextray (wire basket), we're building the family files for it in SysQue. These family files are created from scratch, based upon manufacturer specifications. They come with custom parameters that allow for easy wirefill assignments and reporting.

Field Bent Conduit
Revit likes the concept of fittings, straight pieces, and then fittings again. This typically results in couplings always being found right at the end of a fitting or a cut length on conduit. With our field bent conduit feature, you can set lead lengths and bend radiiuses that will determine new, more intelligent placement of couplings based upon your choices for your field bent conduit system.

Wirefill Specifications
Before you even start drawing your electrical systems, you can set up the wirefill specifications of any project that indicate information like quantity, start and finish points, material and insulation type, and much more. In the event that you draw a system and need to change the wirefill specification afterward, it's as easy as selecting the new specification and hitting “apply.” Once you're done, export all of your wirefill project information to Excel.
SysQue Supports

**Structurally Aware**

As an environment to draw in, Revit yields new opportunities when it comes to the relationship between the structure and mechanical systems. SysQue keys off of this intelligence to not only automatically populate your supports at predetermined distances from each other, as well as fittings and couplings, but it can also automatically determine the rod or strap lengths using the closest face of the structural objects above.

**Coordinate Outputs**

There’s no need to send your Revit model to another piece of software to gather your points. Use one of the many methods in Revit to grab your hangers with a few clicks, and then run “Supports Information” from the SysQue ribbon. This utility can output to TFL, MEP, TXT, or Excel file formats that contain all of the metadata about the hanger from BuildingData, plus accurate x,y, and now even z coordinates.

**Prefabication Reports**

Accurate rod and strap length generation will be a boon to prefabrication of hangers. Now that these values are determined with ease, you can take the Supports Information results and export them to a digestible Excel format. This report provides not only the dimensions and hardware needed to create the supports, but also estimated hours and time to produce.
SysQue Submittal

BuildingData Driven
If BuildingData takes the time to build your components from scratch, using the manufacturer PDF file, it only makes sense that BuildingData maintain a database of these PDF’s after they’ve been used. Now you can tell SysQue which items that you would like to have in your submittal, and it will package them all into one file. Better yet, it doesn’t just automatically choose the PDF’s needed, but also extracts only the relevant pages for the products that you specify.

Uses Custom PDF’s
If there’s a PDF document that you would like to incorporate into your submittal package, SysQue Submittal does this as well, allowing you to package your custom PDF files into the overall submittal package with the BuildingData content. And as it is with the BuildingData content, you can indicate page ranges that you would like to extract from your custom document as well.

Requires No Model
SysQue Submittal doesn’t use your model to generate the choices in your submittal package creation process. It uses your global database. Often times, submittal packages are generated before the model is even started. And as long as your overall company database has the items that you require, that won’t be a problem.
SysQue References

Building-Data.net
Learn more about the content behind the platforms at www.building-data.net. Without an account, you can still browse manufacturer catalogues to verify if we have the content that you will need.

TSI-Software.com
Discover all of the services and solutions that we provide. Technical Sales International can become your one stop shop for all Autodesk software suites, bolt on applications like Fabrication and SysQue, and Trimble equipment and services.

SysQue.com
Learn more about the product that is taking Autodesk Revit and resolving it as a bottom to top BIM platform from LOD’s 100 all the way up to 500.