# **Phoenix Controls**

Building Information Modeling (BIM) User's Guide

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5,240,455	5,251,665	5,304,093	5,385,505
5,406,073	5,435,779	5,545,086	5,831,848
5,988,860	6,116,375	6,137,403	6,154,686
6,425,297	6,457,437	6,609,967	6,790,136
6,914,532	6,935,943	6,960,126	20,090,191,803
and other patents	pending.		

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# Table of Contents

## **Section 1. Introduction**

1.1 Select the Correct Valve Family	1
1.2 Select the Correct Family and Size	1
1.3 Interference Box and Insulation	2
1.4 Element Properties: Construction	3
1.5 Element Properties: Mechanical Airflow	5
1.6 Element Properties: Identity Data	5
1.7 Phoenix Controls Schedules	6

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## Section 1. Introduction

Phoenix Controls has provided the design community with a Building Information Modeling (BIM) object collection encompassing our various product lines. This document will help guide you to understand how to get the most out of our offering.

### 1.1 Select the Correct Valve Family

Visit Phoenix Controls website at *www.phoenixcontrols.com/resource-valve-drawings.htm* to obtain our manufacturer supplied BIM objects.

There you will find the option to download the objects specific to each of our product lines. Select the correct link to begin the download.

- Theris<sup>®</sup>
- Traccel<sup>®</sup>
- Celeris®
- Analog/Pneumatic/BxV
- Constant Volume
- Cage Rack Valves

```
IMPORTANT: Choose the correct family depending on the design specification and application. As shown in Element Properties: Construction on page 1-3, Phoenix Control's objects will allow you to construct a valve true to its ordering configuration. Configurations will be specific to the correct family.
```

#### **1.2 Select the Correct Family and Size**

Within each zip file there are a number of families to select. The reason for the multiple families is to limit file size and to ensure proper duct connections. Below is an example of the different families available for the Theris Product Line.

**NOTE:** It is important to choose correctly between supply and exhaust valves for orientation and geometry reasons. Also, when choosing a single valve, there are multiple choices. Be sure to choose the correct single valve based on the flanging options needed.



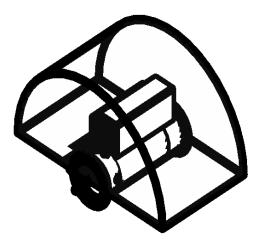
Valve-Exhaust\_Dual-Square-Flange\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Guad-Square-Flange\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Single-Round-Flange\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Single-Square-Flange\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Single-Square-Flange\_Discharge-End\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Triple-Square-Flange\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Triple-Square-Flange\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Single-Square-Flange\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Single-Square-Flange\_HEV-Theris\_PhoenixControls
Valve-Exhaust\_Single-Square-Flange\_HEV-Theris\_PhoenixControls
Valve-Supply\_Quad-Square-Flange\_HSV-Theris\_PhoenixControls
Valve-Supply\_Single-Round-flange\_HSV-Theris\_PhoenixControls
Valve-Supply\_Single-Round-flange\_Both-Ends\_HSV-Theris\_PhoenixControls
Valve-Supply\_Single-Square-Flange\_Both-Ends\_HSV-Theris\_PhoenixControls
Valve-Supply\_Single-Square-Flange\_HSV-Theris\_PhoenixControls

Once the correct family is selected, the correct valve size will need to be selected. This is done through the family type. The product line and number of valve bodies will determine the sizes that will be available for each object.

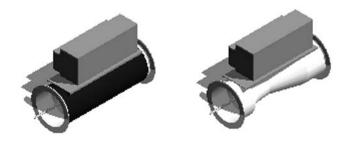
amily:	Valve-Exhaust_Sing	le-Round-no-Flange_f 💊		Load
ype:	10IN	~		Edit Type
	8IN			
nstance Pa	10IN 12IN		stanc	e
	14IN		Valu	Je

#### 1.3 Interference Box and Insulation

Objects will come standard with a half dome around the controller side of the valve. This is to allow for the recommended 14" clearance for maintenance purposes.



Supply valves will come standard with insulation while exhaust valves will come standard without insulation.



To add or remove the insulation and interference box parameters, uncheck the **Interference Box ON/OFF** and **Insulation ON/OFF** check boxes under the graphic section of the **Element Properties**.

amily:	Valve-Exhaust_Singl	e-Round-Flange_HEV 🔽 🛛	Load
Гуре:	8IN	<b></b>	Edit Type
instance Pa	arameters - Control sel	ected or to-be-created instar	ice
	Parameter	Va	alue
Constrair	nts		
Level		Level 1	
Host Offset		Level : Level 1	
		U' U''	
Graphics	p ouloss	:	
Interferen Insulation	ce Box ON/OFF		
Directional			
Electrical			
Panel	- LOdus	le contra de la co	
Circuit Nun	nber		
Mechanic	-al		
System Ty		Exhaust Air	
System Na		Default Exhaust Air (	E428741)
Identity I	Data		
Comments			
Mark		1	
Phasing			
Phasing Phase Crea Phase Dem		New Construction None	

**IMPORTANT:** If changing from the default insulation configuration, be sure to update the element property Valve Options to note this change. Refer to *Element Properties: Construction* for more details.

#### **1.4 Element Properties: Construction**

Phoenix Controls designed the objects so that within each valve is the ability to properly configure the construction for schedule sheets and to provide the owner with a BIM model that accurately represents the types of Phoenix valves their facility has.



#### Introduction

Element Properties: Construction

NOTE: The use of this information is voluntary and at the discretion of the design to	eam.
---	------

Family:	Valve-Exhaust_Single	-Round-Flange_Ht 💙	Load
Туре:	8IN	<b>~</b> (	Duplicate
		(	Rename
Type Paramet	Parameter	Value	
C		Value	
PC7 Control PC6 Valve De PC5 Operatin PC4 Valve Siz PC3 Number PC2 Valve CC PC11-4 Valve PC11-4 Valve PC11-2 Valve PC11-2 Valve PC11-1 Valve PC10 Fail Saf PC1 Valve Fa	ientation ntroller Designation Type sign of Valve Bodies of Valve Bodies orstruction e Options e Options e Options e Options e Options e Options e Options e Position mily	Valve Orientation : T.E Valve Control Type : L = Dig Valve Design : T.B.D. Operating Pressure : T 8" Number of Valve Bodie Valve Construction : T Valve Options 3 : T.B. Valve Options 3 : T.B. Valve Options 3 : T.B. Valve Options : T.B.D. Fail Safe Position : T.B.D.	nation : C = B ital - Low-spe f.B.D. s: : T.B.D. .B.D. D. D. D.
Mechanical CFM Dimensions Weight Interference H G F1	5	0 CFM 8.700000 1' 9" 0' 9 3/8" 0' 10 9/32" 2' 3 197/256"	*

Each Option under the **Construction** heading corresponds to an option on our Valve Ordering Guide. Each option is prefaced with a PC and a number (for example, PC1, PC2, PC3, and so on). That denotation represents the order of the element in the Phoenix Controls valve ordering configuration.

If you are unfamiliar with our Valve Ordering Guide, each object has a link under the **Identity Data** section that will take you to that family's specific ordering guide. Use this guide to help choose the correct options to specify the correct valve and reference the various notes specific to each element.

As was mentioned in *Select the Correct Value Family* and *Select the Correct Family and Size*, it is important that the correct family (Theris, Traccel, Celeris, etc.) and supply versus exhaust is chosen as the options under each heading will be specific to that type of value. For example, you will not be able to specify a Theris SO value with an object from the Celeris family or with an exhaust value object from the Theris Family.

Each element of the configuration will default to **TBD** when there is more than one option to choose from. If you are not sure which option is the correct to choose, use **TBD** to help eliminate confusion.

In the screen shown on page 4, you will see PC11-1 through PC11-x on the screen above. The number of valve options (-x) vary based on the object selected. Since it is possible to choose multiple valve options, each of these represent a possible option to select. You can select all or none depending on the valve mentioned in *Interference Box and Insulation on page 1-2*. This is where you select the option for insulation. The valve defaults to a PC11-x option that may require a SFB (square flange bothe ends) or SFX (square flange one end) selection.

Once a valve has been properly specified, it can be copied to reduce the effort to specify each valve within the project.

**CONSTANT VOLUME NOTE:** If you want a true constant volume representation, within the family you need to select option C = Constant Volume under the Construction choice PC7 Control Type. This will remove the controller and replace the actuator box on the valve with a smaller one that better represents a constant volume valve.

#### **1.5 Element Properties: Mechanical Airflow**

The CFM is the only field that needs to be filled in. The default is set to **0**. Enter in the Venturi Valves occupied design CFM.

### **1.6 Element Properties: Identity Data**

Phoenix Controls has provided the following links to offer pertinent and accurate information specific to each family type.

Within this section, there is a free text field to enter in the appropriate Phoenix Controls Service Contact for future maintenance issues.

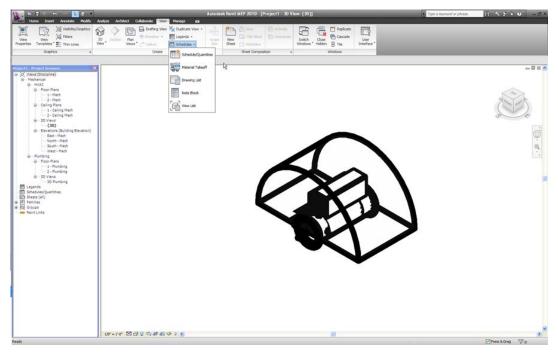
pe Properties				
Family:	Valve-Exhaust_Single-R	ound-Flange_Ht 🖌 Load		
Туре:	8IN	Duplicate		
		Rename		
Type Paramet	ers			
	Parameter	Value	1	
Identity Da	ta	*		
Warranty		3 Year		
Valve Drawin	]S	http://www.phoenixcontrols.com/re		
URL	B	http://www.phoenixcontrols.com/		
Type Comme	nts			
Theris Valve	Ordering Guide	http://www.phoenixcontrols.com/C		
Theris LonMark Product Data Sheet		http://www.phoenixcontrols.com/C		
Theris BACnet Product Data Sheet		http://www.phoenixcontrols.com/C		
Technical Information		http://www.phoenixcontrols.com/pr		
Subcategory		Theris		
Service Cont-	act			
SMARTBIM U		http://www.smartbim.com		
SMARTBIM O		3.000000		
	bject Created By	SMARTBIM, LLC		
Product Page		http://www.phoenixcontrols.com/so		
OmniClass Title		Terminals for Air		
	ide	23.75.70.21		
OmniClass Co				
Medium Press	ure Valve Installation an	http://www.phoenixcontrols.com/C		
Medium Press Manufacture	ure Valve Installation an Phone	978-795-1285		
Medium Press Manufacture Manufacture	ure Valve Installation an Phone Contact	978-795-1285 info@phoenixcontrols.com		
Medium Press Manufacture Manufacture Manufacture	ure Valve Installation an Phone Contact	978-795-1285 Info@phoenixcontrols.com Phoenix Controls		



### **1.7 Phoenix Controls Schedules**

Once all the Phoenix Controls valves have been specified in your project a schedule can be run to list each valve with its element properties.

- **NOTE:** If all the correct information was filled in as stated in *Element Properties: Construction on page 1-3*, this will allow for the design team to create an ordering schedule specific to Phoenix Controls. Use the following steps.
- 1. Under the View heading select Schedule/Quantities.



2. A dialog will appear. Select <Multi-Category> and choose OK.

Category:	Name:
<multi-category></multi-category>	Multi-Category Schedule
Air Terminals	
Areas (Gross Building)	Schedule building components
Areas (Rentable)	
Communication Devices Data Devices	Schedule keys
Data Devices Duct Accessories	Key name;
Duct Fittings	
Duct Systems	
Ducts	Phase:
Electrical Circuits	Phase:
Electrical Equipment	New Construction
Electrical Fixtures	
Fire Alarm Devices	
Flex Ducts	~
Fley Pines	
Show categories from all	disciplines

#### Phoenix BIM User's Guide

3. Scroll down until you find the PC1 Valve Family field. Choose all PCx prefaced elements in their correct numerical order and add them to the schedule. Click OK.

Schedule Properties Fields Filter Sorting/Grouping Fo	rmatting Appearance		X
Available fields: OmniClass Title PCI Valve Family PC2 Valve Construction PC3 Number of Valve Bodies PC4 Valve Design PC5 Valve Design PC7 Control Type PC8 Valve Controller Designation PC9 Valve Orientation PC10 Fail Safe Position PC10 Fail Safe Position PC110 Fail Safe Position PC10 Fail Safe Position P	Add> < Remove Add Parameter Calculated Value	Scheduled fields (in Edit	n order): Delete Move Down
Include elements in linked files		OK Canc	el Help

- 4. This will generate a Phoenix Controls Schedule. To manipulate this further into a working Phoenix Controls part number, you will need to export the file.
- **NOTE:** The way REVIT is designed, objects will be included on the report based on the order in which they were applied to the project. As can be seen in the following image, there is a gap in the middle of the schedule. If you do not see any objects on your main screen when running the report, scroll down and you will eventually come across your Phoenix Controls objects.



- .... CAD files, schedules, ind sets options for CAD a IFC New F. ACIS (SAT), and DGN Carlo Coper Save Multi-Category Schedule PC3 Number | PC4 Valve St |PC5 Flow/Pre |PC6 Valve De |PC7 Control T |PC6 Valve Co |PC9 Valve Or |PC10 Fail Sat |PC11 Valve Co Valve Con aumber of Valve Orie Valve Orie Save As Valve Orie Valve Orie Valve Orie Valve Orie Valve Orie Controler Controler Controler Controler ing ing ing Valve Desi Controler Valve Desi Controler Valve Con Valve Con Valve Orie Valve Orie ta natio Z = Not applic Z = Not applic gbXML Saves the project as a obXML IFC Seves on IPC file J Lice ODBC Database Cose  $\begin{array}{c|c} \mbox{Valve Onie} & \mbox{$\mathbb{Z}$ = Nct applic Valve Opti} \\ \mbox{Valve Con} & \mbox{Valve Onie} & \mbox{$\mathbb{Z}$ = Nct applic Valve Opti} \\ \mbox{Valve Con} & \mbox{Valve Onie} & \mbox{$\mathbb{Z}$ = Nct applic Valve Opti} \\ \mbox{Valve Opti} & \mbox{$\mathbb{Z}$ = Nct applic Valve Opti} \\ \end{array}$ Exit Revit 07
- 5. Under the Revit button choose Export then select Report and then select Schedule.

- 6. Save the file somewhere on your hard drive as a delimited text file.
- 7. Accept the default save options.

Export Schedule		×
Schedule appearance Export column heade One row Multiple rows, as Export group header		
Output options		
Field delimiter:	(tab) 🔽	
Text qualifier:	"	
	ОК С.	ancel

- 8. Open the Excel file provided by Phoenix Controls titled **Multi-Category Schedule w Phoenix Controls Part Number**. This file can be found at *www.phoenixcontrols.com/resource-valve-drawings.htm*.
- 9. In the excel file, delete out all information that exists on the Schedule Import worksheet.

10. Under the Data tab in Excel, choose From Text under the Get External Data tab.

	<b>. . . . . . . . . .</b>		1	Vulti-Category Schedule w Phoenix Co	ontrols Part Nur	nber - Microsoft Excel
	Home Insert Page Layout For	mulas Data Review Vi	ew Developer Add-I	ns		
From Access	From From Other Existing Connections Get External Data	Refresh All → ∞ Edit Links Connections	Keappiy	Text to Remove Data Conso Columns Duplicates Violation ~ Data Tools	-	Coup Ungroup Subtotal
	A1 Get External Data From Text					
A	Import data from a text file.			В	1	С
1 2 3 4 5 6 7 8 9	Press F1 for more help.					
10						
12						
13						
14						
9 10 11 12 13 14 15 16						
17						

- 11. Find the file you just saved and select Import.
- 12. At the next screen select Finish.
- You will be asked Where you want to put the data? Make sure the field is filled with =\$A\$1 and choose OK.



14. Move to the **Parsed Schedule** worksheet. Scroll over to column **AA** and the completed Phoenix Controls part number will be assigned.

As noted in step 4, there may be gaps within your schedule. To remove these gaps, use the filter tool within Excel and uncheck "**blanks**".

8	V	W	X	Y	Z	AA
P	C11-13 Valve Options	PC11-12 Valve Options	PC11-14 Valve Options	PC11-15 Valve Options	PC11-16 Valve Options	Phoenix Order Number
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,						7.74
						1994 
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2						
3						
3 4 5						and the second s
5						
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D 1 2 3						
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6						11.0
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8 9						
0	Schedule Import	Parsed Schedule			14	

**IMPORTANT:** This information will only be valuable if the information was filled in properly under the construction section of the element data for each valve within the project. Refer to *Element Properties: Construction on page 1-3.* 

### **Phoenix Controls**

For additional information and a listing of our global offices, please visit our Web site at www.phoenixcontrols.com or call (800) 340-0007.

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