



Work with dynamic legends Dynamic Legend

How quickly to create, modify and update legends

Dynamic Legend

Why ?

- Revit doesn't update elements at the legend automatically, depending on the model. It takes a long time to bring and update all data in the legend manually.

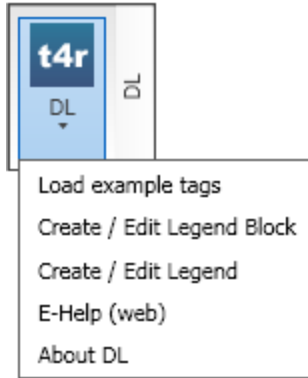


Working with Legends

Dynamic Legend (DL) extension

- ...creates, modifies and updates legends of different object;
- ...calculates how many objects are needed for the legend. It copies and writes all parameters according the predefined configuration;
- ...calculates and outputs the amount of elements for the predefined legend component. Totals selected numeric values;
- ...reads data in the legend and understands its configuration;
- ...has possibility to sort legend components by marks, mark types, family and types for updating.
- ...collects elements from model by additional settings.

Types of elements



Dynamic Legend (DL) extension allows quickly to create, modify and update legends for different elements of:

- Revit® Architecture
- Revit® Structure
- Revit® MEP

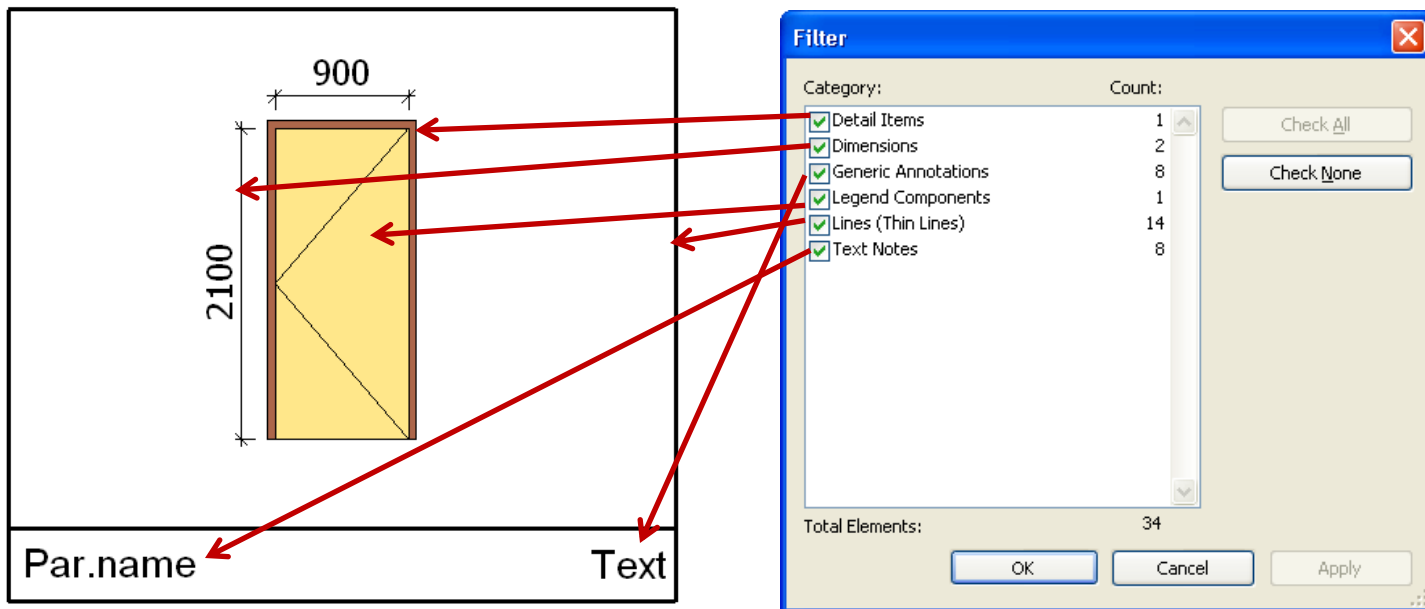
Currently DL works with:

Air Terminals, Boundary Conditions, Casework, Ceilings, Columns, Communication Devices, Data Devices, Doors, Duct Accessories, Duct Fittings, Electrical Equipment, Electrical Fixtures, Entourage, Fire Alarm Devices, Furniture, Furniture Systems, Generic Models, Lighting Devices, Lighting Fixtures, Mass, Mechanical Equipment, Nurse Call Devices, Parking, Pipe Accessories, Pipe Fittings, Planting, Plumbing Fixtures, Roofs, Security Devices, Site, Specialty Equipment, Sprinklers, Structural Columns, Structural Connections, Structural Foundations, Structural Framing, Structural Stiffeners, Telephone Devices, Walls, Windows.

Dynamic Legend

Preparing for work with dynamic legend

Before starting to work with Dynamic Legend commands there must be a parametric basic block which can consist lines, text notes, legend components, detail items and other. It must also have generic annotations *M_SM_Legend Parameter Text.rfa*, which will be exchanged with parameters. An example of this family will be loaded to the project by the *Load example tags* command. The name of the family may change, but the beginning (*M_SM_Legend Parameter Text*) must stay the same.



Create/Edit Legend Block

Settings

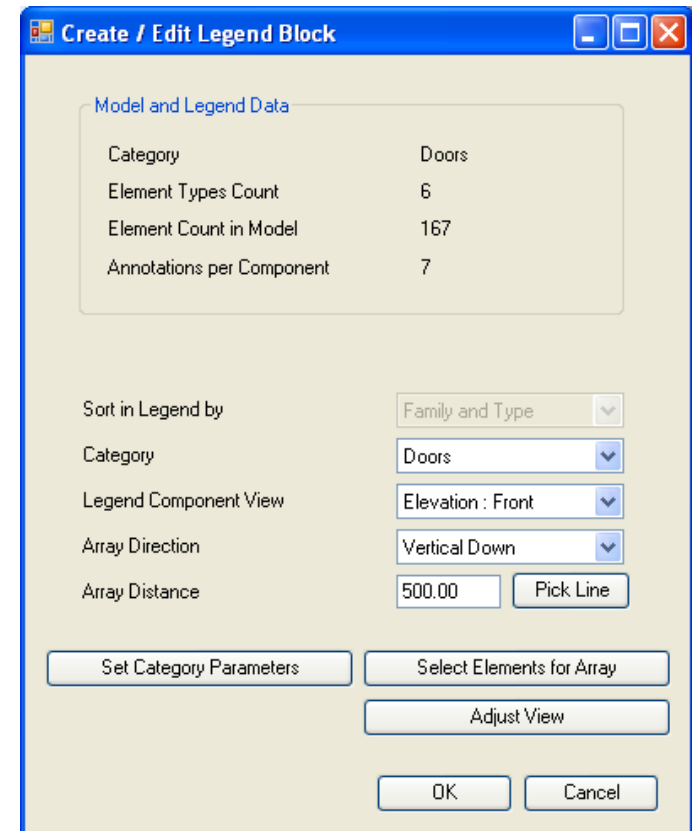
Model and Legend Data – shows the relevant data of selected objects;

Filter Model Data – data can be filtered according to the BID profile;

Sort in Legend by – the setting, where it's necessary to choose the way for data sorting at the current legend:

- Mark
- Type Mark
- Family and Type

Category – choose a category of the current legend.



Create/Edit Legend Block

Settings

Legend Component View – choose the way of elements presentment;

Array Direction – choose the direction of elements presentment;

Array Distance – write the distance between arrayed elements;

Pick Line – if you don't measure the distance, you can simply specify the line indicating the distance;

Create / Edit Legend Block

Model and Legend Data

Category	Doors
Element Types Count	6
Element Count in Model	167
Annotations per Component	7

Sort in Legend by: Family and Type

Category: Doors

Legend Component View: Elevation : Front

Array Direction: Vertical Down

Array Distance: 500.00

Create/Edit Legend Block

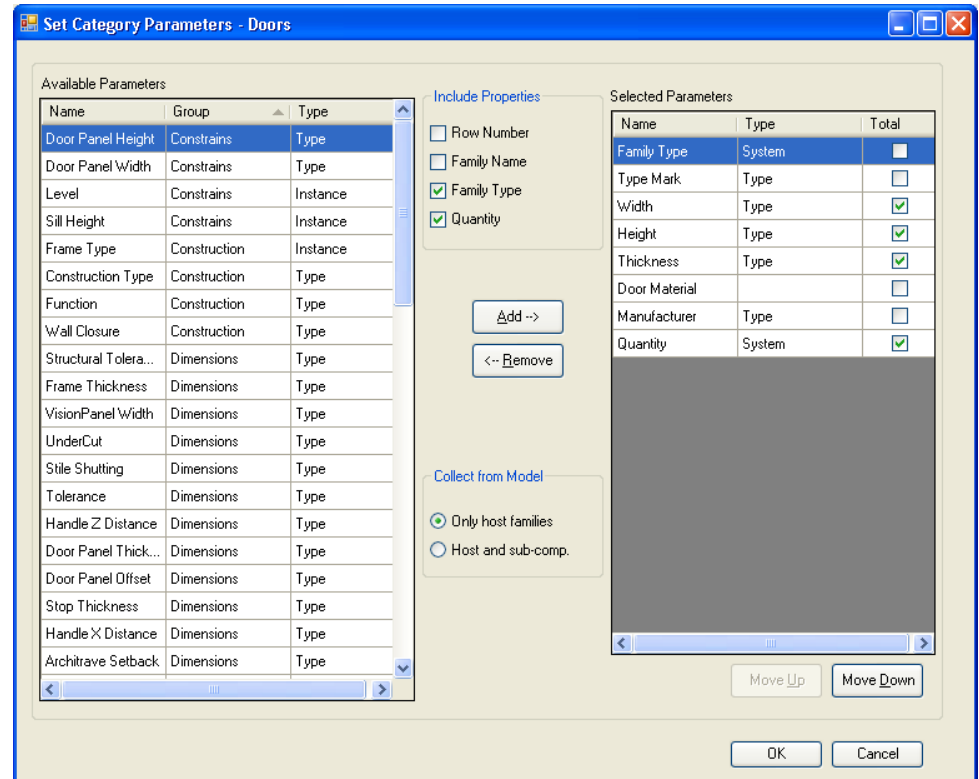
Settings – Set Category Parameters

Available Parameters – possible parameters of the selected category. Available parameters list is made from the family which is in the sample block or from the random family of the project;

Include Properties – additional parameters;

Selected Parameters – all selected parameters. Numerical values can be summed by switching on “Total” check box.

Changing the order of parameters can be adjusted with Move Up and Move Down.



Create/Edit Legend Block

Settings – Set Category Parameters: Total

If “Total” option is not switched on then the values is not summed. For example, one type of wall have different lengths in the project, so at the legend the value becomes “Varies”.

Selected Parameters		
Name	Type	Total
Row Number	System	<input type="checkbox"/>
Family Type	System	<input type="checkbox"/>
Width	Type	<input type="checkbox"/>
Length	Instance	<input type="checkbox"/>
Area	Instance	<input type="checkbox"/>
Volume	Instance	<input type="checkbox"/>
Quantity	System	<input checked="" type="checkbox"/>

Nr.	Design (1:100)	Family Type	Width	Length	Area	Volume	Quantity
1		Exterior 460mm	460.0	Varies	Varies	Varies	21
2		Exterior 400mm	400.0	Varies	Varies	Varies	36
3		Interior 250mm	250.0	Varies	Varies	Varies	32
4		Interior 200mm	200.0	Varies	Varies	Varies	28

If “Total” option is switched on then the values is summed. If one type of wall have different lengths in the project, then at the legend the value is the sum of different lengths.

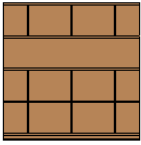
Selected Parameters		
Name	Type	Total
Row Number	System	<input type="checkbox"/>
Family Type	System	<input type="checkbox"/>
Width	Type	<input type="checkbox"/>
Length	Instance	<input checked="" type="checkbox"/>
Area	Instance	<input checked="" type="checkbox"/>
Volume	Instance	<input checked="" type="checkbox"/>
Quantity	System	<input checked="" type="checkbox"/>

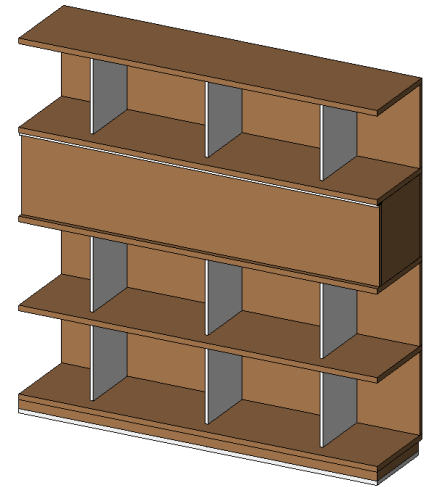
Nr.	Design (1:100)	Family Type	Width	Length	Area	Volume	Quantity
1		Exterior 460mm	460.0	106203	299.177	134.819	21
2		Exterior 400mm	400.0	227635	492.519	195.191	36
3		Interior 250mm	250.0	180175	516.715	128.593	32
4		Interior 200mm	200.0	132848	346.742	69.272	28

Create/Edit Legend Block

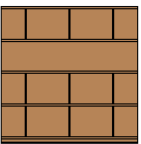



Settings – Set Category Parameters: Collect from Model

Only host families – collects only host families. For example different wood panels are an integral part of the shelf, so only the main furniture is collected.

			
Family Name	BRE401	Family Name	-
Family Type	BRE401	Family Type	-
Quantity	1	Quantity	1



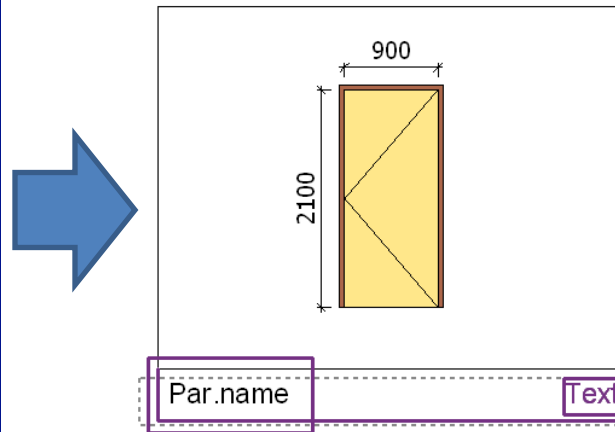
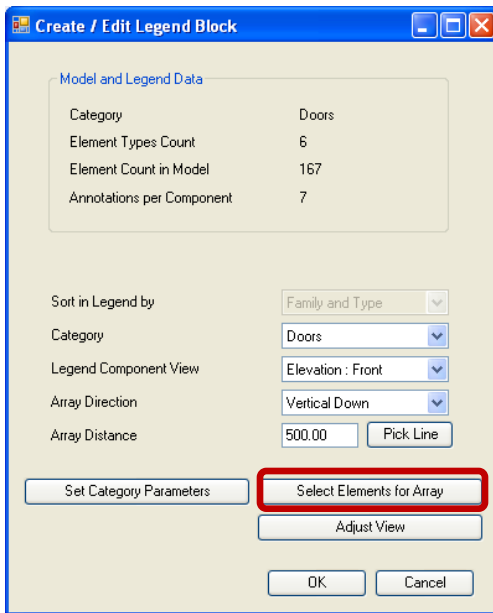
Host and sub-comp. – collects the main family and the nested ones.

									
Family Name	BRE401	Family Name	Inner panel	Family Name	Panel	Family Name	Side panel	Family Name	-
Family Type	BRE401	Family Type	305x375mm	Family Type	400x1686mm	Family Type	342x375mm	Family Type	-
Quantity	1	Quantity	9	Quantity	10	Quantity	2	Quantity	22

Create/Edit Legend Block

Settings – Select Elements for Array

DL automatically makes the array of sample entities depending on direction, distance and selected parameters which was set before. In place of text there will be parameter names and in place of sample of generic annotations there will be the values of these parameters (Empty). The language of parameter names will be the same as Revit and family.



Family Name	Empty
Family Type	Empty
Height	Empty
Width	Empty
Thickness	Empty
Door Material	Empty
Quantity	Empty

Create/Edit Legend

Settings – Create Legend Table

*New feature in v2010.4:
Works with linked files!*

Create Legend Table – the command creates the array depending on settings listed above and completes all cells depending on the project.

The screenshot shows the 'Create / Edit Legend' dialog box on the left and a preview table of door legend data on the right. The dialog box contains the following settings:

- Model and Legend Data:
 - Category: Doors
 - Element Types Count: 6
 - Element Count in Model: 186
 - Annotations per Component: 7
- Filter Model Data:
- Sort in Legend by: Family and Type
- Include elements in linked files:
- Legend Component View: Elevation : Front
- Array Direction: Horizontal Right
- Array Distance: 4500.00
- -

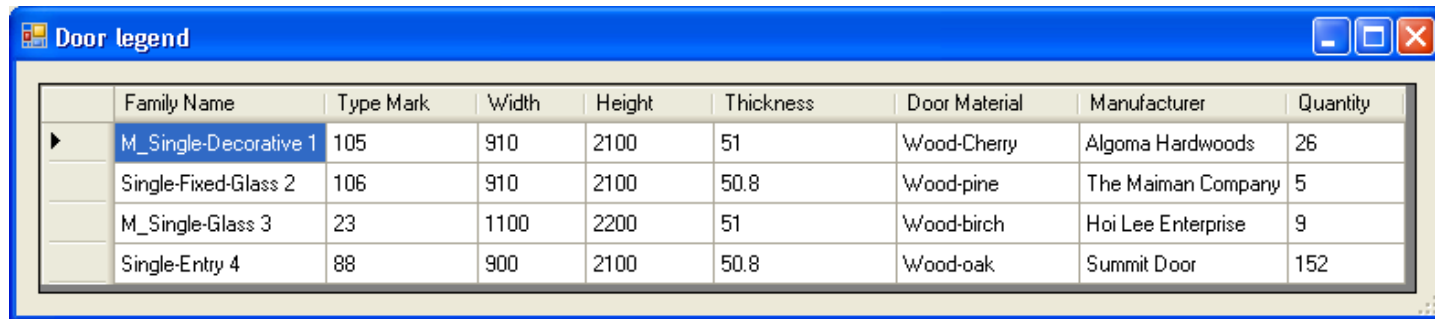
The preview table on the right shows the following data:

	1100	900	910				
Family Type	1100 x 2200mm	Family Type	900x2100mm	Family Type	910x2100mm	Family Type	-
Type Mark	23	Type Mark	88	Type Mark	106	Type Mark	-
Height	2200.0	Height	2100.0	Height	2100.0	Height	-
Width	1100.0	Width	900.0	Width	910.0	Width	-
Thickness	51.0	Thickness	50.8	Thickness	50.8	Thickness	-
Manufacturer	Hoi Lee Enterprise	Manufacturer	Summit Door	Manufacturer	The Maiman Company	Manufacturer	-
Door Material	Wood-birch	Door Material	Wood-oak	Door Material	Wood-pine	Door Material	-
Quantity	9	Quantity	152	Quantity	5	Quantity	192

Create/Edit Legend

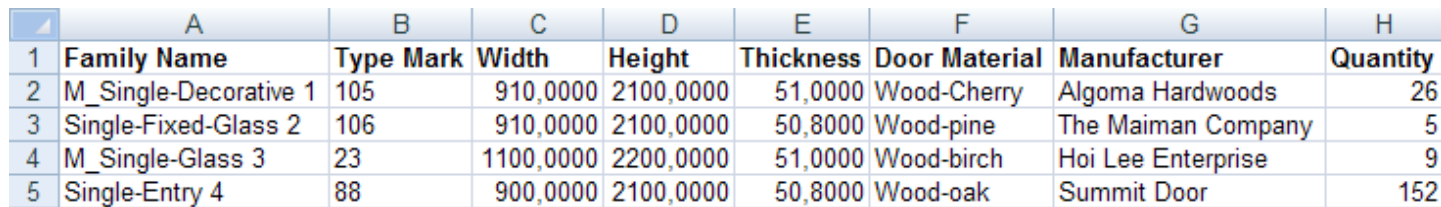
Settings – Export to Excel and Show Data

Data can be easily exported to Excel. User can preview all calculated data in a separate window before finishing the legend or creating an Excel table.



The screenshot shows a window titled "Door legend" with a table containing the following data:

	Family Name	Type Mark	Width	Height	Thickness	Door Material	Manufacturer	Quantity
▶	M_Single-Decorative 1	105	910	2100	51	Wood-Cherry	Algoma Hardwoods	26
	Single-Fixed-Glass 2	106	910	2100	50.8	Wood-pine	The Maiman Company	5
	M_Single-Glass 3	23	1100	2200	51	Wood-birch	Hoi Lee Enterprise	9
	Single-Entry 4	88	900	2100	50.8	Wood-oak	Summit Door	152



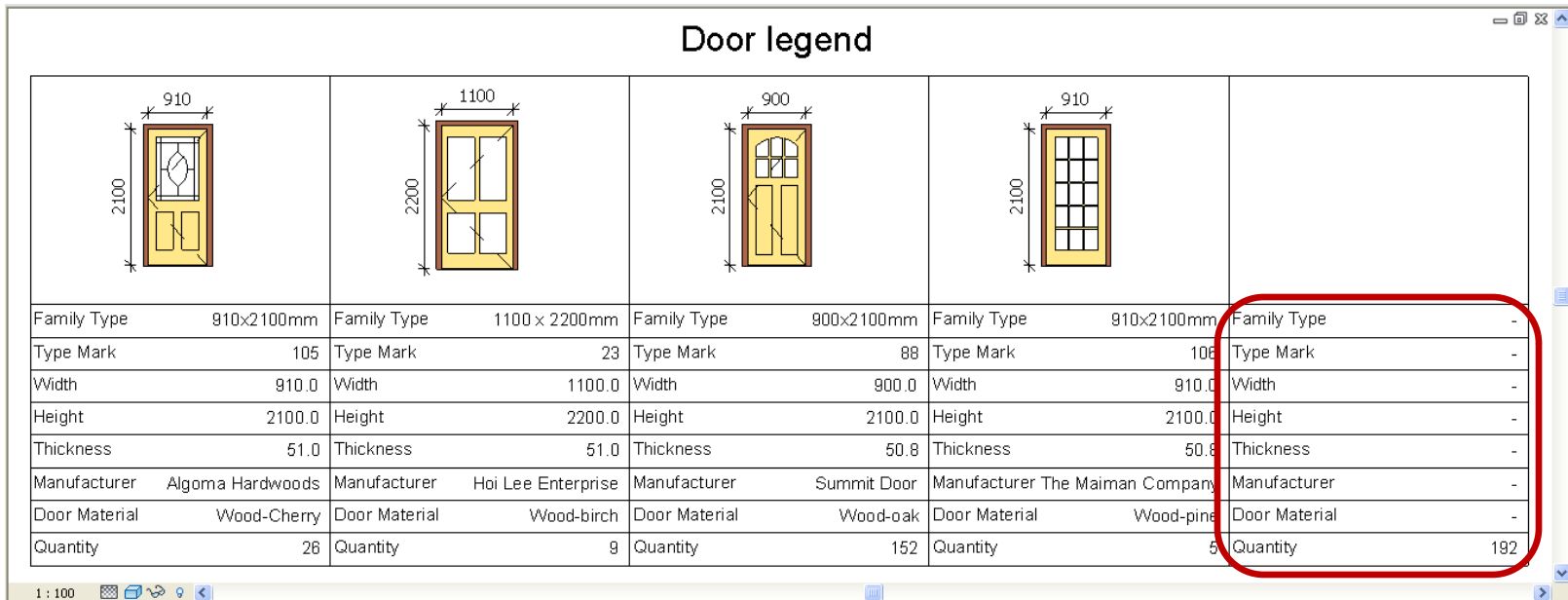
The screenshot shows an Excel spreadsheet with the following data:

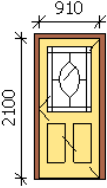
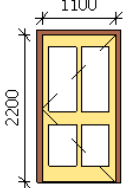
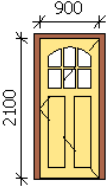
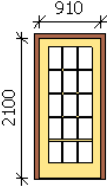
	A	B	C	D	E	F	G	H
1	Family Name	Type Mark	Width	Height	Thickness	Door Material	Manufacturer	Quantity
2	M_Single-Decorative 1	105	910,0000	2100,0000	51,0000	Wood-Cherry	Algoma Hardwoods	26
3	Single-Fixed-Glass 2	106	910,0000	2100,0000	50,8000	Wood-pine	The Maiman Company	5
4	M_Single-Glass 3	23	1100,0000	2200,0000	51,0000	Wood-birch	Hoi Lee Enterprise	9
5	Single-Entry 4	88	900,0000	2100,0000	50,8000	Wood-oak	Summit Door	152

Dynamic Legend

Result

There is created the legend depending on the project. Automatically created an additional column/row where are summarized and presented grand total values of elements:



Door legend									
									
Family Type	910x2100mm	Family Type	1100 x 2200mm	Family Type	900x2100mm	Family Type	910x2100mm	Family Type	-
Type Mark	105	Type Mark	23	Type Mark	88	Type Mark	106	Type Mark	-
Width	910.0	Width	1100.0	Width	900.0	Width	910.0	Width	-
Height	2100.0	Height	2200.0	Height	2100.0	Height	2100.0	Height	-
Thickness	51.0	Thickness	51.0	Thickness	50.8	Thickness	50.8	Thickness	-
Manufacturer	Algoma Hardwoods	Manufacturer	Hoi Lee Enterprise	Manufacturer	Summit Door	Manufacturer	The Maiman Company	Manufacturer	-
Door Material	Wood-Cherry	Door Material	Wood-birch	Door Material	Wood-oak	Door Material	Wood-pine	Door Material	-
Quantity	26	Quantity	9	Quantity	152	Quantity	5	Quantity	192

User can change the configuration at any time:

- change legend's component and its view type: plan, elevation, section or other;
- remove and add a new type or instance parameter which values want to see in Legend;
- add/remove a row/column number's parameter for the legend table.

Dynamic Legend

Result

- DL creates rows/columns depended on configured settings. It also automatically writes row/column entities depended on selected parameter names. These texts can be changed manually if necessary;
- DL calculates total values for any numeric parameters of Revit object like length, area, volume and so on if needed;
- It writes a row or column number and calculates the quantity for every legend object if needed;
- Grand total values are calculated. DL writes grand total values in the last additional row or column which is created automatically;
- Can be used the type mark, mark or family and type parameters for sorting legend components;
- Data can be easy exported to Excel. User can preview all calculated data in the separate window before finishing the legend or creating an Excel table.

Dynamic Legend

Other samples

Tools4Revit Sample... | t4r | DL | DL

Window legend filtered by level 2

Family Name	Double 2	Family Name	Double 2	Family Name	Double 3	Family Name	Single 2	Family Name	Single 3	Family Name	Single 3
Family Type	1900 x 2200mm	Family Type	2200 x 2200mm	Family Type	2200 x 1400mm	Family Type	1400 x 1400mm	Family Type	1400 x 1400mm	Family Type	1400 x 1400mm
Width	1900.0	Width	2200.0	Width	2200.0	Width	1400.0	Width	1400.0	Width	1400.0
Height	2200.0	Height	2200.0	Height	1400.0	Height	1400.0	Height	1400.0	Height	1400.0
Sill Height	0.0	Sill Height	0.0	Sill Height	800.0	Sill Height	800.0	Sill Height	800.0	Sill Height	800.0
Cost	400.00	Cost	430.00	Cost	420.00	Cost	590.00	Cost	590.00	Cost	590.00
Quantity	2	Quantity	2	Quantity	8	Quantity	2	Quantity	2	Quantity	2

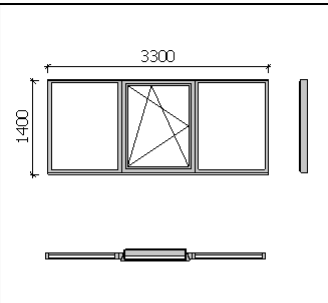
1 : 100

Dynamic Legend

Other samples

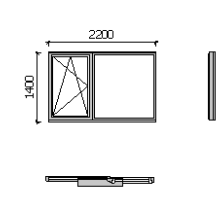
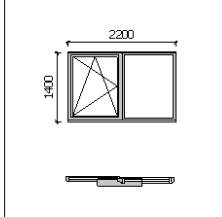
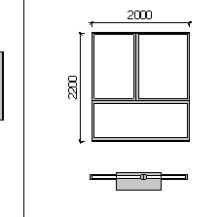
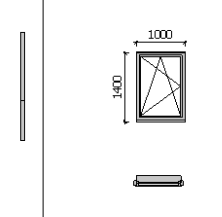
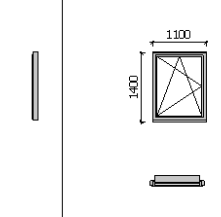
New feature in v2010.4!

It is possible to use one or more view in the block.



Family Name	Empty
Family Type	Empty
Height	Empty
Width	Empty
Sill Height	Empty
Cost	Empty
Quantity	Empty



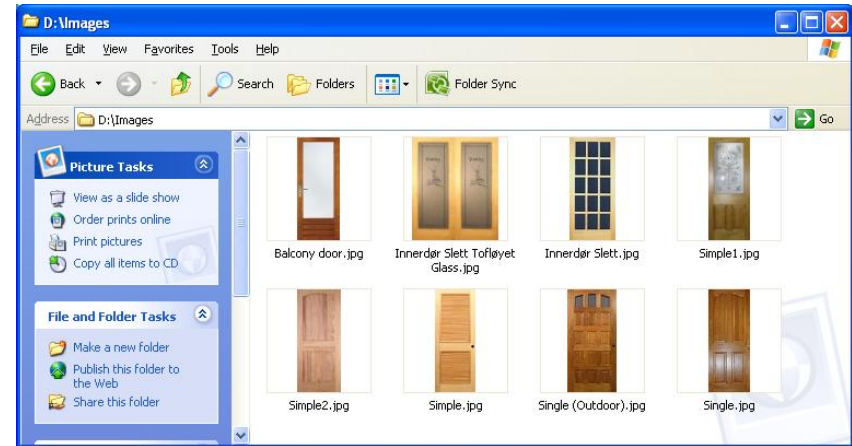
				
Family Name Double 1	Family Name Double 1	Family Name Double 2	Family Name Single 1	Family Name Single 1
Family Type 2200 x 1400mm	Family Type 2200 x 1400mm (1100)	Family Type 2000 x 2200mm	Family Type 1000 x 1400mm	Family Type 1100 x 1400mm
Height 1400.0	Height 1400.0	Height 2200.0	Height 1400.0	Height 1400.0
Width 2200.0	Width 2200.0	Width 2000.0	Width 1000.0	Width 1100.0
Sill Height 800.0	Sill Height 800.0	Sill Height 0.0	Sill Height 800.0	Sill Height 800.0
Cost 700.00	Cost 700.00	Cost 900.00	Cost 300.00	Cost 330.00
Quantity 2	Quantity 24	Quantity 12	Quantity 4	Quantity 4


Dynamic Legend

Other samples






New feature in v2010.4!

It is possible to use real element images instead of legend components. In the sample block has to be inserted an image from the catalog where are all images. Image file name has to be the same as family name.



	
Family Name	Empty
Family Type	Empty
Width	Empty
Height	Empty
Door Material	Empty
Cost	Empty
Quantity	Empty



									
Family Name	Balcony door	Family Name	Balcony door	Family Name	Simple1	Family Name	Simple1	Family Name	Simple1
Family Type	1000 x 2200mm	Family Type	900 x 2200mm	Family Type	700 x 2100mm	Family Type	850 x 2100mm	Family Type	900 x 2100mm
Width	900.0	Width	900.0	Width	700.0	Width	850.0	Width	900.0
Height	2200.0	Height	2200.0	Height	2100.0	Height	2100.0	Height	2100.0
Door Material	Glass	Door Material	Glass	Door Material	Door - Panel	Door Material	Door - Panel	Door Material	Door - Panel
Cost	400.00	Cost	400.00	Cost	360.00	Cost	380.00	Cost	350.00
Quantity	6	Quantity	20	Quantity	18	Quantity	39	Quantity	73

Dynamic Legend

Other samples


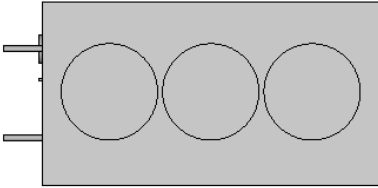
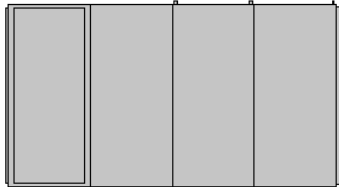
RME_Docs_Detailing... x

Views (Discipline)

- ???
- Design
- Documentation
- Legends
 - DL Sample Block V
 - Mechanical Equip**
 - Schedules/Quantities
 - Reports
 - Sheets (all)
 - Families
 - Groups
 - Revit Links

t4r DL

Mechanical Equipment legend

Nr.	Design (1:100)	Family Name	Family Type	System Type	Apparent Load	Voltage	Quantity
1		M_Centrifugal Fan - Rooftop - Upblast	1383-2808 LPS	Exhaust Air,Power	1250.00 VA	460.00 V	1
2		M_Cooling Tower - Closed Circuit - Counterflow - 67-189 kW	177 kW	Hydronic Supply,Hydronic Return,Hydronic Supply,Sanitary,Power	42300.00 VA	460.00 V	1
3		M_Outdoor AHU - Horizontal	5.7 Square Meters of Coil	Supply Air,Return Air,Supply Air,Hydronic Return,Hydronic Supply,Power,Sanitary	47007.00 VA	208.00 V	1

1 : 100

Dynamic Legend

Other samples

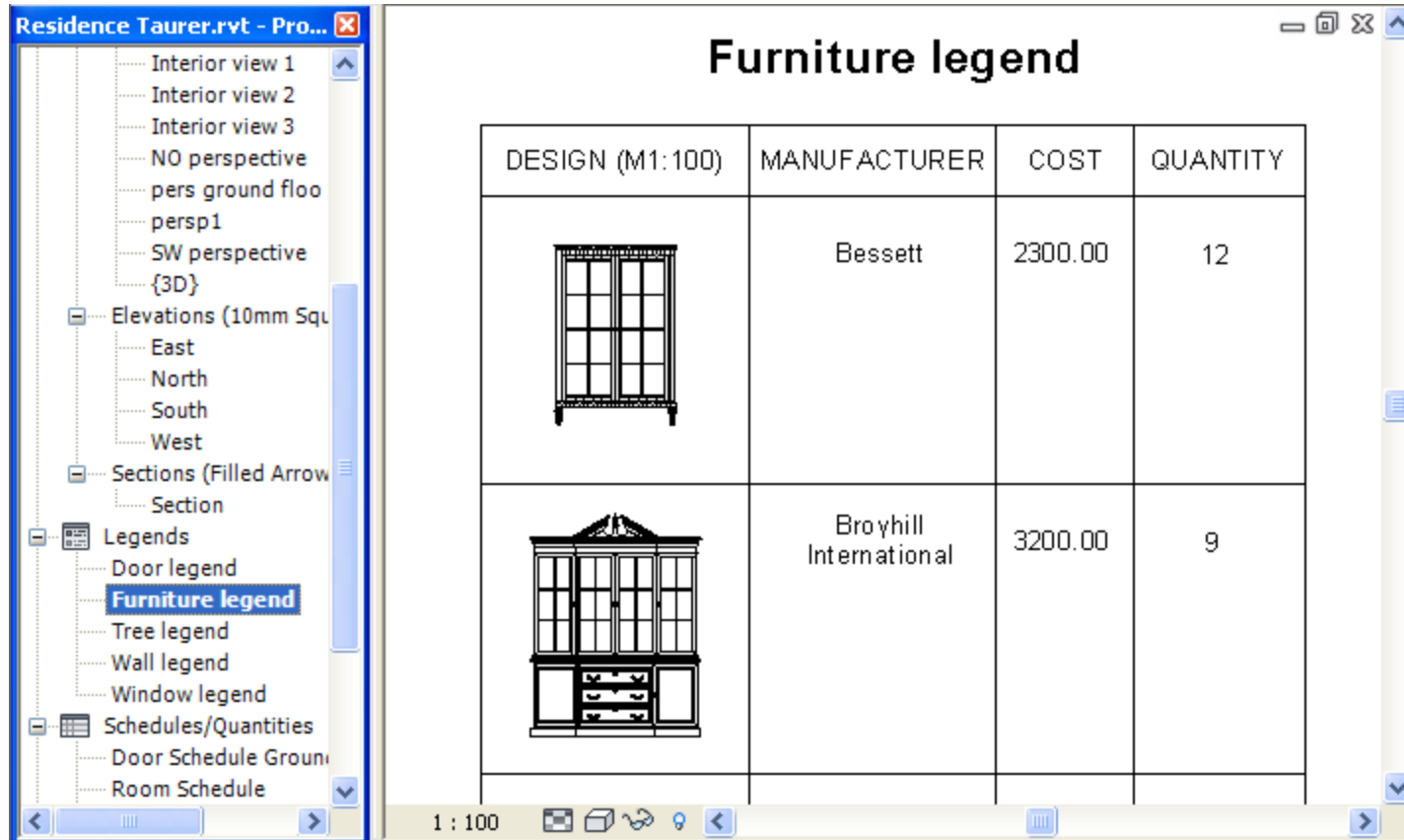
The screenshot displays the Revit software interface with a project named "Residence Tauerner.rvt". The left-hand tree view shows a hierarchy of views including Floor Plans (Ground Flo, Level 1-4, Level -1, Roof Leve, Site), 3D Views (Axonometri, detail, Interior view, NO perspec, pers groun, persp1, SW perspec, {3D}), Elevations (10m, East, North, South, West), Sections (Filled, Section), Legends (Door legend, Legend 1, New legend, Tree legend, **Wall Legend**, Window legeni), Schedules/Quan (Door Schedule, Furniture Sched, Room Schedul, Structural Frami, Wall Schedule, Window Schedu), Sheets (all), E1 - Design Dev, Families (Annotation Syrn, Ceilings, Columns, Curtain Panele), and Views (all).

The main window displays a "Wall legend" table with the following data:

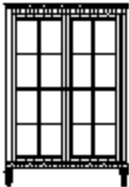

Nr.	DESIGN (M1:100)	Family Type	Area	Volume	Length	Width	Quantity
1		Exterior - 100mm	39.991	3.999	17334.707	100.0	6
2		Exterior - 150+50mm	83.92	15.415	65360.41	200.0	9
3		Exterior - 200mm	0.997	0.199	2492.283	200.0	3
4		Exterior - 250 + 50mm	65.622	18.928	18200	300.0	4
5		Exterior - 250+50mm	877.69	247.64	91340.869	300.0	20

Dynamic Legend

Other samples



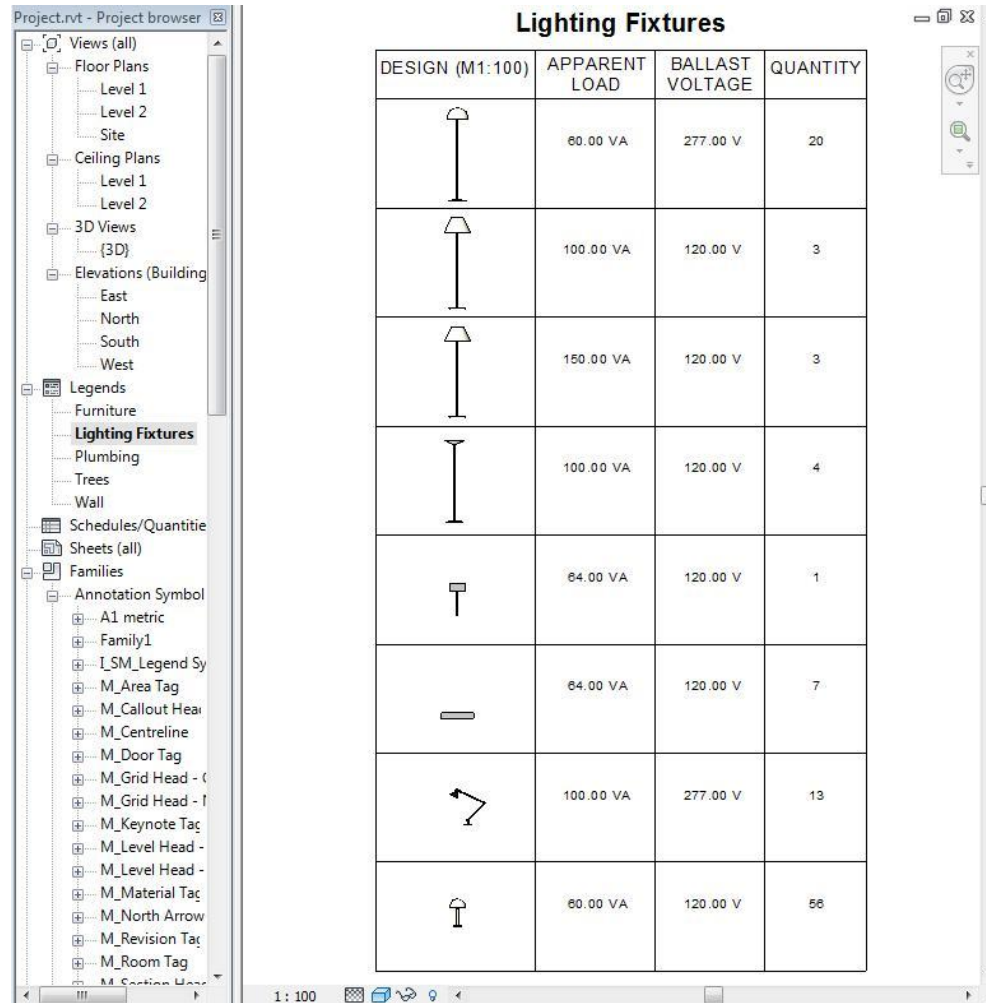
The screenshot displays the Revit software interface. On the left is the Project Browser with the 'Furniture legend' selected. The main area shows a table titled 'Furniture legend' with the following data:

DESIGN (M1:100)	MANUFACTURER	COST	QUANTITY
	Bessett	2300.00	12
	Broyhill International	3200.00	9









The interface also shows a scale of 1:100 at the bottom left and various navigation icons at the bottom.

Dynamic Legend

Other samples



Lighting Fixtures

DESIGN (M1:100)	APPARENT LOAD	BALLAST VOLTAGE	QUANTITY
	80.00 VA	277.00 V	20
	100.00 VA	120.00 V	3
	150.00 VA	120.00 V	3
	100.00 VA	120.00 V	4
	84.00 VA	120.00 V	1
	84.00 VA	120.00 V	7
	100.00 VA	277.00 V	13
	80.00 VA	120.00 V	56

Dynamic Legend

Other samples

The screenshot displays the Revit software interface with a dynamic legend for fan coils. The legend is titled 't4r DL' and contains a table with the following data:

No.	Design (M1:100)	Description	Apparent Load	Voltage	Quantity
1		Ceiling Ducted - CHW	265.00 VA	120.00 V	2
2		Ceiling Ducted - Exposed - CHW	260.00 VA	120.00 V	1
3		Horizontal - Belt Drive - CHW	5119.50 VA	120.00 V	1
4		Horizontal - Belt Drive - DX	3413.00 VA	120.00 V	1

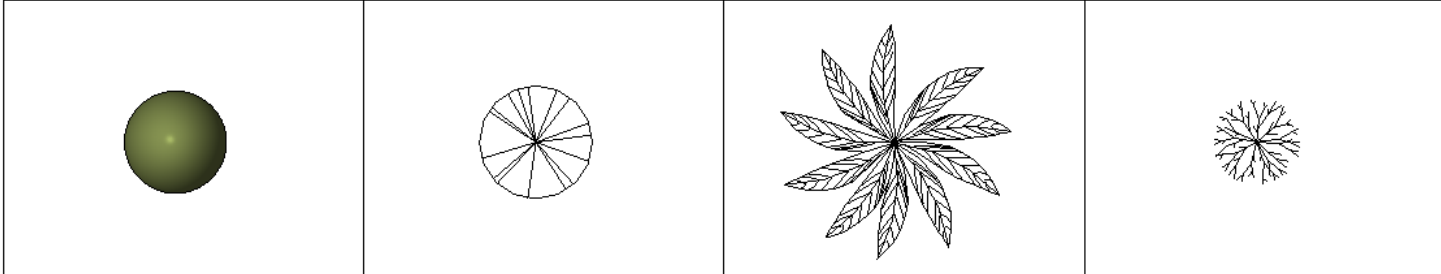
The left-hand navigation pane shows the project structure, with 'Legends' expanded and 'Fan Coil Legend' selected. The 'Schedules/Quantities' pane is also visible at the bottom of the navigation pane.

Dynamic Legend

Other samples

Residence Taurer.rvt - Pro...

Tree legend



Type Comments:	Juniper	Type Comments:	Kousa Dogwood	Type Comments:	Tree Fern	Type Comments:	Apple tree
Height:	8000	Height:	12000	Height:	18000	Height:	6000
Quantity:	10	Quantity:	8	Quantity:	1	Quantity:	3

1 : 100

Increase your productivity !



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