FeneVision® Best Practice

Display Object Grid Parameters (BP0152)

Revision	Date	Description of Change	Revised By
A	2/14/19	Initial Document	LMW
B	12/2/21	Added troubleshooting section.	LMW

Introduction

This best practice describes the spreadsheet “Display Object Param Calculator”. This spreadsheet calculates display object grid parameters to facilitate generating notch locations and grid alignment.

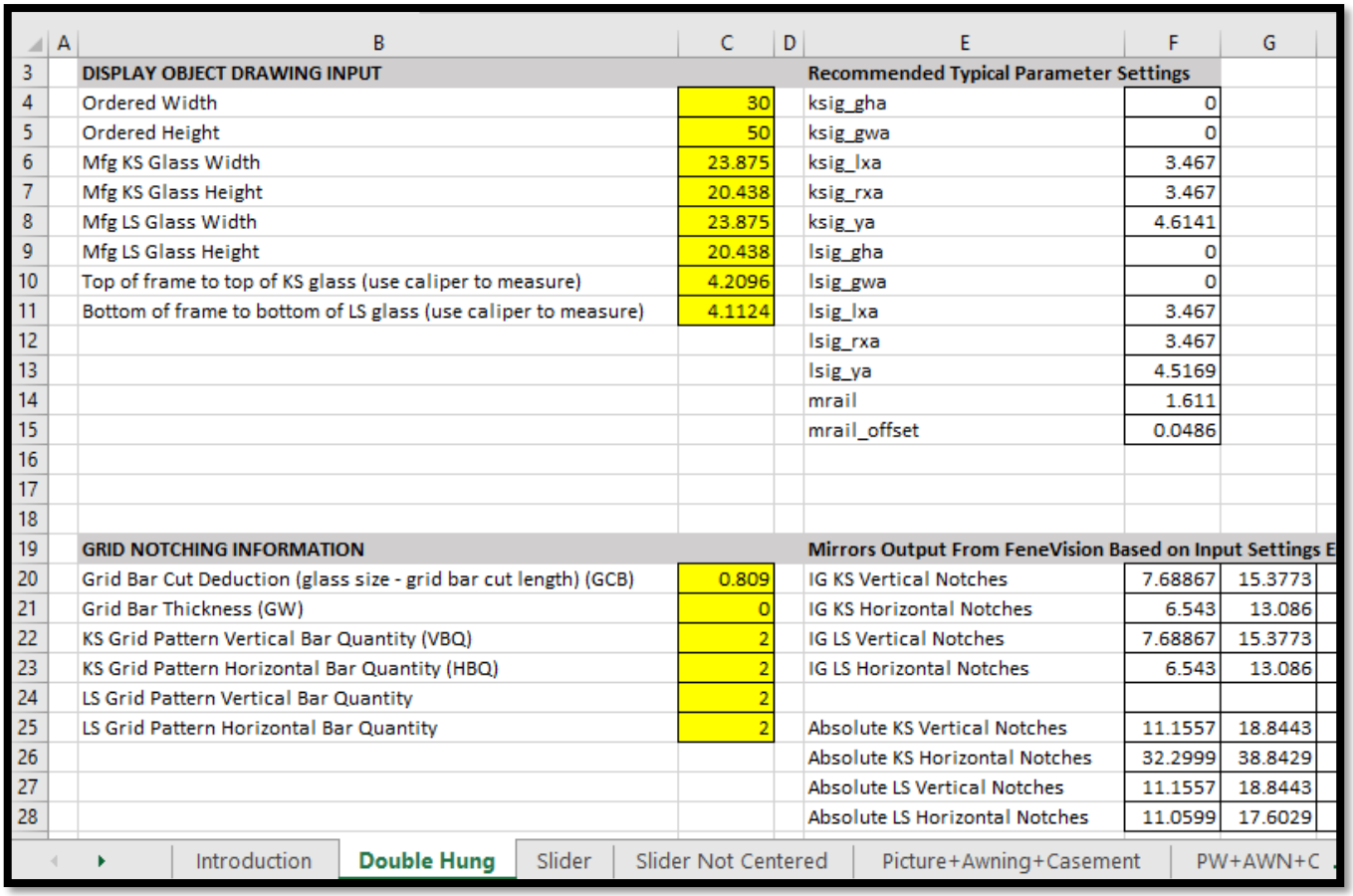
Using

The FeneVision display objects, beginning with the prefix “DES-“, have several parameters used by the software to calculate grid notches for a lineitem, and to align grids between two windows. When a lineitem is entered in Order Entry, the software uses the grids drawn in the display object image to save grid notches in the database. Notches designate the center of the grid bar. These notches can be read from the database in attribute scripts via the CustomValue function. This alignment process is described in the FeneVision Core User Manual, and display object parameters are described in the FeneVision Display Object Reference Manual. The Display Object Param Calculator was created to reduce the number of measurements entered by the user, greatly simplifying the process.

Each type of window has its own sheet in Display Object Param Calculator. The user enters dimensions for a window into the sheet, and the sheet outputs the parameters needed by the display object. For example, use the output values on the Double Hung sheet with the DES-DOUBLE-SINGLE HUNG object. The output values are entered for each display object in Core -> Setup -> Display Objects in the Setup->Parameters tab.

Certain values must be entered by the user, and these input cells are designated by their yellow background. The remaining fields are output fields - do not type in the output fields as that will destroy their formulas. When you receive the Display Object Param Calculator from FeneVision, saving a backup that you never edit is recommended in case a formula is accidentally overwritten.

Each sheet is comprised of 4 sections: Display Object Drawing Input, Grid Nothing Information, Recommended Typical Parameter Settings, and Mirrors Output from FeneVision.



	B	C	E	F	G
3	**DISPLAY OBJECT DRAWING INPUT**		**Recommended Typical Parameter Settings**		
4	Ordered Width	30	ksig_gha	0	
5	Ordered Height	50	ksig_gwa	0	
6	Mfg KS Glass Width	23.875	ksig_lxa	3.467	
7	Mfg KS Glass Height	20.438	ksig_rxa	3.467	
8	Mfg LS Glass Width	23.875	ksig_ya	4.6141	
9	Mfg LS Glass Height	20.438	lsig_gha	0	
10	Top of frame to top of KS glass (use caliper to measure)	4.2096	lsig_gwa	0	
11	Bottom of frame to bottom of LS glass (use caliper to measure)	4.1124	lsig_lxa	3.467	
12			lsig_rxa	3.467	
13			lsig_ya	4.5169	
14			mrail	1.611	
15			mrail_offset	0.0486	
16					
17					
18					
19	**GRID NOTCHING INFORMATION**		**Mirrors Output From FeneVision Based on Input Settings E**		
20	Grid Bar Cut Deduction (glass size - grid bar cut length) (GCB)	0.809	IG KS Vertical Notches	7.68867	15.3773
21	Grid Bar Thickness (GW)	0	IG KS Horizontal Notches	6.543	13.086
22	KS Grid Pattern Vertical Bar Quantity (VBQ)	2	IG LS Vertical Notches	7.68867	15.3773
23	KS Grid Pattern Horizontal Bar Quantity (HBQ)	2	IG LS Horizontal Notches	6.543	13.086
24	LS Grid Pattern Vertical Bar Quantity	2			
25	LS Grid Pattern Horizontal Bar Quantity	2	Absolute KS Vertical Notches	11.1557	18.8443
26			Absolute KS Horizontal Notches	32.2999	38.8429
27			Absolute LS Vertical Notches	11.1557	18.8443
28			Absolute LS Horizontal Notches	11.0599	17.6029

Introduction | **Double Hung** | Slider | Slider Not Centered | Picture+Awning+Casement | PW+AWN+C

Display Object Drawing Input

The example screenshot shows the Double Hung sheet. There are several required user input fields in the Display Object Drawing Input section, designated with the yellow background. It is critical that these values are entered accurately.

- Ordered Width: The ordered width of the window.
- Ordered Height: The ordered height of the window.
- Mfg KS Glass Width: The keeper sash glass width for the ordered dimensions.
- Mfg KS Glass Height: The keeper sash glass height for the ordered dimensions.
- Mfg LS Glass Width: The lock sash glass width for the ordered dimensions.
- Mfg LS Glass Height: The lock sash glass height for the ordered dimensions.
- Top of frame to top of KS glass: The distance from the top of the frame to the top of the keeper sash glass. Measure this with calipers.
- Bottom of frame to bottom of LS glass: The distance from the bottom of the frame to the bottom of the lock sash glass. Measure this with calipers.

The input values will differ slightly between windows but are self-explanatory.

Grid Notching Information

The example screenshot shows the Double Hung sheet. There are several required user input fields in the Grid Notching Information section, designated with the yellow background.

- Grid Bar Cut Deduction – The glass size minus the grid bar cut length.
    - Advanced: This value can be modified for various scenarios. For example, if you would like your notches to be divided using the entire glass, set this value to zero. If you want your notches divided by visible glass, then this value must be increased to reflect the distance from the edge of glass to the visible glass edge. However, setting this to glass size minus grid bar cut length is recommended, because it is the easiest and most direct method to get the grid material notched properly. The other options are mentioned in case you are providing notches to a vendor and they require a different scenario.

- Grid Bar Thickness – Often this is left at 0. The “DES-“ display objects require some customization to support this. There is a variable, UserDef(“gt”), which is set to 0 in all of the display object initialize scripts. UserDef(“gt”) must be set to the Grid Bar Thickness in order to use a non-zero value here.

These inputs are used when testing within the sheet and drives the values in the Mirrors Output From FeneVision section.

- KS Grid Pattern Vertical Bar Quantity
- KS Grid Pattern Horizontal Bar Quantity
- LS Grid Pattern Vertical Bar Quantity
- LS Grid Pattern Horizontal Bar Quantity

Recommended Typical Parameter Settings

The values under the heading “Recommended Typical Parameter Settings” are the calculated display object parameters. Enter them in the Setup-Parameters screen of Display Object Setup found at Core -> Setup -> Display Objects.

Parameters can be entered per ordered part. In the Setup-Parameters screen, select the ordered part you desire. If you leave a parameter blank when you have an ordered part selected, it inherits the value from {ALL PARTS}. So, if you want 0 for mrail_offset for “800DH” and {ALL PARTS} is entered as .5, you must enter 0 for “800DH”.

Important Note: *At this time the mrail_offset is always listed as a positive number. Sometimes it should actually be negative. If you are having issues, try entering mrail_offset as a negative number.* In a double-hung window, a positive mrail_offset moves the meeting rail down, while a negative number moves it up. In a slider window, a positive mrail_offset moves the meeting rail to the right, while a negative number moves it to the left.

Mirrors Output from FeneVision

The values under “Mirrors Output from FeneVision” display notch locations the BOM will generate using the “Recommended Typical Parameter Settings”. If you know what the notches should be for a given window size, enter all the user inputs based on that window size. Also entered the grid pattern with these inputs:

- KS Grid Pattern Vertical Bar Quantity
- KS Grid Pattern Horizontal Bar Quantity
- LS Grid Pattern Vertical Bar Quantity
- LS Grid Pattern Horizontal Bar Quantity

The Mirrors Output from FeneVision section will display the first couple of notches in each direction. Verify these match your expectations.

TroubleShooting and Tips

- The tab in the spreadsheet labeled Slider Not Centered is for sliders whose glass is not centered evenly in the height of the window.
- Sometimes the mrail_offset is listed as a positive number when it should be negative, or listed as negative when it should be positive. Test mrail_offset both ways and compare with expected grid values.
- When working with the 3-Lite Slider tab, use input dimensions for 333 (“equal”) sizing. This sheet is not meant for 424 (quarter-half-quarter) sizing.