

*the **KISS II** system.*

A Simplified Approach to Building Cabinets Using the 32mm System

Available online at www.kissii.com

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Door/Drawer Arrangements for a 30-1/2" Cabinet (24 Increments of 32mm)

| | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|
| 24 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 19 | 7 | 8 | 9 | 5 | 5 | 5 |
| | | 12 | 11 | 10 | 5 | 6 | 7 |
| | | | | | 9 | 8 | 7 |

| | | | | | | |
|-----------|-----------|-----------|-----------|----------|----------|----------|
| 12 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 18 | 6 | 7 | 8 | 9 | 6 |
| 12 | | 11 | 10 | 9 | 6 | |
| | | | | | 6 | |

Table of Contents

| | |
|--------------------|-----------------------------------------------------------------------|
| <u>Page 3</u> | <u>Objectives</u> |
| <u>Page 4</u> | <u>Overview</u> |
| <u>Page 5</u> | <u>The Constant</u> |
| <u>Pages 6</u> | <u>Table of Cabinet Sizes</u> |
| <u>Pages 7</u> | <u>Table of Door/Drawer Sizes</u> |
| <u>Page 8</u> | <u>Laying Out Doors & Drawers</u> |
| <u>Page 9</u> | <u>Possible Layouts for a 24 Increment Cabinet (30-12")</u> |
| <u>Page 10</u> | <u>Possible Layouts for a 23 Increment Cabinet (29-3/16")</u> |
| <u>Page 11</u> | <u>Possible Layouts for a 22 Increment Cabinet (27-15/16")</u> |
| <u>Page 12</u> | <u>Hinging Doors</u> |
| <u>Page 13</u> | <u>Building Drawers</u> |
| <u>Pages 14-20</u> | <u>Grass Zargen Drawers with <i>KISS II</i> System</u> |
| <u>Pages 20-22</u> | <u>Wood or Melamine Drawer with <i>KISS II</i> System</u> |
| <u>Pages 22-26</u> | <u>Grass Nova Pro drawers with the <i>KISS II</i> System</u> |

Objectives:

- 1) Develop a system for building frameless cabinets that is easy to adapt to multiple sizes of cabinets with multiple sizes of doors and/or drawer fronts.
- 2) Create cabinets that have a minimal reveal at the top and bottom of doors and/or drawer fronts.
- 3) Create cabinet end panels that are unhanded to eliminate possible mistakes on the assembly bench.
- 4) Create doors that are unhanded, so that concealed hinges can be drilled a uniform distance from either end of the door by means of preset stops on the hinge drilling machine.
- 5) Develop a system that can be used for any type of drawer construction from wood or melamine drawer boxes to “high tech” metal drawer systems.
- 6) Make a system that will work with epoxy coated bottom mount slides, full extension ball bearing drawer slides, or metal drawer sides.
- 7) Make a system that allows for uniform construction of drawers that can be interchanged with any other like sized drawer regardless of where it might go into the drawer stack.
- 8) Make the system so easy to understand that everyone in the shop will be able to understand it.

Does this sound like what you are looking for in a 32mm system?

Solution:

KISS II

Overview

The *KISS II* System was developed to help those who may be new to frameless cabinet construction, or those who presently build frameless cabinets and line bore 32mm holes, but don't use the system holes for mounting their hinges, or their drawer guides cabinet members. It is not intended to be presented as the way that you must make your cabinets, but is really designed to be a good starting point for designing your own variation of the 32mm system.

Common features of most 32mm systems

First, cabinet sides are drilled with “system holes” that are spaced 32mm apart. By now nearly all line drilling equipment sold is based on this spacing. This spacing divides the end panels into increments of 32mm. Because one of our objectives is to create end panels that are unhandled, it is necessary that the distance from the top of the panel to the first system hole is the same as the distance from the bottom of the panel to the first hole. Page 6 lists end panel lengths from 20-3/8” to 96” that will produce unhandled end panels for cabinets using a first hole distance of **35mm** from either end of the panel.

Second, door and drawer front heights are most frequently built in increments of 32mm. These door or drawer front heights are reduced by the amount of reveal that you wish to maintain between your doors and or drawer fronts. Most frameless construction tries to maintain a reveal of about 3mm (1/8” prox.) on all sides of the doors and drawer fronts. Page 7 lists door and drawer front heights from 4-15/16” to 95-5/8” made to increments of 32mm (-3mm).

Lastly, because nearly all 32mm systems have doors and drawer fronts that are made to increments of 32mm and end panels that are made to increments of 32mm, there is a relationship of the system holes to the doors and drawer fronts. This is especially important for determining where to drill for hinge placement and drilling drawer fronts when using metal drawer systems. **With the *KISS II* system every possible reveal between drawer fronts or doors falls exactly on the center of one of the system holes in the cabinet.** This is especially nice when you need to locate a spreader. You can use the system hole as a guide for centering every possible spreader.

While the *KISS II* system lends itself nicely to the Grass Zargen drawer system, it can be used with any type of drawer construction or drawer slide system that is compatible with 32mm (i.e. has holes for 5mm system screws set back 37mm from the front edge of the cabinet). This includes many epoxy coated bottom mount drawer slides and side mounted ball bearing drawer slides.

Following the sections of cabinet sizes and door/drawer front sizes is a section explaining how to configure door and drawer fronts, some examples of layouts for typical base cabinets and information for various types of drawer construction, including Grass Zargen, wood or melamine drawers and Grass Nova Pro drawer system.

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The Constant

Nearly all self-closing drawer slides require an increased reveal between the top drawer and an over hanging countertop. This is because many slides have a ramp built into the drawer member that causes the drawer roll downward into the stay-closed position. This ramp also causes the drawer front to move upward as the drawer is opened. Most Grass drawer slides use a patented design that allows drawers to travel horizontally for the first ¾". May other slides rise as soon as they begin to travel out of the cabinet. This rise may cause binding of the drawer fronts when there are tight reveals between drawer fronts. Even the Grass slides may need extra clearance under a countertop that extends out past the drawer fronts. In these cases there needs to be additional reveal between the top drawer and the countertop.

In the *KISS II* system we add a **constant of 6mm** one time to each multiple of 32mm to create our incremental cabinet heights. Additionally, we deduct 3mm from the overall height of door/drawer sizes (to create 3mm reveal between drawer fronts). This creates a difference of 9mm (6mm + 3mm) between the overall height of the door/drawer combinations and the corresponding cabinet heights. Because the *KISS II* system produces cabinets that have both unhandled end panels and unhandled doors, the 9mm difference is split equally above and below the door/drawer combinations. All cabinets produced with this system will have a **4.5mm reveal above the top door/drawer** (clearance for an overhanging countertop) and a **4.5mm reveal below the bottom door/drawer** (enough to protect the doors or drawer fronts while on the workbench or while being transported to the job site).

Many cabinet jobs require a **36" finished countertop height**, an end panel height in an exact multiple of 32mm would fall slightly short of being an ideal height. An exact 24 incremental height would produce a panel height of 768mm (24 x 32mm) or approximately 30-1/4". Closer to 30-1/2" would be ideal, this would make a 1-1/2" thick countertop, plus a 4" toe kick space, equal a finished countertop height of 36". The *KISS II* system constant of **6mm** added to the 24 incremental cabinet height of 768mm produces cabinet heights of 774mm which is much closer to the ideal of 30-1/2" (actually 30.47").

All suggested end panel heights are a multiple of 32mm plus the constant (6mm). The constant is added only once to the selected multiple of 32mm for determining cabinet end panels (refer to the table on page 6 for *KISS II* cabinet heights). Door and drawer front heights for *KISS II* cabinets are found on page 7 (these are multiples of 32mm minus 3mm for reveal).

Cabinets need to be built to these sizes to fully utilize the benefits of the system, which include ***unhandled cabinet end panels and unhandled hinge drilling.***

It is possible to do variations of the *KISS II* system. Variations will produce either handed end panels or handed doors. Handed end panels have a different distance from the top of the panel to the first system hole than from the bottom of the panel up to the first system hole. Handed doors have a different distance from the top of the door to the top hinge, than from the bottom of the door to the bottom hinge.

The addition of the constant will create a starting reference point of **35mm** for line drilling. That is the distance from either end of the panel to the center of the first hole. When line boring this is always the place to set your fences while using the ***KISS II*** system.

Cabinet Heights

| Increments | mm | Inches | Inches* | Increments | mm | Inches | Inches* |
|------------|------|--------|-----------|------------|------|--------|-----------|
| 12 | 390 | 15.35 | 15-3/8" | 45 | 1446 | 56.93 | 56-15/16" |
| 13 | 422 | 16.61 | 16-5/8" | 46 | 1478 | 58.19 | 58-3/16" |
| 14 | 454 | 17.87 | 17-7/8" | 47 | 1510 | 59.45 | 59-7/16" |
| 15 | 486 | 19.13 | 19-1/8" | 48 | 1542 | 60.71 | 60-11/16" |
| 16 | 518 | 20.39 | 20-3/8" | 49 | 1574 | 61.97 | 61-15/16" |
| 17 | 550 | 21.65 | 21-5/8" | 50 | 1606 | 63.23 | 63-1/4" |
| 18 | 582 | 22.91 | 22-15/16" | 51 | 1638 | 64.49 | 64-1/2" |
| 19 | 614 | 24.17 | 24-3/16" | 52 | 1670 | 65.75 | 65-3/4" |
| 20 | 646 | 25.43 | 25-7/16" | 53 | 1702 | 67.01 | 67" |
| 21 | 678 | 26.69 | 26-11/16" | 54 | 1734 | 68.27 | 68-1/4" |
| 22 | 710 | 27.95 | 27-15/16" | 55 | 1766 | 69.53 | 69-1/2" |
| 23 | 742 | 29.21 | 29-3/16" | 56 | 1798 | 70.79 | 70-13/16" |
| 24 | 774 | 30.47 | 30-1/2" | 57 | 1830 | 72.05 | 72-1/16" |
| 25 | 806 | 31.73 | 31-3/4" | 58 | 1862 | 73.31 | 73-5/16" |
| 26 | 838 | 32.99 | 33" | 59 | 1894 | 74.57 | 74-9/16" |
| 27 | 870 | 34.25 | 34-1/4" | 60 | 1926 | 75.83 | 75-13/16" |
| 28 | 902 | 35.51 | 35-1/2" | 61 | 1958 | 77.09 | 77-1/16" |
| 29 | 934 | 36.77 | 36-3/4" | 62 | 1990 | 78.35 | 78-3/8" |
| 30 | 966 | 38.03 | 38-1/16" | 63 | 2022 | 79.61 | 79-5/8" |
| 31 | 998 | 39.29 | 39-5/16" | 64 | 2054 | 80.87 | 80-7/8" |
| 32 | 1030 | 40.55 | 40-9/16" | 65 | 2086 | 82.13 | 82-1/8" |
| 33 | 1062 | 41.81 | 41-13/16" | 66 | 2118 | 83.39 | 83-3/8" |
| 34 | 1094 | 43.07 | 43-1/16" | 67 | 2150 | 84.65 | 84-5/8" |
| 35 | 1126 | 44.33 | 44-5/16" | 68 | 2182 | 85.91 | 85-15/16" |
| 36 | 1158 | 45.59 | 45-9/16" | 69 | 2214 | 87.17 | 87-3/16" |
| 37 | 1190 | 46.85 | 46-7/8" | 70 | 2246 | 88.43 | 88-7/16" |
| 38 | 1222 | 48.11 | 48-1/8" | 71 | 2278 | 89.69 | 89-11/16" |
| 39 | 1254 | 49.37 | 49-3/8" | 72 | 2310 | 90.94 | 90-15/16" |
| 40 | 1286 | 50.63 | 50-5/8" | 73 | 2342 | 92.20 | 92-3/16" |
| 41 | 1318 | 51.89 | 51-7/8" | 74 | 2374 | 93.46 | 93-7/16" |
| 42 | 1350 | 53.15 | 53-1/8" | 75 | 2406 | 94.72 | 94-3/4" |
| 43 | 1382 | 54.41 | 54-7/16" | 76 | 2438 | 95.98 | 96" |
| 44 | 1414 | 55.67 | 55-11/16" | | | | |

*rounded to nearest 1/16" - for best accuracy use metric measurements

KISS II Door/Drawer Heights

| Increments | mm | Inches | Inches* | Increments | mm | Inches | Inches* |
|------------|------|--------|-----------|------------|------|--------|-----------|
| 4 | 125 | 4.92 | 4-15/16" | 41 | 1309 | 51.54 | 51-9/16" |
| 5 | 157 | 6.18 | 6-3/16" | 42 | 1341 | 52.80 | 52-13/16" |
| 6 | 189 | 7.44 | 7-7/16" | 43 | 1373 | 54.06 | 54-1/16" |
| 7 | 221 | 8.70 | 8-11/16" | 44 | 1405 | 55.31 | 55-5/16" |
| 8 | 253 | 9.96 | 9-15/16" | 45 | 1437 | 56.57 | 56-9/16" |
| 9 | 285 | 11.22 | 11-1/4" | 46 | 1469 | 57.83 | 57-13/16" |
| 10 | 317 | 12.48 | 12-1/2" | 47 | 1501 | 59.09 | 59-1/8" |
| 11 | 349 | 13.74 | 13-3/4" | 48 | 1533 | 60.35 | 60-3/8" |
| 12 | 381 | 15.00 | 15" | 49 | 1565 | 61.61 | 61-5/8" |
| 13 | 413 | 16.26 | 16-1/4" | 50 | 1597 | 62.87 | 62-7/8" |
| 14 | 445 | 17.52 | 17-1/2" | 51 | 1629 | 64.13 | 64-1/8" |
| 15 | 477 | 18.78 | 18-3/4" | 52 | 1661 | 65.39 | 65-3/8" |
| 16 | 509 | 20.04 | 20-1/16" | 53 | 1693 | 66.65 | 64-1/2" |
| 17 | 541 | 21.30 | 21-5/16" | 54 | 1725 | 67.91 | 67-15/16" |
| 18 | 573 | 22.56 | 22-9/16" | 55 | 1757 | 69.17 | 69-3/16" |
| 19 | 605 | 23.82 | 23-13/16" | 56 | 1789 | 70.43 | 70-1/16" |
| 20 | 637 | 25.08 | 25-1/16' | 57 | 1821 | 71.69 | 71-11/16" |
| 21 | 669 | 26.34 | 26-5/16" | 58 | 1853 | 72.95 | 72-15/16" |
| 22 | 701 | 27.60 | 27-5/8" | 59 | 1885 | 74.21 | 74-3/16" |
| 23 | 733 | 28.86 | 28-7/8" | 60 | 1917 | 75.47 | 75-1/2" |
| 24 | 765 | 30.12 | 30-1/8" | 61 | 1949 | 76.73 | 76-3/4" |
| 25 | 797 | 31.38 | 31-3/8" | 62 | 1981 | 77.99 | 78" |
| 26 | 829 | 32.64 | 32-5/8" | 63 | 2013 | 79.25 | 79-1/4" |
| 27 | 861 | 33.90 | 33-7/8" | 64 | 2045 | 80.51 | 80-1/2" |
| 28 | 893 | 35.16 | 35-3/16" | 65 | 2077 | 81.77 | 81-3/4" |
| 29 | 925 | 36.42 | 36-7/16" | 66 | 2109 | 83.03 | 83-1/16" |
| 30 | 957 | 37.68 | 37-11/16" | 67 | 2141 | 84.29 | 84-5/16" |
| 31 | 989 | 38.94 | 38-15/16" | 68 | 2173 | 85.55 | 85-9/16" |
| 32 | 1021 | 40.20 | 40-3/16" | 69 | 2205 | 86.81 | 86-13/16" |
| 33 | 1053 | 41.46 | 41-7/16" | 70 | 2237 | 88.07 | 88-1/16" |
| 34 | 1085 | 42.72 | 42-11/16" | 71 | 2269 | 89.33 | 89-5/16" |
| 35 | 1117 | 43.98 | 44" | 72 | 2301 | 90.59 | 90-9/16" |
| 36 | 1149 | 45.24 | 45-1/4" | 73 | 2333 | 91.85 | 91-7/8" |
| 37 | 1181 | 46.50 | 46-1/2" | 74 | 2365 | 93.11 | 93-1/8" |
| 38 | 1213 | 47.76 | 47-3/4" | 75 | 2397 | 94.37 | 94-3/8" |
| 39 | 1245 | 49.02 | 49" | 76 | 2429 | 95.63 | 95-5/8" |
| 40 | 1277 | 50.28 | 50-1/4" | | | | |

* rounded to the nearest 1/16" for best accuracy use metric measurements

Now that you have tables for calculating cabinet heights and door/drawer front heights, you can begin doing door and drawer front layouts. This is where you see the flexibility of the 32mm system.

Typical Base Cabinet with a Single Door/Drawer Combination

For the purposes of example we will use a standard base cabinet height chosen from the table of cabinet heights of 774mm (30-1/2”). You can see from the table that this cabinet contains **24** increments of 32mm. All you need to do is come up with combinations of whole numbers that equal 24. You can find the door/drawer front sizes from the table of door/drawer front heights.

| | | | |
|----------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Examples | 20 increment door <u>+4 increment drawer</u> | 19 increment door <u>+5 increment drawer</u> | 18 increment door <u>+6 increment drawer</u> |
| Equals | 24 increments | 24 increments | 24 increments |

Multiple Drawer Stacks

Here again all you have to do is match up the number of increments in the cabinet size with the number of increments used by the total of drawer front increments. The example cabinet has **24** increments of 32mm. You can divide 24 any way you want. If you want a 3-drawer stack with equal sized drawer fronts, you simply divide 24 by 3, which equals 8. If you want a 4-drawer stack with equal sized fronts divide 24 by 4, which equals 6. Here are some examples of incremental combinations which all add up to 24.

3 Drawer Combinations

| | | | | | | | | |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|
| 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 8 |
| 7 | 8 | 9 | 6 | 7 | 8 | 7 | 8 | 8 |
| <u>+12</u> | <u>+11</u> | <u>+10</u> | <u>+12</u> | <u>+11</u> | <u>+10</u> | <u>+10</u> | <u>+9</u> | <u>+8</u> |
| 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |

4 Drawer Combinations

| | | | |
|------------------|------------------|------------------|------------------|
| 5 | 5 | 5 | 6 |
| 5 | 5 | 5 | 6 |
| 5 | 6 | 7 | 6 |
| <u>+9</u> | <u>+8</u> | <u>+7</u> | <u>+6</u> |
| 24 | 24 | 24 | 24 |

KISS II Possible Door/Drawer Arrangements for a 24 Increment Cabinet 774mm height (30-1/2")

| | | | | | | | |
|------------------------------|--------------------------------|------------------------------|-------------------------------|-----------------------------|-------------------------------|------------------------------|------------------------------|
| 24 765mm (30-1/8") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") |
| | 19 605mm (23-13/16") | 7 221mm (8-11/16") | 8 253mm (9-15/16") | 9 285mm (11-1/4") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") |
| | | 12* 381mm (15") | | | 11* 349mm (13-3/4") | 5 157mm (6-3/16") | 6 189mm (7-7/16") |
| | | | 10* 317mm (12-1/2") | 9 285mm (11-1/4") | | 8 253mm (9-15/16") | 7 221mm (8-11/16") |

| | | | | | | |
|---------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|-----------------------------|
| 12* 381mm (15") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 6 189mm (7-7/16") |
| | 18 573mm (22-9/16") | 6 189mm (7-7/16") | 7 221mm (8-11/16") | 8 253mm (9-15/16") | 9 285mm (11-1/4") | 6 189mm (7-7/16") |
| 12* 381mm (15") | | 11* 349mm (13-3/4") | 10* 317mm (12-1/2") | 9 285mm (11-1/4") | 6 189mm (7-7/16") | |
| | | | | | 6 189mm (7-7/16") | |

* Possible file drawer

KISS II Possible Door/Drawer Arrangements for a 23 Increment Cabinet 742mm (29-3/16")

| | | | | | | |
|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|------------------------------|------------------------------|
| 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") |
| 18 573mm (22-9/16") | 6 189mm (7-7/16") | 7 221mm (8-11/16") | 8 253mm (9-15/16") | 6 189mm (7-7/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") |
| | 12* 381mm (15") | 11* 349mm (13-3/4") | | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 5 157mm (6-3/16") |
| | | | 10* 317mm (12-1/2") | 6 189mm (7-7/16") | 7 221mm (8-11/16") | 8 253mm (9-15/16") |

| | | | | | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|
| 23 733mm (28-7-17") | 11* 349mm (13-3/4") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 7 221mm (8-11/16") | 7 221mm (8-11/16") |
| | | 17 541mm (21-5/16") | 6 189mm (7-7/16") | 7 221mm (8-11/16") | 8 253mm (9-15/16") | 7 221mm (8-11/16") | 8 253mm (9-15/16") |
| | 12* 381mm (15") | | 11* 349mm (13-3/4") | 10* 317mm (12-1/2") | | 9 285mm (11-1/4") | |

* Possible file drawer

KISS II Possible Door/Drawer Arrangements for a *22* Incremental Cabinet 710mm (27-15/16")

| | | | | | | |
|-------------------------------|-----------------------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|-----------------------------|
| 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") |
| 17 541mm (21-5/16") | 5 157mm (6-3/16") | 6 189mm (7-7/16") | 7 221mm (8-11/16") | 8 253mm (9-15/16") | 5 157mm (6-3/16") | 5 157mm (6-3/16") |
| | 12* 381mm (15") | 11* 349mm (13-3/4") | 10* 317mm (12-1/2") | | 9 285mm (11-1/4") | 5 157mm (6-3/16") |
| | | | | 7 221mm (8-11/16") | 6 189mm (7-7/16") | |

| | | | | | | |
|------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|
| 22 701mm (27-5/8") | 11* 349mm (13-3/4") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 6 189mm (7-7/16") | 7 221mm (8-11/16") |
| | | 16 509mm (20-1/16") | 6 189mm (7-7/16") | 7 221mm (8-11/16") | 8 253mm (9-15/16") | 7 221mm (8-11/16") |
| | 11* 349mm (13-3/4") | | 10* 317mm (12-1/2") | 9 285mm (11-1/4") | 8 253mm (9-15/16") | 8 253mm (9-15/16") |

* Possible File Drawer

Hinging Doors using the *KISS II* system.

The *KISS II* system creates unhanded doors.

It is an equal distance from the either the top or bottom of the door to the centerline of the hinge.

It is therefore a simple matter to set a stop at **78.5mm** (3-1/16"prox.) on either side of the fence of a hinge drilling machine to get proper alignment of the door. Because it is an equal distance from either end of the door, expensive fence extensions or other devices for counting spaces of 32mm are not required. Any style of door that isn't handed by the nature of its design like an arched raised panel door, doesn't require that you keep track of the handing during the hinge drilling process. Even handed doors like arched raised panel doors, or doors that have been pre-drilled for decorative hardware, only require that you make sure you drill them on the proper side. They still don't require a drilling distance that is measured differently from the ends of the door.

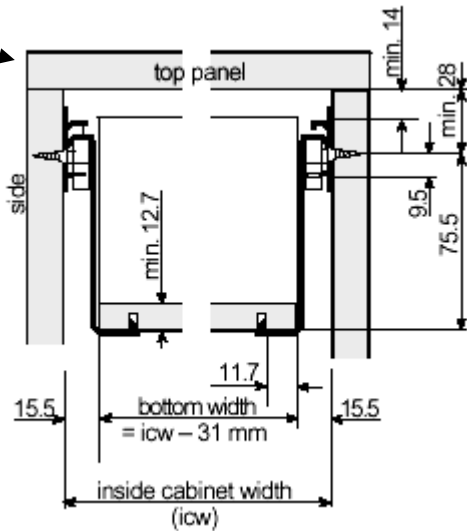
78.5mm is the normal distance for unhanded doors that fit the *KISS II* system. If you need to space your hinges differently because of interference with a roll-out, lazy susan shelf or any other thing causing interference with the hinge, the distance can be changed +/- increments of 32mm. In other words you could drill your doors at 46.5mm, or 110.5mm or 142.5mm, etc. and you still maintain the symmetry of the hinge drilling.

For tall doors requiring more than 2 hinges, the hinge placement for the intermediate hinge(s) will be a multiple of 32mm added to the 78.5 drill distance. It is possible to measure this distance and mark a centerline on your door to indicate where the hinge should be inserted. Some machines like the Grass Ecopress are supplied with an extra piece which when mounted to the fence, provides a raised surface to make it easy to line up the mark on the door with the centerline of the drilling machine. It is also possible to line up the centerline on the door with the zero position on the fence of most hinge drilling machines.

Unhanded doors are a big benefit of the *KISS II* system. This feature may eliminate a potentially expensive error from occurring. It also makes door hinging a job that can be done by an entry-level employee.

Building Grass Zargen Drawers Using *KISS II* System

Note: This drawing is not typical of recommended box construction. Sides of cabinet should extend to top of cabinet. Top panel should set between cabinet sides.



Drawer Backs & Bottoms

Width-All drawer backs and bottoms should be cut **31mm (1-1/4") less than** the inside cabinet width (*icw*).

Bottom Panel Length-use the following table to determine the length of drawer bottom to use based upon the thickness of material you are using for the drawer back.

| Grass Zargen Slide Length | Bottom Length 5/8" Back* | Bottom length 3/4" Back* |
|---------------------------|------------------------------------|------------------------------------|
| 270mm (10-5/8") | 251mm (9-7/8"prox) | 248mm (9-3/4"prox) |
| 350mm (13-3/4") | 331mm (13-1/16"prox) | 328mm (12-15/16"prox) |
| 400mm (15-3/4") | 381mm (15"prox) | 378mm (14-7/8"prox) |
| 440mm (17-5/16") | 421mm (16-9/16"prox) | 418mm (16-7/16"prox) |
| 470mm (18-1/2") | 451mm (17-3/4"prox) | 448mm (17-5/8"prox) |
| 510mm (20-1/16") | 491mm (19-5/16"prox) | 488mm (19-3/16"prox) |
| 550mm (21-5/8") | 531mm (20-7/8"prox) | 528mm (20-13/16"prox) |

* These sizes are for 6035, 6036, 6136, 6236 & 6436. The 6026 Eco version requires bottom lengths 1mm shorter (refer to Grass Catalog)

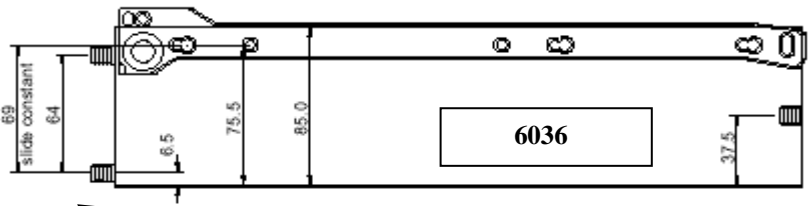
Bottom Panel Thickness-the bottom panel for any of the Grass Zargen Slides can be made from materials which are 3/8" or thicker, **3/8", 1/2", 5/8" or 3/4"** material will work fine. If you choose to use 3/8" material you must make sure to cut the groove in the bottom a little shallower than with the other materials, Grass makes two special router bits for making this groove, one for 3/8" material and one for all other bottom thickness'. This bit also slightly bevels the bottom corner of the material to ensure a tight fit with both the side and the bottom of the drawer sides. It is important to make the groove **11.5mm-11.7mm** from the edge of the drawer bottom to the edge of the groove to insure a tight fitting drawer bottom.

Drawer backs-can be cut to nearly any height. **Example:** using the Grass Pendeflex railing system you would normally use a 6036 (3-3/8") drawer side, but you cut the back 267mm (10-1/2") tall to accommodate the file rails. In other words the back can be taller than the side height of the slide if you desire. Here is a table to determine the height of a drawer back to make it flush to the top of the Grass Zargen drawer side.

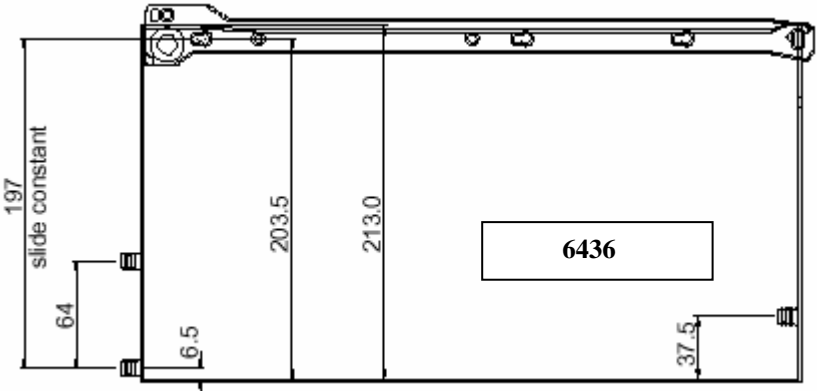
| Grass Zargen Slide | Height of Back (to be flush with side) |
|--------------------|-------------------------------------------|
| 6035 | 45mm (1-3/4")* |
| 6036 (6026) | 85mm (3-3/8") |
| 6136 | 117mm (4-5/8") |
| 6236 | 149mm (5-7/8") |
| 6436 | 213mm (8-3/8") |

* 6035 side height is 43mm, but Grass recommends 45mm minimum back because 10mm hole is too close to the edge of 43mm back.

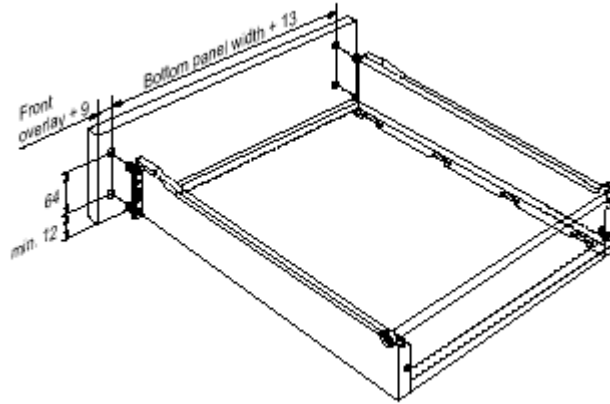
Drilling of drawer backs-all drawer backs require a **10mm diameter hole**, drilled **12mm** in from the outer edge of each side of the drawer back (this can be done with the side to side stop available for the Grass Ecopress) **by 37.5mm** up from the bottom of the drawer back. **The top edge is always towards you with the bad side up.** Backs should be made from material which is 5/8" or 3/4" thick, as the **hole depth** should be **12.5mm** (1/2").



All Zargen slides **6036**, 6136, 6236 and **6436** use same drilling distance from the bottom of the drawer front to the center of the bottom dowel. They all have 6.5mm distance from bottom of slide to center of dowel.



Drawer Fronts



All Grass Zargen slides-**6036**, 6026 (3-3/8"), **6136** (4-5/8"), **6236** (5-7/8") or **6436** (8-3/8") will require their drawer fronts to be drilled at **25.5mm** up from the bottom of the drawer front using the **KISS II** System. This is the distance from the bottom edge of the drawer front to the center of the bottom dowel for every possible (incremental) drawer front. Using a Grass Ecopress this is the fence setting using the right hand scale of the machine (also used for hinge drilling). The **depth** of the holes for fastening the fronts is **12.5mm** (1/2") the same as for the drilling of the backs. Grass makes special 10mm bits with a countersink built-in to keep the sharp edge of a hole (plastic laminate for example) from shaving off the barbs of the nylon dowels.

Drilling for Overlay-Grass recommends that all of the drilling of the drawer front be done using the right side of the drawer front as the reference side. This will help make the drawer square and the bottom fit tight even if there is some variation between the measurements of the drawer back and the drawer front.

As with all drilling for drawer parts, the front is drilled referencing from the bottom of the drawer front. **You always have the top of the drawer towards you with the bad side up** if you have material that can be used with either side out. Even with the drawer back, the top side will always face into the cabinet where it won't be seen.

The drawer front is drilled using a special 13mm thick stop on the fence of a Grass Ecopress. This stop should be set at **9mm plus the desired overlay**, example-if you want a 5/8" (16mm) side **overlay**, the **stop would be set at 25mm** (9mm + 16mm), for a 1/2" (13mm) **overlay the stop would be set at 22mm** (9mm + 13mm).

The stop for drilling the left-hand side of the drawer front is set using the drawer back as a reference. You set the left side of the drawer back against the right hand side of the 13mm thick stop (which is already set for the overlay) and move the second stop to the right hand side of the drawer back. You now have two stops set for drilling the drawer front.

You simply drill the drawer front first at the overlay stop, and then again at the stop set from the width of the drawer back.

This way you always reference from the right hand side of the drawer front.

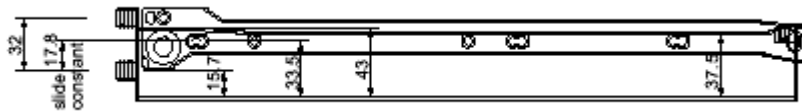
***What (Incremental) size of drawer front will work with which Zargen Slide?**

Here is a table to show you which size of drawer front will work with each different Zargen slide height.

| Incremental Drawer Front | Height of Drawer front | Grass 6035 (2"prox) | Grass 6036 (4"prox) | Grass 6136 (5"prox) | Grass 6236 (6"prox) | Grass 6436 (9"prox) |
|--------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 4 | 125mm (4-15/16") | X | * | | | |
| 5 | 157mm (6-3/16") | X | X | * | | |
| 6 | 189mm (7-7/16") | X | X | X | * | |
| 7 | 221mm (8-11/16") | X | X | X | X | |
| 8 | 253mm (9-15/16") | X | X | X | X | * |
| 9 | 285mm (11-1/4") | X | X | X | X | X |
| 10 | 317mm (12-1/2") | X | X | X | X | X |
| 11 | 349mm (13-3/4") | X | X | X | X | X |
| 12 | 381mm (15") | X | X | X | X | X |

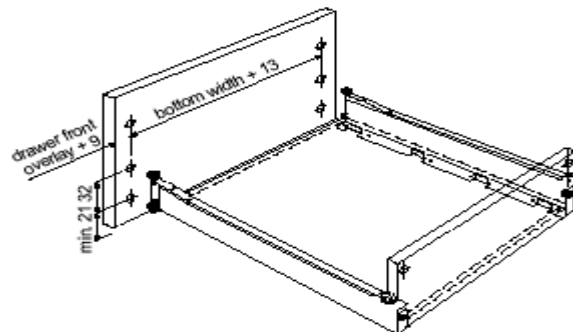
* These will only work if they are not used on a top drawer or a drawer that has a stretcher above it. (They can be used on a top drawer if you hold the top back about 2" from the front of the cabinet or use a 6200 Full Extension member with the slide.)

Using the 6035 Pencil Drawer with the KISS II System



The 6035 Pencil drawer is unique in the Unigrass metal drawer system. Because of height of the drawer side (43mm) there is not enough space for dowels spaced 64mm apart. The 6035 drawer member therefore has the 10mm dowels spaced 32mm apart. The Grass EcoPress has 3 spindles spaced 32mm apart. All of the other heights of Unigrass drawer sides use the 2 spindles that are the furthest apart to achieve the 64mm spacing. The 6035 drawer side requires using the middle spindle. The middle spindle turns in the opposite direction of the other two spindles, this means that this center spindle turns counter clockwise and will require a “left hand” turning bit. The newer versions of the Grass EcoPress come with quick-change chucks to make changing the bits a quick job.

Drilling the drawer back is the same as with any of the other drawer heights. You need to drill the same 10mm diameter hole, 12mm from the side and 37.5mm from the bottom. This is done in exactly the same way, using the side to side stop. This can be done with a single bit or with 2 bits set up for either the 64mm spacing or the 32mm spacing.



Drilling of drawer fronts using 6035 (pencil drawer) differs from the other sizes of Unigrass slides because the 6035 has a different *Drawer Slide Constant* than any of the other Unigrass System drawer slides.

The drawer slide constant for the 6036 is 69mm. The 6136 constant is 101mm (69mm + the 1 increment of 32mm that it is taller than the 6036). The 6236 constant is 133mm (69mm + the 2 increments of 32mm that it is taller than 6036). The 6436 constant is 197mm (69mm = the 4 increments of 32mm that it is taller than the 6036).

The constant for 6035 is 17.8mm, if you subtract that from the constant for 6036 of 69mm it equals 51.2mm and as we are using one less increment of 32 for 6035, you get:

$$69\text{mm} (-) 17.8\text{mm} = 51.2\text{mm} (-) 32\text{mm} = 19.2\text{mm}.$$

If you add this 19.2mm to the drill distance of 25.5mm for all the other slides you find:

6035 slide requires the drawer fronts to be drilled at 44.7mm.

Use 44.7mm (instead of the 25.5mm the other side heights require) when using the *KISS II* system with 6035 slides. To drill at 44.7mm with the Grass Ecopress you must use the center chuck and the chuck closest to you (32mm spacing). Using the center chuck (left hand turning) means you reference the drill distance from the center scale on the machine rather than the right hand scale used for the other Zargen slides.

The ***shortest height drawer front*** that can be used in the *KISS II* system with the 6035 slide is the ***4 increment front*** which has a height of 125mm (4-15/16"). You can use any incremental drawer front that is larger than this, just as you can with any of the other drawer side heights just remember that the fronts drill a little differently.

KISS II Locating of Zargen Cabinet Members

Use this chart to determine which holes to use for mounting cabinet members of Zargen Drawer Slides

Counting down from the top of the cabinet to the number of increments (of 32mm) covered by all door/drawer fronts above each drawer front.

Examples:

24 increment Cabinet with 4ea 6 increment drawer fronts using 6036 slides

- First slide mounts into 3rd hole down from top (6 increments covered – 3)
- Second slides mounts into 9th hole from top (12 increments covered –3)
- Third slide mounts into 15th hole from top (18 increments covered –3)
- Fourth slide mounts into 21st hole from top (24 increments covered –3)

Same 24 increment Cabinet with same 6 increment drawer fronts, but using 6136 slides

- First slide mounts into 2nd hole down from top (6 increments covered –4)
- Second slides mounts into 8th hole from top (12 increments covered –4)
- Third slide mounts into 14th hole from top (18 increments covered –4)
- Fourth slide mounts into 20th hole from top (24 increments covered –4)

| Grass Zargen Slide | Shortest Height of Drawer Front That will work with each slide height | # of Holes to subtract from total holes covered from top |
|-------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------|
| 6036 (4" prox. Slide) W/6200 Full Extension Members | 5 Increment 157mm – (6-3/16") | 3 |
| | 4 Increment 125mm – (4-15/16") | 2 |
| 6136 (5" prox. Slide) W/6200 Full Extension Members | 6 Increment 189mm – (7-7/16") | 4 |
| | 5 Increment 157mm – (6-3/16") | 3 |
| 6236 (6" prox. Slide) W/6200 Full Extension Members | 7 Increment 221mm – (8-11/16") | 5 |
| | 6 Increment 189mm – (7-7/16") | 4 |
| 6436 (9" prox. Slide) W/6200 Full Extension Members | 9 Increment 285mm – (11-1/4") | 7 |
| | 8 Increment 253mm – (9-15/16") | 6 |

Options for a 5 drawer 774mm (30-1/2") 24 Increment Cabinet Using Grass Zargen

| | |
|----------|----------|
| 4 | 5 |
| 5 | 5 |
| 5 | 5 |
| 5 | 5 |
| 5 | 4 |

It is possible to build a 5 drawer cabinet using the *KISS II* System and using Grass Zargen drawer slides. The cabinet on the left side with the 4 increment drawer on the top can be built several different ways:

- 1) You can use 6036 slides on every one of the drawer fronts including the top drawer, but to make the top drawer remove properly you must either :
 - a) Bring the top short of being flush with the sides by about 2" which will allow the drawer member wheel to lift out over the cabinet member wheel.
 - b) Use a Grass 6200 full extension member on the top drawer with a 6036 slide (the cabinet member then mounts into the hole that is 32mm lower than the hole without using the full extension member and the drawer can be easily removed.

The best and simplest option is b) using the 6200 full extension member on the top drawer.

- 2) You could use a Grass 6035 Pencil drawer slide on the top drawer. (This option requires that the drawer front then be drilled at 44.7mm from the bottom of the drawer front instead of the 25.5mm that all other drawer fronts are drilled with in the *KISS II* system. The 6035 also requires drawer fronts drilled at 32mm spacing rather than the 64mm spacing of all the other side heights, so it requires changing the bits on the drilling machine.

Another option is to build the cabinet on the right, with the 4 increment drawer front on the bottom of the stack. You will be able to drill it the same as the other fronts (25.5mm) as long as you don't use a spreader between the 4th and 5th drawers. This option will be easier to match reveals with any adjacent cabinets with a top drawer.

It is possible also to build a 5 drawer cabinet of this size with equal sized drawers (150.6mm fronts) with 4.5mm top and bottom reveal and 3mm reveal between drawers (*KISS II* parameters). However, the cabinet members would not mount into the system screw holes. It would be possible to mount them with a drilling jig or with a CNC point to point machine.

Building Wood or Melamine Drawer Boxes with *KISS II*

Here is a way to calculate the maximum height of a drawer side that will work with a bottom mounted slides.

Since these sizes will also work with ball bearing slides that don't require top clearance for the removal of drawers, you may want to use these heights for all of your drawer sides.

The **first hole** down from the top of a *KISS II* cabinet is **always 35mm**.

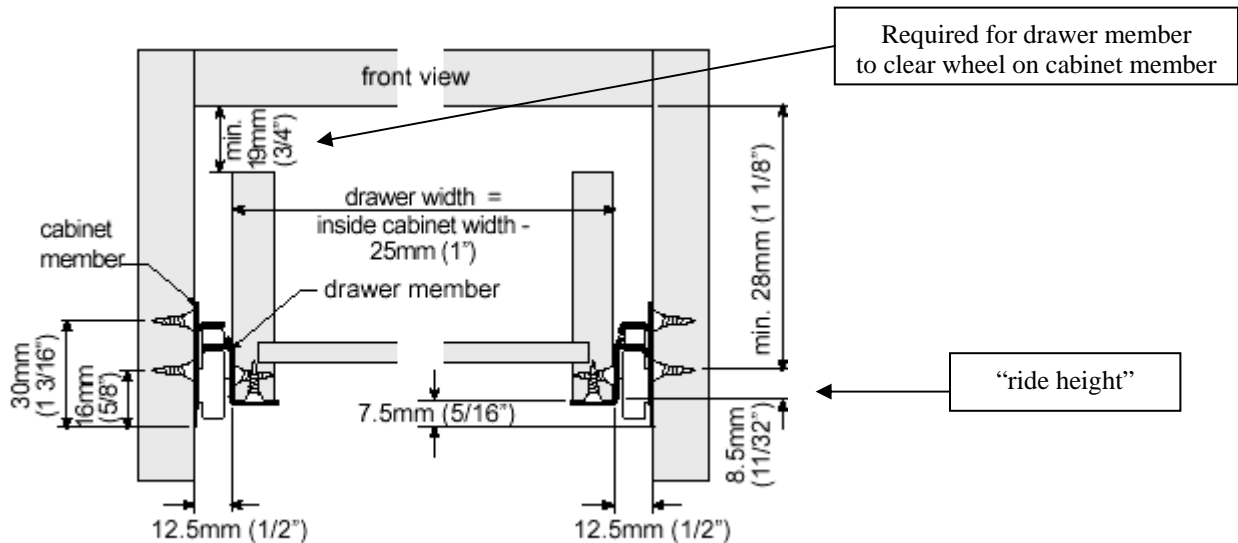
Most all bottom mounted epoxy coated slides require 19mm above the top of the drawer to be able lift the drawer out of the cabinet.

Here is how to calculate the maximum drawer side height, using bottom mounted epoxy slides, to fit into a *KISS II* cabinet based on each of the recommended drawer front heights.

Using the *KISS II* System **all of your possible reveals between drawer fronts and/or doors will center exactly on one of the system holes**. If you center your spreaders over these system holes the **3mm reveal will center on the spreader**. This is important if your specification calls for stops on all four sides of a drawer front (a WIC grade 1 requirement). A spreader also gives you a place to mount strikes for cam locks when they are required.

The cabinet members mount into the system hole directly above a spreader (or possible spreader), or into the hole directly above the bottom of the cabinet.

For example a 4-increment drawer front will cover 4 (32mm) increments on the cabinet. The cabinet member will mount into the 3rd hole from the top of the cabinet because the 4th hole will be where bottom of the drawer front will be. The 3rd hole is 99mm from the top of the cabinet (35+32+32mm).



Nearly every bottom mount drawer slide allows part of the drawer side to extend below the system hole used by the cabinet member (CM). The distance from the center of the system hole to the bottom of the drawer is typically referred to as **"ride height"** this is where the bottom of the drawer box will ride. The **Grass 6610 and 6650 drawer slides have a ride height of 8.5mm**. These slides require 19mm (3/4") at the top of the cabinet (if using a 3/4" top) and another 19mm (3/4") for the drawer member to clear the wheel of the cabinet member. The formulas to determine maximum drawer side height on the next page are based on these requirements.

Maximum Height of a Melamine or Wood Drawer Side

Use this table to determine how tall a drawer side can be using a Grass 6610 or 6650 bottom mount drawer slide with the *KISS II* system. This is the tallest a drawer side that can be used (including the drawer bottom if you are not putting the bottom into a dado). These sizes will allow enough room above the drawer for the wheel on the drawer member to clear the wheel on the cabinet member when removing the drawer from the cabinet.

| Drawer Front Sizes | | | Hole # for CM Counted from top Or spreader* | Max. Drawer Side Height** | |
|--------------------|-------|----------|---------------------------------------------------|---------------------------|-----------|
| # of Increments | (mm) | Inches | | (mm) | Inches |
| 4 | 125mm | 4-15/16" | 3 | 69.5mm | 2-3/4" |
| 5 | 157mm | 6-3/16" | 4 | 101.5mm | 4" |
| 6 | 189mm | 7-7/16" | 5 | 133.5mm | 5-1/4" |
| 7 | 221mm | 8-11/16" | 6 | 165.5mm | 6-1/2" |
| 8 | 253mm | 9-15/16" | 7 | 197.5mm | 7-3/4" |
| 9 | 285mm | 11-1/4" | 8 | 229.5mm | 9-1/16" |
| 10 | 317mm | 12-1/2" | 9 | 261.5mm | 10-5/16" |
| 11 | 349mm | 13-3/4" | 10 | 293.5mm | 11-9/16" |
| 12 | 381mm | 15" | 11 | 325.5mm | 12-13/16" |

*Use this reference to determine which hole, down from the top of the cabinet to use for mounting the cabinet member when using Grass 6610 or 6650 bottom mount drawer slides.

For drawers falling below the top drawer on a multi-drawer stack, this is the number of the hole counted from a spreader, or the system hole where a spreader would mount, if you were adding spreaders between all drawers.

A system hole always falls exactly between every possible reveal between drawer fronts, using the *KISS II* system. This hole can be used for locating a spreader and is the hole to use for counting spaces when determining cabinet member location.

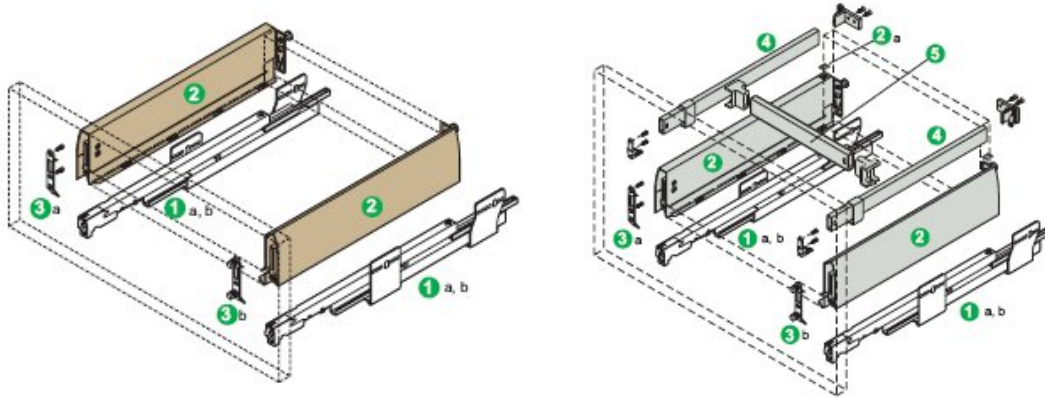
Example: When you use a 5-increment drawer front (6-3/16"), the total side height needs to be 4" or less (3-3/4" + 1/4" bottom if using 1/4" bottom without a dado).

The cabinet member would mount in the fourth hole from the top of the cabinet or the fourth hole down from the hole splitting the reveal created with the drawer above on a multiple drawer cabinet.

Another simple way to figure cabinet member placement is to count how many increments have been covered (with drawer fronts above and including the drawer) and mount the cabinet member into the hole that is 1 less than the number of increments covered.

Example: On a cabinet with 4 equal size **6** increment drawer fronts, the first cabinet member would mount into the 5th hole down. The second cabinet member would mount into the 11th hole down (12 [6 + 6] increments covered), the third into the 17th hole (18 [6 + 6 + 6] increments covered) and the last into the 23rd hole (24 [6 + 6 + 6 + 6] increments covered). This is all done referencing from the top of the side panel.

Building Grass Nova Pro Drawers Using *KISS II* System

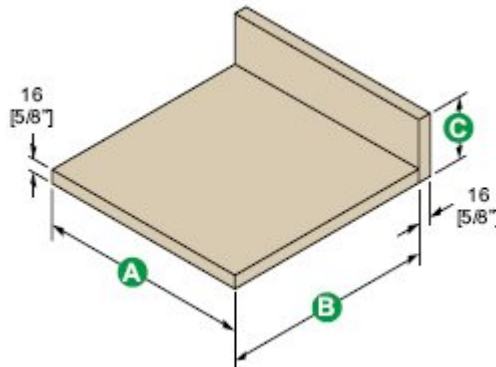


Grass Nova Pro slides are double walled steel drawer sides that feature concealed slide mechanisms of either 88lb or 150lb load capacity. All Nova Pro slides are fully synchronized (no noise when the intermediate member engages) and have Airmatic® soft close built into the slide.

Drawer fronts are fully adjustable and fixed to the drawer sides (2) with hooks (3) that are available for wood screw fixing or doweled for pre-drilling and pressing in.

Grass Nova Pro drawer sides are available in 2 side heights 90mm (3-9/16") and 122mm (4-13/16"). When deeper drawers are required there is an adjustable railing system available. The slides are available in lengths from 270mm (11") to 550mm (22") and are offered in 2 colors, champagne and Metallic.

Drawer Backs & Bottoms (5/8" material required due to cove built into drawer sides)



Width (A)-Drawer backs and bottoms should be cut **58mm (2-5/16") less than** the inside cabinet width (*icw*). Backs are the same width as the bottoms and do not require fixing of any additional parts as some of our competitors products do.

Bottom Panel Length(B)- here are the sizes and conversion to inches for each length of slide:

| Slide Length | 270mm (11") | 350mm (14") | 400mm (16") | 450mm (18") | 500mm (20") | 550mm (22") |
|--------------------------|-------------------|---------------------|----------------|----------------------|----------------------|--------------------|
| Bottom Length (B) | 251mm (9-7/8") | 331mm (13-1/16") | 381mm (15") | 431mm (16-15/16") | 481mm (18-15/16") | 531mm (20-7/8") |

Back Height (C) - Backs can be cut to different lengths when using the railing system, if you want the backs to be flush to the drawer side use the chart below to determine back height.

| Nova Pro Slide (height) | Min. Height of Back (C) |
|-------------------------|-------------------------|
| 920 – 90mm (3-9/16") | 84mm (3-5/16") |
| 930 – 122mm (4-13/16") | 116mm (4-9/16") |

Drilling of the drawer back

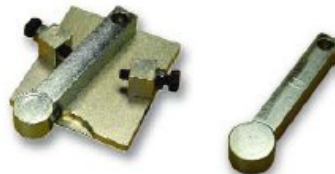
All drawer backs can be mounted with the 10mm knock-in dowel that is pre-attached to the drawer side, or the dowel is easily removed (without any tools) and the back can be attached with pan head wood screws mounted through other smaller holes that are provided.

If you want to drill the backs for the knock-in dowels with your Grass Ecopress ® the offset from either side is 10mm. This is a different offset than what is used with Grass Zargen slides, Grass therefore offers a different “flipper” to work with the side to side stop used with the Zargen slides on the Grass Ecopress.

Ecopress side-to-side stop

Quickly indexes drawer backs for drilling.
Comes with 19mm flipper for Grass Zargen.

- Purchase separate 23mm flipper for Nova drawers



| Reference # | Item # | Pkg. |
|---------------|----------|------|
| ECO-SIDE-STOP | 13902-01 | 1 |
| ECO-NOV-FLIP | 31029-01 | 1 |



The drawer back drilling also requires a different hole spacing relative to the bottom edge of the drawer back for each different height of Nova Slide. Here is a quick reference chart to determine where to drill the 10mm hole relative to the bottom of the drawer back.

| Grass Nova Slide (height) | Distance to center of 10mm hole from the bottom of the drawer back |
|---------------------------|--------------------------------------------------------------------|
| 920 – 90mm (3-9/16”) | 73mm (2-1/8”) |
| 930 – 122mm (4-13/16”) | 105mm (4-1/8”) |

KISSII Nova Pro Drawer Front Drilling

If you choose to use the press-in (dowelled) front fixing clips the drawer fronts can be drilled and pressed in with a Grass Ecopress ®.

Drawer fronts for **920** (90mm) and **930** (122mm) both require 32mm spaced holes drilled **62mm** (2-7/16”) from the bottom edge of the drawer front. Dowelled front hooks can be inserted with a Grass Ecopress ® or knocked in with a hand tool:

Ecopress insertion die

Holds dowelled front brackets in place.

- For use with P920 and P930 drawer slides and dowelled front brackets (Item# 21854)



| Reference # | Item # | Pkg. |
|-------------|----------|------|
| ECO-NOV-ID | 94488-01 | 1 |



Manual insertion tool

Used to manually insert dowelled front brackets.

- Best performance when used with a “dead blow” hammer



| Reference # | Item # | Pkg. |
|---------------|----------|------|
| P920 HANDTOOL | 91555-01 | 1 |

Alternative method of front hook locating

Another method of mounting the front hooks is to use a Grass supplied front marking template. 2 of these mount on an assembled drawer that has been mounted into a cabinet. You can simply hold the drawer front against the cabinet and when properly located, tap the front and the location screw holes for the front clips will be transferred onto the drawer front.

Drawer front marking template

Used to manually mark the drawer front for the centers of the front brackets.

- For use with P920 and P930 drawer sides
- Clips into the drawer side catch
- Use (2) per drawer



| Reference # | Item # | Pkg. |
|-------------|----------|------|
| P920 MARKER | 92050-01 | 1 |

Drilling for Overlay with Nova Pro Slides

The drilling of drawer fronts for the Nova Pro slides can be done in method similar to the method described earlier for Zargen slides. That is, they can be referenced from one side of the drawer front. This requires a 15mm stop instead of the 13mm stop used by the Zargen slide.

Ecopress 15mm side stop

Registers drawer fronts relevant to the drawer back for front bracket drilling.



| Reference # | Item # | Pkg. |
|-------------|----------|------|
| ECO-15-STOP | 92045-01 | 1 |

This overlay stop is set at the desired overlay +21.5mm. A typical cabinet with a 3/4" (19mm) side where a 3mm reveal is desired would be set at 39mm (17.5mm overlay + 21.5mm = 39mm). The drawer back then is used from the other side of the 15mm stop to set a second quick-change stop. The front is then drilled at the overlay stop and then drilled again at the quick-change stop.

Which drawer front will work with which each Nova Pro slide?

Here is a table to show you height drawer front will work with each Nova Pro slide height.

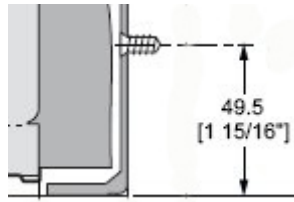
| Drawer Front | Height of Drawer Front | Nova Pro 920 | Nova Pro 930 |
|--------------|------------------------|--------------|--------------|
| 5 | 157mm (6-3/16") | X | * |
| 6 | 189mm (7-7/16") | X | X |
| 7 | 221mm (8-11/16") | X | X |
| 8 | 253mm (9-15/16") | X | X |
| 9 | 285mm (11-1/4") | X | X |
| 10 | 317mm (12-1/2") | X | X |
| 11 | 349mm (13-3/4") | X | X |
| 12 | 381mm (15") | X | X |

X Indicates that this height drawer front will work with slide height listed above.

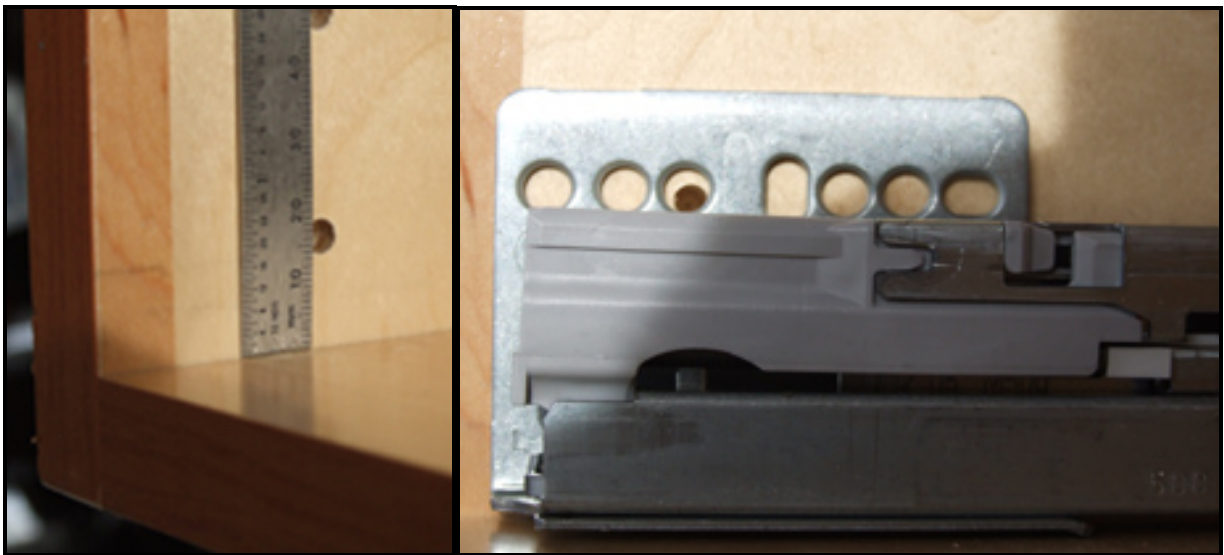
* This will not work on a top drawer or a drawer that has a stretcher above it.

Bottom Drawers

The distance shown from the bottom of the Cabinet member to the center of the system hole is 49.5mm



Because in the *KISS II* system we start our drilling at 35mm from either end of the *balanced panel* the second hole up from the bottom of the panel is at 67mm. This puts the first hole up from the bottom of the cabinet at 16mm and the hole is at 48mm if you are using a 3/4" (19mm) material for the bottom (35mm + 32mm – 19mm = 48mm). This causes the system hole to not align perfectly with the hole in the slide.



However it is easy to get a 5mm Euro screw into the hole. All that may be required is to adjust the drawer front down 1.5mm, on the bottom drawer, with the height adjustment screw inside the bottom drawer to make the reveal between the bottom drawer and the drawer directly above it 3mm.

Calculating Cabinet Member Placement

Because both the 920 and 930 Nova Pro drawer slides have the hook placement at the same 62mm from the bottom lip of the drawer front, it is a simple calculation to figure the cabinet member placement.

Just subtract 2 from the total number of increments covered by the drawer fronts and count down from the top that number of holes and that is where the cabinet member should locate.

Example (24 increment cabinet – 30-1/2") with 5,5,7,7 incremental drawer fronts the top drawer mounts in hole number 3 (5 minus 2), second cabinet member mounts into hole number 8 (10 minus 2), third cabinet member mounts into hole number 15 (17 minus 2) and the bottom cabinet member mounts into hole number 22 (24 minus 2). Remember the count is from the top and you count total number of increments used. First drawer front has covered 5 increments, second drawer has covered 10 increments, 5 for the first and 5 for the second, third drawer has covered 17 increments, 5 for the first plus 5 for the second and 7 for the third, the bottom drawer has covered all 24 increments of the cabinet.