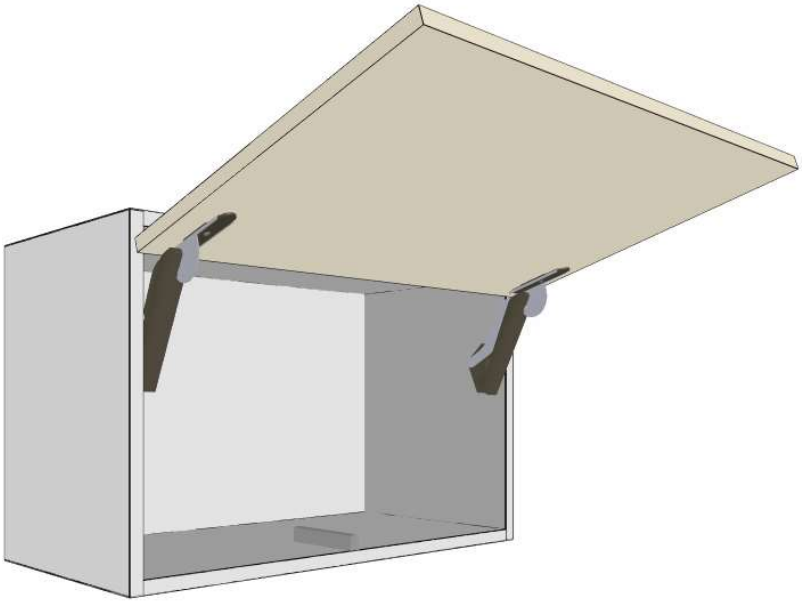
Hafele Free Space User Guide.



Introduction

Overview

- The 'Hafele Free Space Package' from Solid Setup Plus adds the Hafele Free Space 1.11 and 1.8 Pto door Lift systems to Cabinet Vision.
- It provides drilling for the Cabinet and Door parts, for CNC output.
- *(You can change the drilling diameters and depths to the tools you want to use.)*
- It also adds 3d Material Models for the Mechanisms and Pto etc.
- The Kit and Pto housing etc are added as a separate parts and materials for reporting purposes.
- All material descriptions contain the Hafele order number after the # symbol.
- UCS calculates weight of Door by using the density of board and handle weight.
- User can adjust density, handle weight or Total weight using attributes.
- The Total weight determines which Lift Mechanism to use, automatically.

Included in This Package

User Created Standards

The Following UCS is provided

- { DOOR } -- Hafele Free Space Attributes -Adds Hafele Free Space Attributes to DOR
- { DOOR } -- Hafele Free Space -Adds Hafele Free Space to DOR_OPEN

Parts

- HNG Hinge type part used for ordering Kit
- S_HNGPLT Hinge type part used for Arms
- S_HDWCON Hardware part used for the Pto parts

Miscellaneous Materials:

Free Space 1.11 B Anth #372.27.350	Free Space 1.8 Pto B Anth #372.27.355
Free Space 1.11 B Black #372.27.300	Free Space 1.8 Pto B Black #372.27.305
Free Space 1.11 B Grey #372.27.500	Free Space 1.8 Pto B Grey #372.27.505
Free Space 1.11 B White #372.27.700	Free Space 1.8 Pto B White #372.27.705
Free Space 1.11 C Anth #372.27.351	Free Space 1.8 Pto C Anth #372.27.356
Free Space 1.11 C Black #372.27.301	Free Space 1.8 Pto C Black #372.27.306
Free Space 1.11 C Grey #372.27.501	Free Space 1.8 Pto C Grey #372.27.506
Free Space 1.11 C White #372.27.701	Free Space 1.8 Pto C White #372.27.706
Free Space 1.11 D Anth #372.27.352	Free Space 1.8 Pto D Anth #372.27.357
Free Space 1.11 D Black #372.27.302	Free Space 1.8 Pto D Black #372.27.307
Free Space 1.11 D Grey #372.27.502	Free Space 1.8 Pto D Grey #372.27.507
Free Space 1.11 D White #372.27.702	Free Space 1.8 Pto D White #372.27.707
Free Space 1.11 E Anth #372.27.353	Free Space 1.8 Pto E Anth #372.27.358
Free Space 1.11 E Black #372.27.303	Free Space 1.8 Pto E Black #372.27.308
Free Space 1.11 E Grey #372.27.503	Free Space 1.8 Pto E Grey #372.27.508
Free Space 1.11 E White #372.27.703	Free Space 1.8 Pto E White #372.27.708
Free Space 1.11 F Anth #372.27.354	
Free Space 1.11 F Black #372.27.304	
Free Space 1.11 F Grey #372.27.504	
Free Space 1.11 F White #372.27.704	

Free Space Usage

Door Requirements.

For the Free Space to appear on a door the following conditions must be met

- Door must be hinged at top.
- Door must have its hinge quantity set to zero.
- Door height **must** be in size range **200-700 High** and door must be **under 1800 Wide**
- The **"Free Space?"** Attribute will then appear on the Door to switch on Free Space.
- (You must be in the orthographic or "Smiley" views to click on the door and see the attributes)

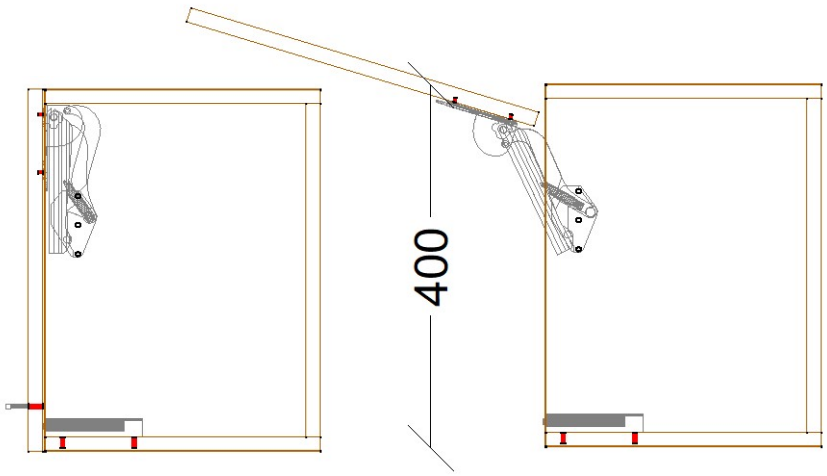
Attributes

- If the **"Free Space?"** attribute is changed to "**Free Space 1.11**" or "**Free Space 1.8 PTO**" the following attributes will appear on the Door, along with the Mechanisms and Arms.
- **NOTE**: - If the Door is not within the above size ranges, or is too heavy for any Mechanism the Free Space parts will **not** be added to the Door.

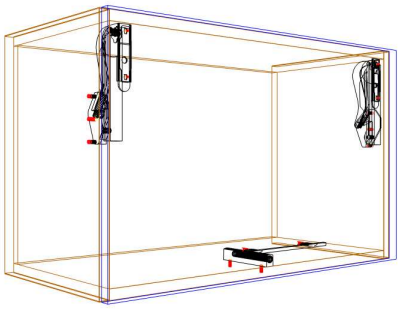
Free Space ?	Free Space 1.8 PTO
Free Space Colour	White
Free Space Dor Kg/m3	800
Free Space Dor Pull gm	200
Free Space Dors Kg	3.3
Free Space Dors Total Kg	3.5
Free Space Open?	False
Free Space Pos Lh	16
Free Space Pos Rh	16
Free Space Pos Top	16
Free Space Pto	Edge
Free Space Pto X	325
Free Space Pto Y Adj	0



- **Free Space Colour?** -Changes the Colour **(White,Grey,Anthracite or Black)**
- **Free Space Dor Kg/m3** This value is the density of the door measured in kilograms per cubic meter and is used to calculate the weight of the door – ***change this to the density of the board you are using if known (If you are using MDF its density varies between 680 and 830 Kg/m3)***
- **Free Space Dor Kg** -This is the weight of the door as calculated by the **density** value **you** entered multiplied by the door size and thickness. – ***(If you already know the door weight you can change this value rather than using the density calculated weight.)***
- **Free Space Dor Pull gm** -This value is the weight of the handle in grams and is used to calculate the total weight of the door plus handle – ***(change this to the total weight of the handle(s) you are using.)***
- **Free Space Dors Total Kg** -This is the total weight of the door and handle added together and is used to select the correct Lift Mechanism ***(If you already know the total door weight plus handle, you can change this value rather than using the density calculated weight.)***
- **Free Space Open?** -Shows the door in the open position.
- **Free Space Pos Lh** -Can be used to move the x position of the left Arm.
- **Free Space Pos Rh** -Can be used to move the x position of the right Arm.
- **Free Space Pos Top** -**Distance from top of door to top of arm**
- **Free Space Pto** -Choice of Pto type (Edge / Edge(No Hole) / or Surface mounted)
- **Free Space Pto** X -Pto X position
- **Free Space Pto Y Adj** -Adjust Pto position up/down if required



Some Example Images:



The following tables show which Lift Mechanism is used, for different door heights and

KH	B	C	D	E	F
225	2,3 – 4,3	3,8 – 7,1	6,4 – 9,3	9,2 – 13,4	13,4 – 19,1
250	1,9 – 3,9	3,4 – 6,4	5,8 – 9,1	8,3 – 12,6	12,1 – 17,2
275	1,9 – 3,5	3,1 – 5,8	5,3 – 8,2	7,5 – 12,0	11,0 – 15,6
300	1,7 – 3,2	2,8 – 5,3	4,8 – 7,5	6,9 – 11,0	10,1 – 14,3
325	1,6 – 3,0	2,6 – 4,9	4,4 – 7,0	6,4 – 10,2	9,3 – 13,2
350	1,5 – 2,8	2,4 – 4,6	4,1 – 6,5	5,9 – 9,5	8,6 – 12,3
375	1,3 – 2,6	2,2 – 4,3	3,8 – 6,0	5,5 – 8,8	8,1 – 11,4
400	1,2 – 2,4	2,1 – 4,0	3,6 – 5,6	5,2 – 8,3	7,6 – 10,7
425	1,1 – 2,3	2,0 – 3,8	3,4 – 5,3	4,9 – 7,8	7,1 – 10,1
450	1,0 – 2,1	1,9 – 3,5	3,2 – 5,0	4,6 – 7,3	6,7 – 9,5
475	1,0 – 2,0	1,8 – 3,4	3,0 – 4,7	4,3 – 7,0	6,4 – 9,0
500	0,9 – 1,9	1,7 – 3,2	2,9 – 4,5	4,1 – 6,6	6,0 – 8,6
525	0,9 – 1,8	1,6 – 3,0	2,7 – 4,3	3,9 – 6,3	5,7 – 8,2
550	0,8 – 1,7	1,5 – 2,9	2,6 – 4,1	3,7 – 6,0	5,5 – 7,8
575	0,8 – 1,7	1,4 – 2,8	2,5 – 3,9	3,6 – 5,7	5,2 – 7,4
600	0,8 – 1,6	1,4 – 2,7	2,4 – 3,7	3,4 – 5,5	5,0 – 7,1

KH	B pto	C pto	D pto	E pto
225	2,3 – 4,3	3,8 – 7,1	6,4 – 9,3	9,2 – 13,4
250	1,9 – 3,9	3,4 – 6,4	5,8 – 9,1	8,3 – 12,6
275	1,9 – 3,5	3,1 – 5,8	5,3 – 8,2	7,5 – 12,0
300	1,7 – 3,2	2,8 – 5,3	4,8 – 7,5	6,9 – 11,0
325	1,6 – 3,0	2,6 – 4,9	4,4 – 7,0	6,4 – 10,2
350	1,5 – 2,8	2,4 – 4,6	4,1 – 6,5	5,9 – 9,5
375	1,3 – 2,6	2,2 – 4,3	3,8 – 6,0	5,5 – 8,8
400	1,2 – 2,4	2,1 – 4,0	3,6 – 5,6	5,2 – 8,3
425	1,1 – 2,3	2,0 – 3,8	3,4 – 5,3	4,9 – 7,8
450	1,0 – 2,1	1,9 – 3,5	3,2 – 5,0	4,6 – 7,3
475	1,0 – 2,0	1,8 – 3,4	3,0 – 4,7	4,3 – 7,0
500	0,9 – 1,9	1,7 – 3,2	2,9 – 4,5	4,1 – 6,6
525	0,9 – 1,8	1,6 – 3,0	2,7 – 4,3	3,9 – 6,3
550	0,8 – 1,7	1,5 – 2,9	2,6 – 4,1	3,7 – 6,0
575	0,8 – 1,7	1,4 – 2,8	2,5 – 3,9	3,6 – 5,7
600	0,8 – 1,6	1,4 – 2,7	2,4 – 3,7	3,4 – 5,5
625	0,7 – 1,5	1,3 – 2,5	2,3 – 3,6	3,3 – 5,3
650	0,7 – 1,5	1,3 – 2,4	2,2 – 3,5	3,2 – 5,1

weights:

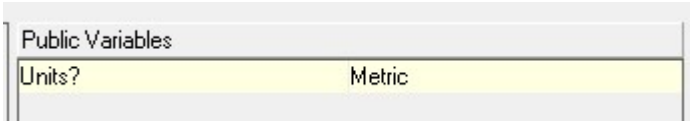
Drilling Setup

UCS Public Variables

- To change these variables go to the Utilities – Edit User Created Standards from the Room Plan or Elevation views

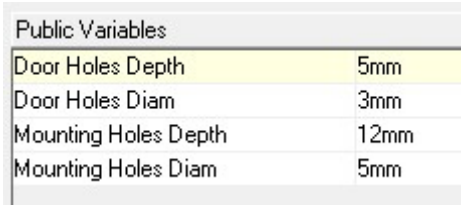


- Then click on the **"{ DOOR } -- Hafele Free Space Attributes"** UCS. The Public Variables are at the top right of the screen.



- **Units?** If you are using **imperial** units the variable must be set to **imperial** but if you are using **metric** units it must be set to **metric.**

- Now click on the **"{ DOOR } -- Hafele Free Space"** UCS. Here we set the various drilling sizes.



- Edit the **Imp()** values to the diameter and depths you require.
- If you are using imperial sizes simply replace the whole **imp()** with the imperial measurement instead.
- E.g.: **Imp(3)** might become **1/8**
- Change the **Mech Pilot Holes** value to **0** if you normally do not want to drill the Mechanism screw pilot holes in the cabinet ends or leave it as **1** if you normally do drill them.

Once you have changed these values to your requirements, close the UCS editor.

Tools Required

- The drill diameters you choose in the UCS Public Variables above are all required for this package to work. You must have these tool diameters in your tool catalog and in your machine.

Package Exclusions

There may be some items shown in various images contained in this document which are not included in this Package. Any items not specifically mentioned in this guide are part of our other packages which are sold separately.

See our website for more detailed information on these packages.