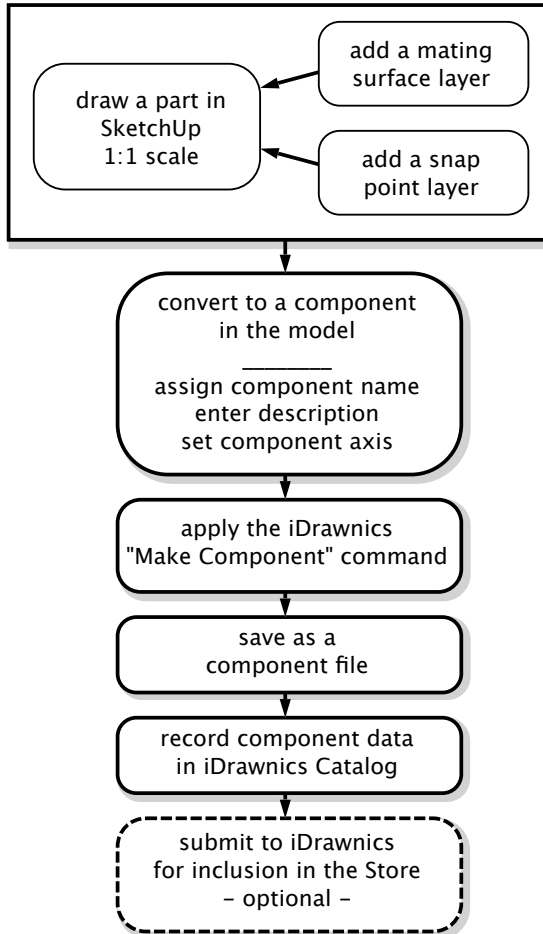




## Create iDrawnics enabled SketchUp components with

- Stick and Flip
- Data Plates
- Catalog Lookup
- Customizable Time and Materials



iDrawnics Pro allows a user adept at drawing in SketchUp to create components and apply iDrawnics attributes for use with the iDrawnics Plugin. The components may be for personal use or submitted for inclusion in the iDrawnics Store where revenues are shared.

For more information on installing and using iDrawnics, visit [www.idrawnics.com](http://www.idrawnics.com)

### System Requirements:

SketchUp Make or SketchUp Pro 2015  
Windows 7+ or later  
OSX 10.8 or later

SketchUp Make or SketchUp Pro 2013-2014  
Windows XP or later  
OSX 10.7 or later

iDrawnics Plugin  
Version 2015.1.27 or later

iDrawnics Pro Extension  
sd\_idrawnics\_int.rbz

### Setup:

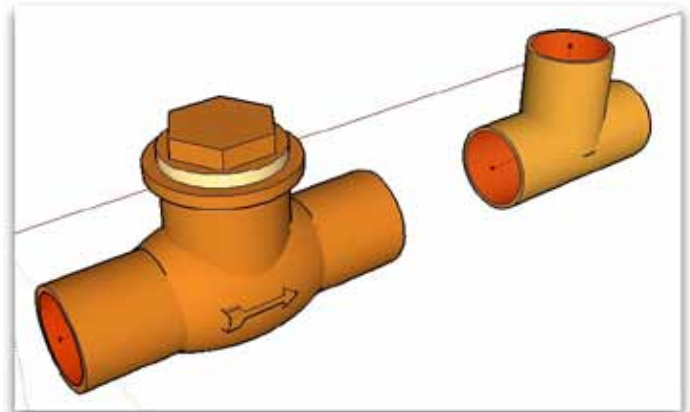
- Install SketchUp and launch
- In SketchUp Preferences install the iDrawnics Plugin and iDrawnics Pro extensions
- Restart SketchUp

## INTRODUCTION

iDrawnics Pro is a collection of extensions designed for use in SketchUp. SketchUp a powerful 3D modeling program offered by Trimble. iDrawnics provides tools that make SketchUp an ideal CAD system for drawing mechanical systems used in the HVAC industry.

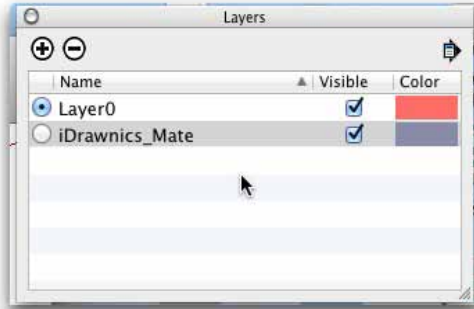
The free version of SketchUp, titled SketchUp Mate, is all that is required to draw sophisticated mechanical systems. SketchUp Pro has more advanced functionality but is not necessary for iDrawnics. iDrawnics offers a line of predrawn components for use with either version.

iDrawnics Pro makes it possible for users to create their own components with the iDrawnics functionality. All the functions can be created in SketchUp Mate with the exception of rotating handles and pipe stretching. If these functions are to be added the components must be built in SketchUp Pro.

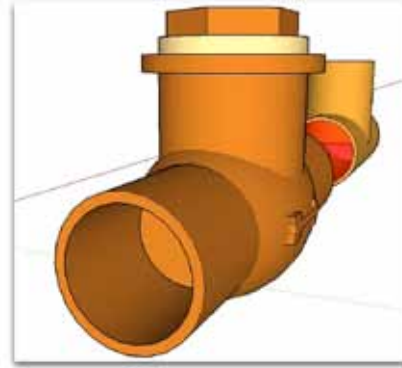


# CREATING IDRAWNICS COMPONENTS

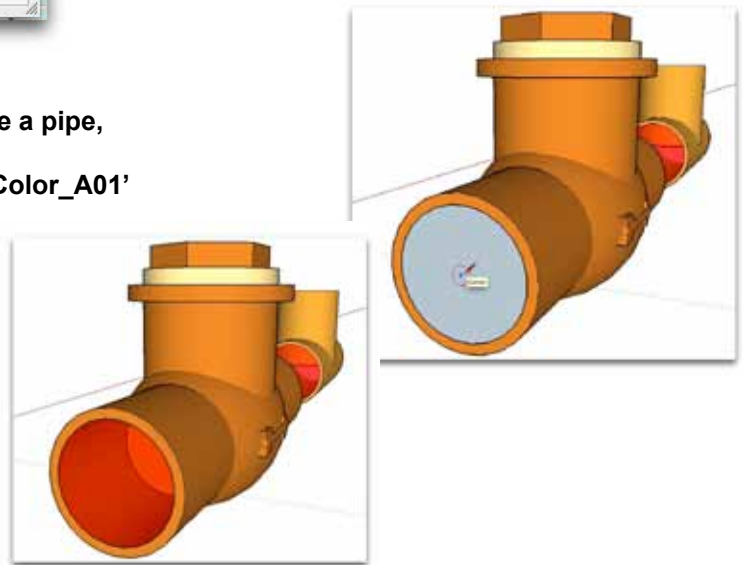
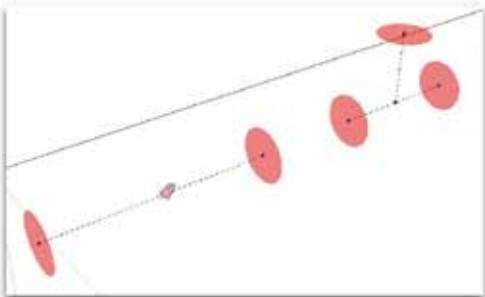
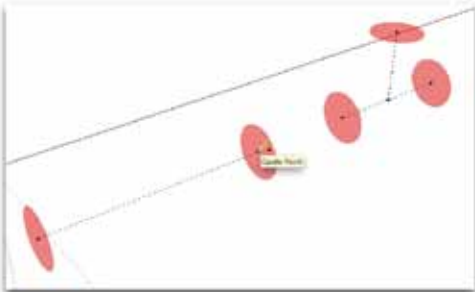
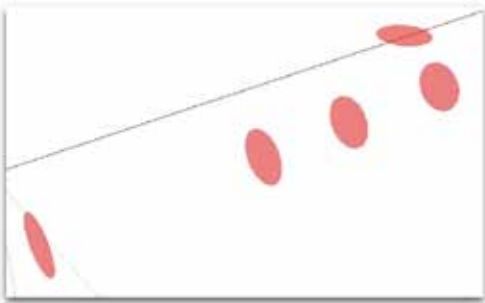
1. Create your part in SketchUp
  - open a new model window
  - use a template without ground or sky
  - use a 1:1 scale



2. Open the 'Layers' window
  - create a new layer
  - name the layer 'iDrawnics\_Mate'
  - make it the active layer

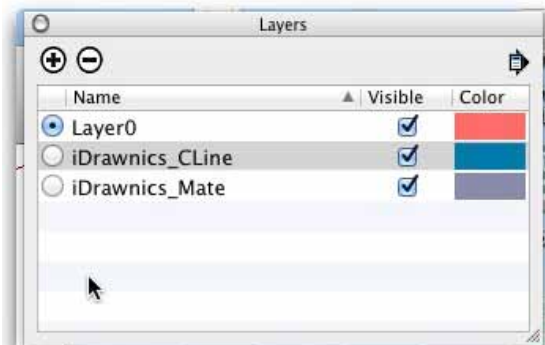


3. Create a mating surface
  - draw a solid surface over the opening where a pipe, fitting or other component will mate up
  - use the paint bucket tool to select the red 'Color\_A01' set at 50% opacity
  - apply the color to the mating surface
  - repeat for each opening
  - hide 'Layer0'



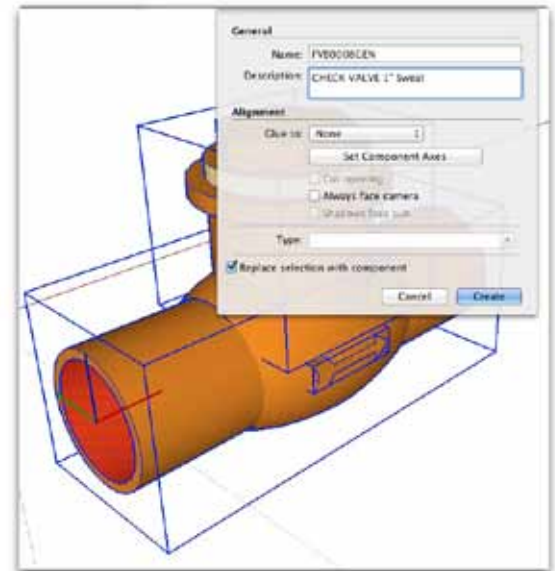
4. Create snap points
  - select the Pipe tool for the iDrawnics toolbar
  - draw a pipe line from the center of the mating surface to another mating surface (or into space if there is no other mating surface)
  - a snap point will be created at the junction in tees, elbows on multiple port components
  - erase or select and delete the pipe line (optional)
  - this will leave the snap point on the mating surface

Note: an 'iDrawnics\_CLine' layer is automatically created when the Pipe tool is used



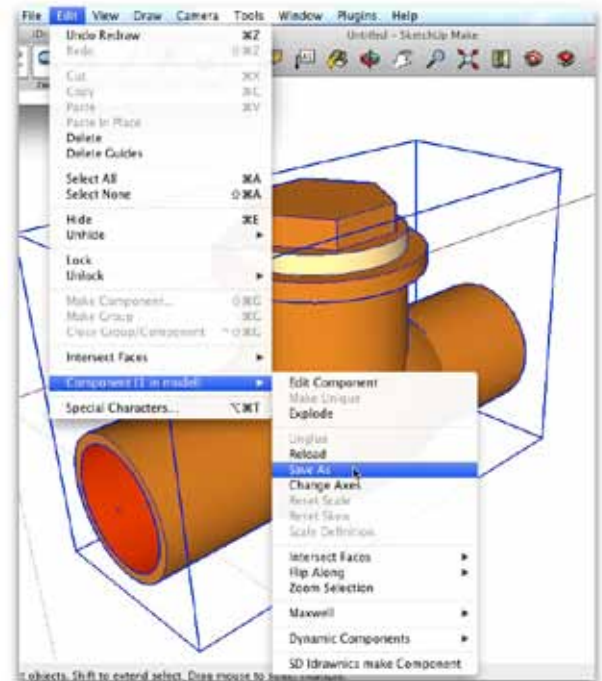
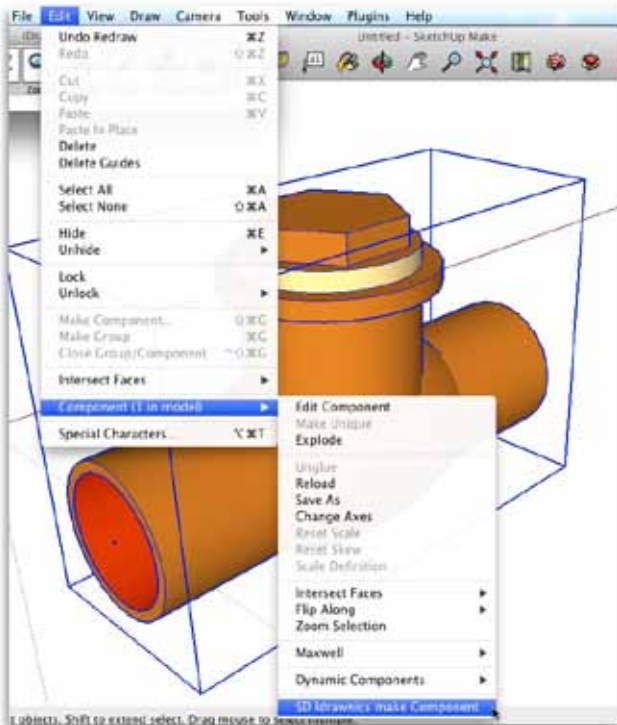
## 5. Convert part to a component

- select your part and use the SketchUp 'Component Maker' tool to convert it to a component
- Name - enter a part number  
(Important: use the attached Part Number Guide to create a part number and put it in the Name field)
- Description - use upper case for the main description and lower case for additional information  
(Important: avoid using characters such as \*, or . in the Name or Description as these will cause errors)
- Set Component Axis - place the component axis on which ever snap point you wish the component to first attach itself to a pipe line (this could be the junction of the pipe lines in the case of a Tee, elbow or multi-port fitting)



## 6. Activate iDrawnics attributes

- select your new component
- select 'SD idrawnics make Component' from the EDIT menu  
(This transfers you drawing into the Dynamic Attributes library. If missed, your component will not be recognized by the Component Info window.)



## 7. Save as a component file

- select your new component
- select 'Save As' from the EDIT menu  
(Option: reselect component with a right-click [Windows] or control-click [Mac] and choose 'Save As')
- save to your local components library

## 8. Cleaning up

- open the new iDrawnics component file you just created
- select 'Statistics' from the 'Model Info' drop down under the main 'Window' menu
- with the entire model selected, click 'Purge Unused'
- Select 'Claim Credit' if you have a SketchUp account

## 9. Submit to iDrawnics

- Send an email to [support@idrawnics.com](mailto:support@idrawnics.com) containing the following\*:
  - component name (i.e. part number)
  - component description
  - manufacturer's web link to the product spec, your link, or none (whichever is appropriate)
  - (optional) attach your component if you would like to submit it for Store consideration

\* this information is required for the online LOOKUP table accessed by the Component Info widow and reports



**GET REWARDED FOR YOU EFFORTS**

Submit your iDrawnics enabled components to the iDrawnics store and split the revenue with us.

1. Draw your component in SketchUp
2. Use iDrawnics Pro to apply the iDrawnics attributes
3. Submit your component for evaluation (see step 9. in the iDrawnics Pro instructions)

Our reviewers will evaluate your component on scale, realism, accuracy and functionality. If it meets our criteria we will add it to the iDrawnics Store with a price comparable to other similar components. Once a month we issue checks or PayPal deposits for any components sold in the previous month.

All iDrawnics components must have an **iDrawnics Part Number** in the **file name** in order to appear in the Store or on the LookUp list.

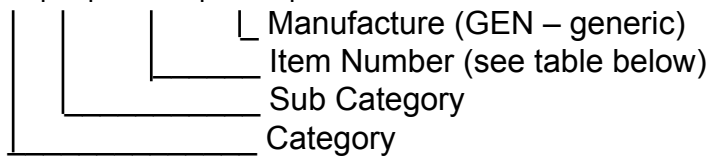
**iDrawnics CATALOG by Part Number**

**File Name:** Part Number shown below (typed exactly as shown)

**Component Description:** Description shown below (typed exactly as shown)

**Layers:** 0 = drawing  
 iDrawnics\_CLine = use pipe line tool to create snap points  
 iDrawnics\_Mate = use 20% transparent red for mating surfaces

**Part Number:** | XX | X | XXXX | XXX |



<b>ITEM</b>	<b>XX01</b>	<b>XX02</b>	<b>XX03</b>	<b>XX04</b>	<b>XX05</b>	<b>XX06</b>	<b>XX07</b>	<b>XX08</b>	<b>XX09</b>	<b>XX10</b>	<b>XX11</b>	<b>XX12</b>
<b>SIZE</b>	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 3/4"	2"
<b>BTU</b>	30K	60K	90K	120K	150K	180K	200K	250K	300K	350K	400K	450K
<b>ITEM</b>	<b>XX13</b>	<b>XX14</b>	<b>XX15</b>	<b>XX16</b>	<b>XX17</b>	<b>XX18</b>	<b>XX19</b>	<b>XX20</b>	<b>XX21</b>	<b>XX22</b>	<b>XX23</b>	<b>XX24</b>
<b>SIZE</b>	2 1/4"	2 1/2"	2 3/4"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"	6 1/2"	7"
<b>BTU</b>	500K	550K	600K	700K	800K	900K	1000	1100	1200	1300	1400	1500

Component Description Example:

BLACK IRON TEE 1/2"x1/2"x1/2" (Generic)

Suggestions:

1. Add creation date and last revised date in component info

## iDrawnics Component Categories

visit [www.idrawnics.com](http://www.idrawnics.com) for the most current list

### AIR ELIMINATION (AE)

- A-Air Scoops
- B-Air Separators
- C-Coin Vents
- D-Float Vents

### ASSEMBLIES (AS)

- A-Pumping Modules
- B-Control Modules
- C-Mechanical Room Panels

### BOILERS (BR)

- A-Condensing
- B-Non-condensing
- C-Single Wall Vent Pipe
- D-Double Wall Vent Pipe
- E-Single Wall Vent 90
- F-Double Wall Vent Pipe
- G-PVC 90
- H-PVC 45
- I-PVC Tee

### CONTROLS (CO)

- A-Aquastats
- B-Control Panels/Boxes
- C-Flow Switches
- D-Gauges
- E-Switching Relays
- F-Thermocouples
- G-Transformers
- H-Thermostats

### BLACK IRON FITTINGS (BL)

- A-Black Iron 90s
- B-Black Iron Tees

### COMPRESSION FITTINGS (CF)

### COPPER FITTINGS (CP)

- A-Copper 90s
- B-Copper 45s
- C-Copper Tees (first two digits=secondary size)
- D-Reducers (first two digits=secondary size)
- E-FIP
- F-MIP
- G-Threaded Union
- H-Sweat Union

### FITTINGS – FLAIR (FL)

### FITTINGS – IRON (IR)

### FITTINGS – NIPPLES (NP)

### FITTINGS – PUSH (PU)

### FITTINGS – STEEL (ST)

### FLOW CONTROL DEVICES (FV)

- A-Actuators
- B-Check valves
- C-Diverting Valves
- D-Drain valves
- E-Hydraulic Separators
- F-Mixing Valves Manual (first two digits=number of ports)
- G-Mixing Valves Motorized (first two digits=number of ports)
- H-Tempering Valves
- I-Purge Valves
- J-Shut-off Valves Sweat
- K-Shut-off Valves Threaded
- L-Specialty valves
- M-Zone Valves Electric
- N-Zone Valves No-electric

### FORCED AIR (FA)

- A-Air Handlers
- B-Ducting
  - 1-Rectangle
  - 2-Round
  - 3-Square
  - 4-Junctions
- C-Fan coil
- D-Furnaces
- E-Kick space heater
- F-Unit heater

### HEAT EXCHANGERS (HX)

- A-Flat Plate
- B-Tube in shell
- C-Tube in tank

### HEAT PUMPS (HP)

- A-Air to Air Heat Pumps
- B-Air to Water Heat Pumps
- C-Water to Water Heat Pumps
- D-Water to Air Heat Pumps

### PIPE (PP)

- A-Black iron
- B-Copper
- C-Galvanized
- D-Insulation
- E-PEX
- F-PVC

### PRESSURE VALVES (PV)

- A-Backflow prevention
- B-Gas Valves
- C-Pressure Bypass Valves
- D-Differential pressure
- E-unused
- F-Pressure relief
- G-Pressure Regulator

### PUMPING (PU)

- A-Circulators
- B-Flanges Sweat
- C-Flanges Threaded

### RADIANT/CONVECTION (RC)

- A-Baseboard Heaters
- B-Fintube Element
- C-Baseboard Radiators
- D-Manifolds (first two digits=number of loops)
- E-Radiator Valves
- F-Towel Warmers
- G-Wall Radiators
- H-Panels
- I-Transfer Plates

### SPECIALTY (SP)

### SOLAR (SL)

- A-Controls
- B-Hydro Solar Collectors
- C-Photo Voltaic Collectors
- D-Storage Tanks

### TANKS (TK)

- A-Atmospheric Tanks
- B-Buffer Tanks
- C-Electric Water Heaters
- D-Fired Water Heaters
- E-Indirect Water Heaters
- F-Expansion Tanks

Don't see a category that fits your component?

Suggest a new category at [support@idrawnics.com](mailto:support@idrawnics.com)