2D Block Library for AutoCAD*

Victaulic Piping System

A 2D CAD index of couplings, fittings and valves

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Vic Blocks 2D
Introduction

What is Vic Blocks 2D?

Designed specifically for AutoCAD users, Vic Blocks 2D is a dimensionally accurate, two-dimensional block library of the Victaulic product line. It was developed to assist with Victaulic piping system layouts. Drawn at full size, each component is stored on a master sheet, and named according to a convention that represents a nominal pipe size with its metric equivalent (a reducing size if applicable), Victaulic product style, series or part number and the viewpoint orientation (top, side, etc.).

Designed to be used with AutoCAD's DesignCenter, each symbol contains a preview and a description. Common insertion points have been placed in each block and nodes are provided on all connection points for ease of location and placement. Each coupling block contains two (2) nodes that represent the gap takeout that occurs when a coupling connects two (2) grooved piping components (fittings, valves and/or pipe). By using the nodes within the blocks in conjunction with the AutoCAD OSNAPs, the AutoCAD user can determine cut lengths for drawing bill of materials.

Components are inserted by using the AutoCAD DesignCenter. Once inserted into a drawing, the Victaulic component symbol can be easily manipulated by using common AutoCAD editing commands. If using AutoCAD R2004 and later versions, the end user will be able to create custom "Tool Palettes" with the included block files. Pipe is placed using predefined AutoCAD MLINES (AutoCAD Release 2004 and up). In AutoCAD LT versions 2004 and up, pipe is drawn using the AutoCAD DLINE command. See AutoCAD's **help** menu for more on Tool palettes.

Block-Naming Convention

The Vic Blocks 2D file name consists of four parts; a generic description, the size, the Victaulic product style, series or part number and the viewpoint orientation. The file names have been created to help determine the appropriate block for insertion. A few examples of generic descriptions are; valve, elbow, cplg (coupling). Metric equivalents are also added in the naming convention. These coincide with the imperial nominal measurements and are in parenthesis following a nominal imperial size. The Victaulic product style, series or part number follows next. The view orientation could be Front (F), Side (S) or Top (T). An example of this naming convention is shown in Fig. 1.

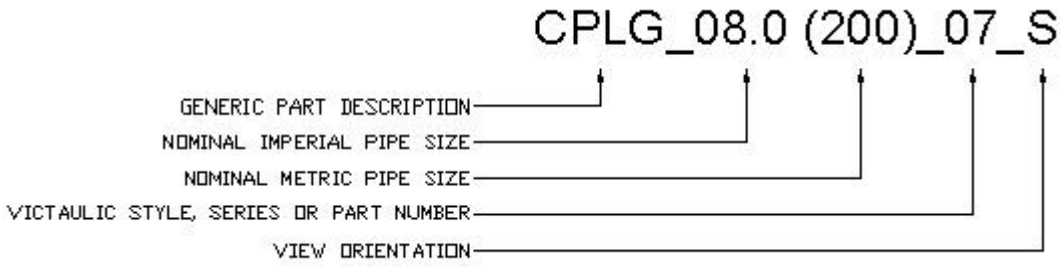


Fig. 1

The file name may contain letters to represent an OD size. If the file name contains an "X" after the size, this indicates an OD size (i.e. **CAP_03.0X (76.1)_60_S.dwg** would be the **side view of a #60 3" OD Cap**). The metric designation on OD size fittings is the actual metric size, as metric fittings do not have nominal OD sizes. Elbows contain a degree field in the file name. The file name (**ELBOW_90_06.0 (150)_10_S.dwg**); is an example of the **side view of a #10 6" 90-Degree Elbow.**

Vic Blocks 2D
Instructions

Installation:

1) Download .zip Complete or Individual File(s) from website.

2) Extract .zip to Local Disk (C:)

3) Files will be found in the show directory structure below.

C:\Program Files\Victaulic\VB2D_Complete.

In AutoCAD set a support search path to the newly placed files. Click on the **Tools** pull down menu and select **Options...** Under the **Files** tab, click on the plus (**+**) to open the Support File Search Path. Click the **Add...** button and type in the following:
C:\Program Files\Victaulic\VB_2DComplete and press the **Enter** key.
Click the **Apply** button and select **OK** to close the dialog box.

4) Start AutoCAD and load the DesignCenter by finding the **Tools** pull down menu and selecting **DesignCenter** (Fig. 2)**.** You can also access this by pressing **CTRL+2**.

5) After DesignCenter opens, change the view to a file tree by locating and selecting the **Folders** menu tab in the DesignCenter (fig. 3).

6) Select the **Vic Blocks 2D** folder and find the appropriate module of Victaulic fittings that you would like to open. Here you will find the master sheet drawings.

6) You are now ready to start placing Victaulic components on a drawing. Please review the information sheets provided with this package for more about Vic Blocks 2D.

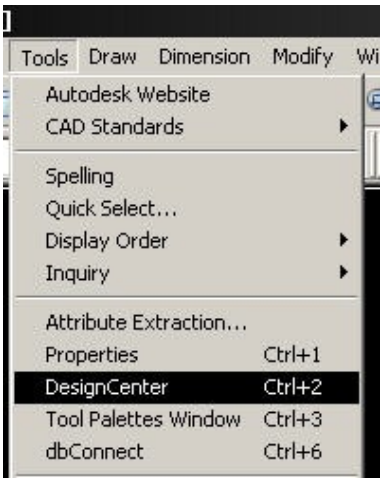


Fig. 2

Notes:

1) Approx. 150 MB of hard disk space is required for Vic Blocks 2D.

2) Master sheet drawings are supplied with Vic Blocks 2D for AutoCAD R2004 and up and AutoCAD LT Versions R2004 and up.

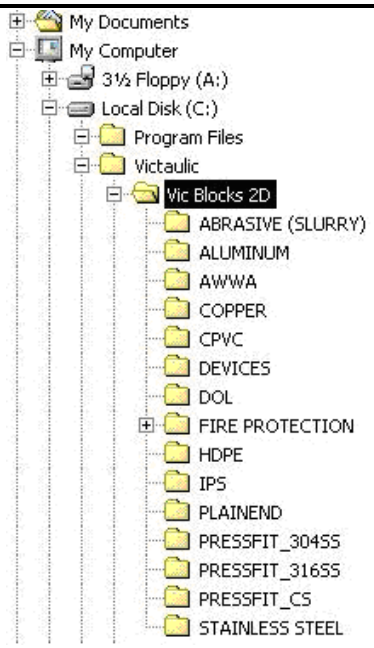


Fig. 3

Vic Blocks 2D
Information

Placing components with DesignCenter

Right clicking in the DesignCenter will bring up the **View toolbar.** For ease of placement, the view of DesignCenter should be set to display the **Tree**, **Preview** and **Description.** In the **View** fly out, **Large** should be selected to see thumbnail previews of the actual blocks, see Fig 4.

Select the appropriate module and then select the drawing that contains the item you are looking for (Fig. 5). Expand the drawing to show the seven (7) tabs of available information: Blocks; Dimstyles; Layers; Layouts; Linetypes; Textstyles and Xrefs. Selecting **Blocks** will show all of the available blocks in a particular master sheet.

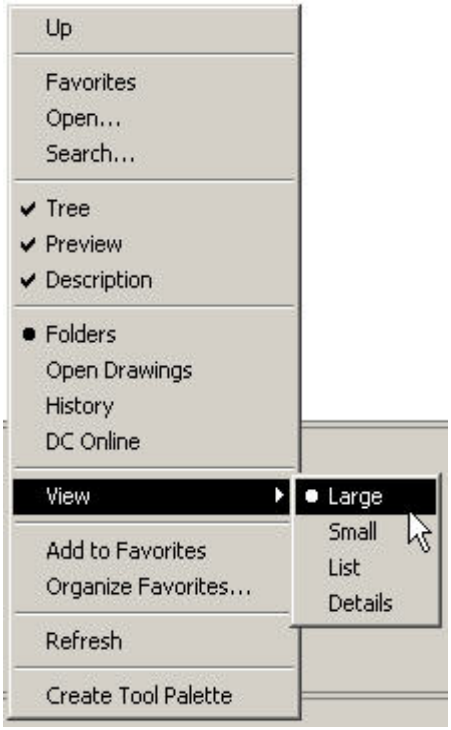


Fig. 4

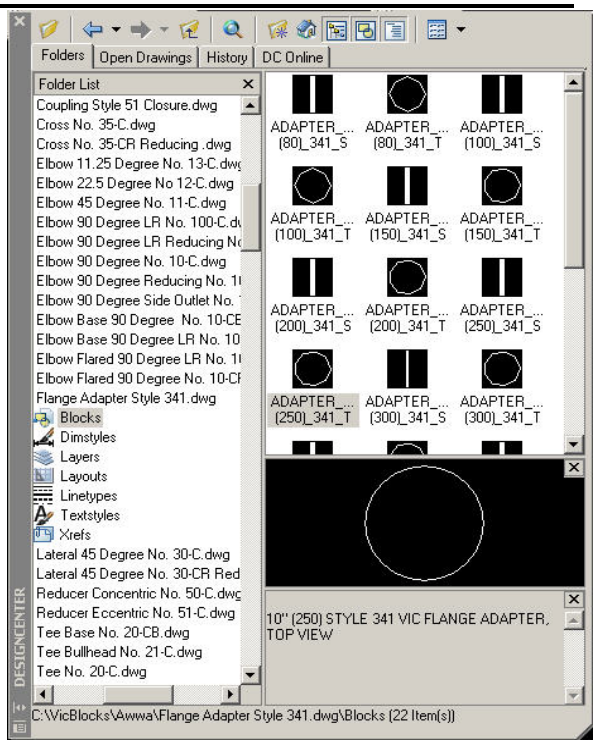


Fig. 5

(Continued on next page)

(Placing Components cont.)

There are two (2) ways to insert the desired block. You can “drag and drop” the block into the drawing or double-click the block to bring up the **Block Insertion** dialog box (Fig. 6).

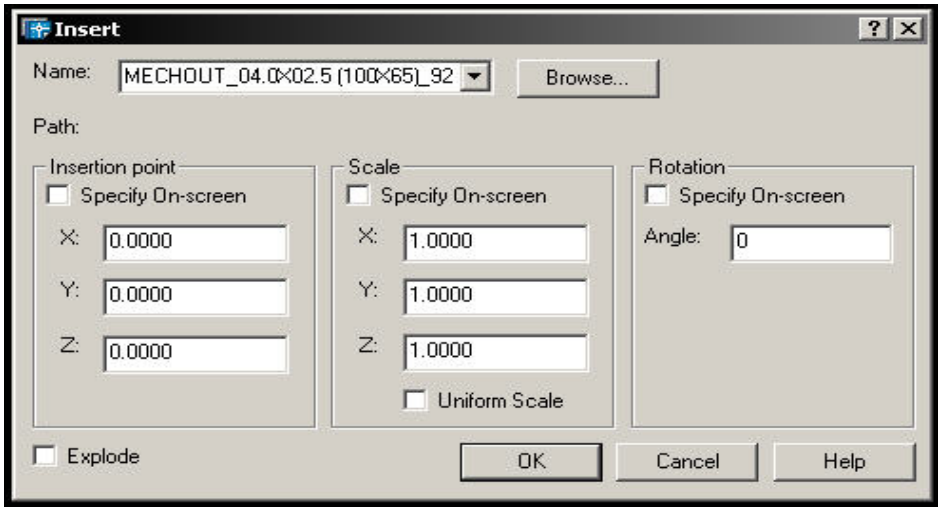


Fig. 6

Once the components are placed in the drawing, use standard AutoCAD editing tools to manipulate the components.

Routing Pipe:

For AutoCAD R2004 and up

The AutoCAD Multiline command (MLINE) is used to draw pipe in Vic Blocks 2D . When placing pipe for the first time in a drawing session, you will need to specify a Multiline file (MLN) to load. Two (2) AutoCAD Multiline files are supplied with Vic Blocks 2D. The file **Vic-CL-Pipe.mln** displays a centerline when pipe is placed on a drawing and the file **Vic-Pipe.mln** does not contain a centerline. Both MLN files contain Multilines that properly represent the O.D. for AWWA, IPS, and CTS pipe. To specify the Multiline style, click on the **Format** tab from the AutoCAD Standard toolbar and select **Multiline Style** (Fig. 7). Select **Load** from the **Multiline Styles** dialog box (Fig. 8).

Fig. 7

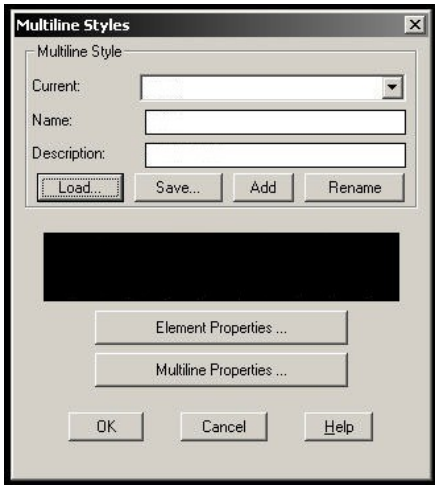


Fig. 8

(Routing Pipe continued)

When the **Load Multiline Styles** dialog box (Fig. 9) opens, click on the **File** button. This will open the Load Multiline Style from File dialog box. Next locate the Vic Blocks 2D folder in the **Look in** pull down. Once the Vic Blocks 2D folder is selected, click on the appropriate MLN file and then click the **Open** button to open the file (Fig. 10). You will need to choose what pipe sizes you want loaded at this time (Fig. 11). You may repeat these steps at anytime in a drawing session to load other sizes if required. Once the mlines are loaded in the drawing, there will not be a need to reload them again. You can now place pipe using the **MLINE** command. Should you need help, AutoCAD's **Help** command can assist with MLINE loading and setting styles; just type **mline** in the search bar.

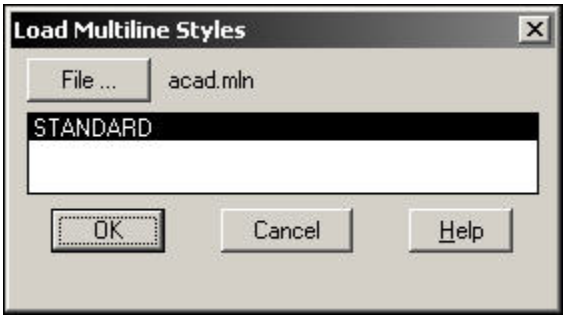


Fig. 9

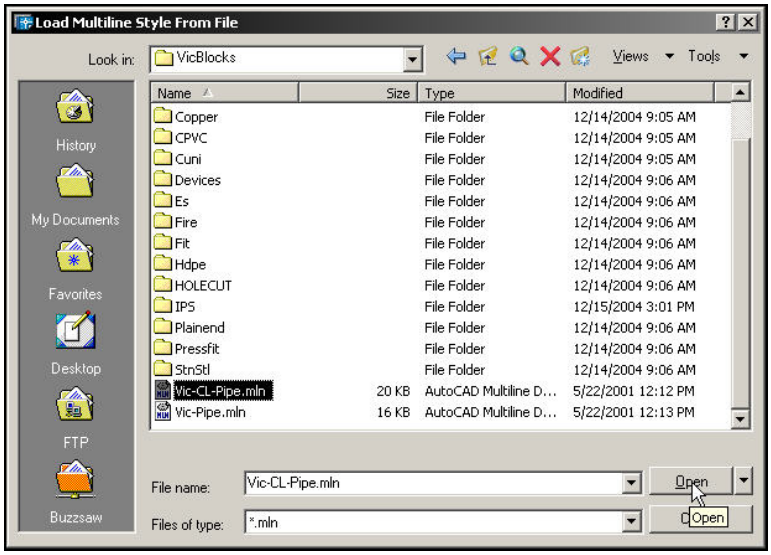


Fig. 10

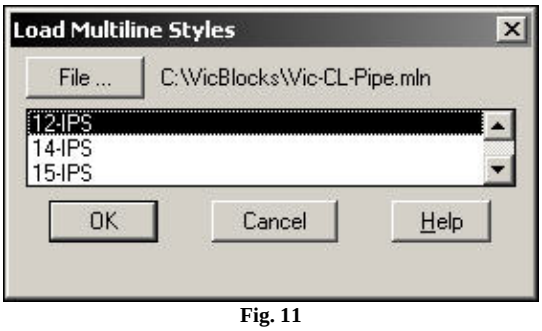


Fig. 11

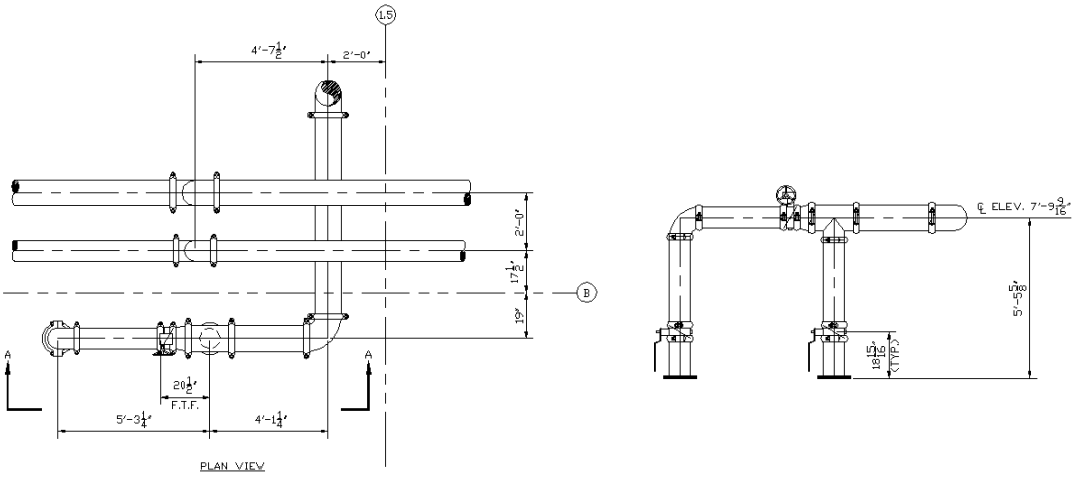
For AutoCAD LT R2004 and up

The AutoCAD LT double line command (DLINE) is used to draw pipe and no external file is referenced. The DLINE is placed with closed ends. These extra lines can be erased as required.

Vic Blocks 2D
Information

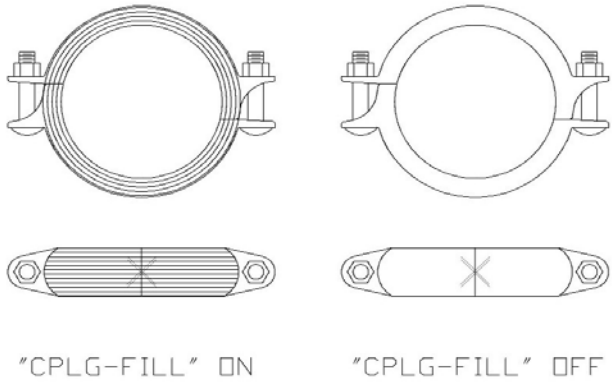
Sample Drawing:

Vic Blocks 2D was used to draw the Victaulic components and pipe in the drawings shown below.



Vic Blocks 2D Structure:

The blocks in this software contain simple geometric shapes drawn to represent Victaulic couplings, fittings and valves. There are three main layers that make up the blocks: Layer "0", Layer "CL" and Layer "Nodes". These can all be turned off and on inside of AutoCAD at the users' discretion by using the Layer Manager. Some components have more than three layers. For example, some elbows contain a Hidden layer to represent the part of the elbow that would not be visible in a particular view. Rigid couplings contain a "CPLG-FILL" layer that can be shown to differentiate between a rigid and flexible coupling. An example of a rigid coupling and the two display modes is shown below (Fig. 12). The Insertion Point of the block is not always a visible attribute, but it can be "Snapped" to if needed. Snapping refers to AutoCAD's OSNAP menu. The blocks provided in this software contain Nodes for ease of fitting placement and pipe routing. The fittings and valves have nodes on their endpoints, where as couplings contain two (2) nodes that represent the gap takeout required (some couplings do not contain a gap. In these cases there is only one (1) node). Node size and appearance can be controlled by way of the AutoCAD PDSIZE and PDMODE commands. PDMODE should be set to (3) and PDSIZE set at (1). By using these nodes, along with AutoCAD dimensioning within a piping system layout, accurate pipe cut lengths can be determined for use in a bill of material. For more information on PDSIZE and PDMODE, please see the AutoCAD **Help** pull down menu or the **?** icon

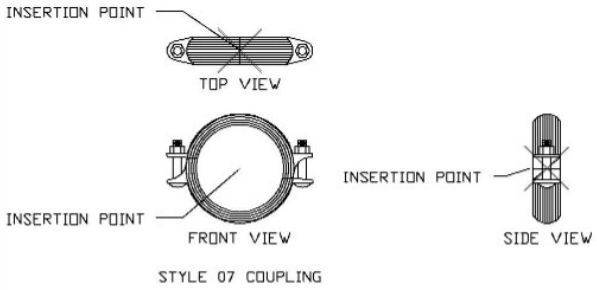


(**Fig. 12**)

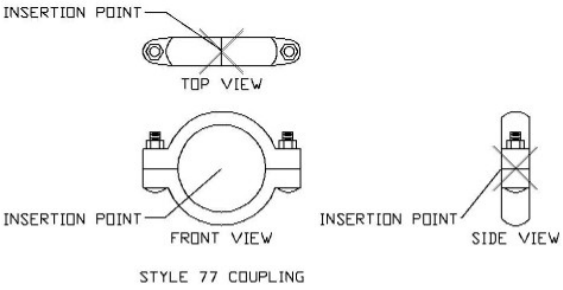
Vic Blocks 2D
Reference Sheets

The following sheets show <u>select</u> couplings and fittings, their respective views and insertion points. While these are shown, it is not representative of the complete Vic Blocks 2D catalog and should only be used for reference. Please see your Vic Blocks 2D folder for the complete catalog.

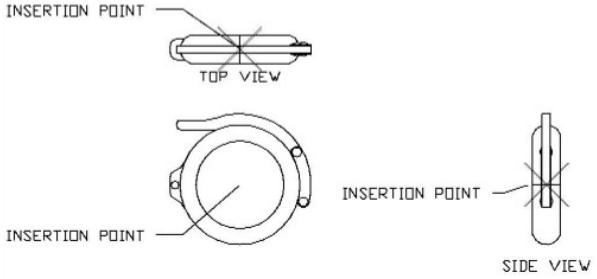
Couplings



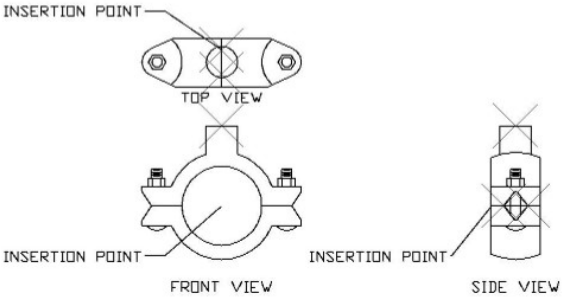
STYLE 07 COUPLING



STYLE 77 COUPLING

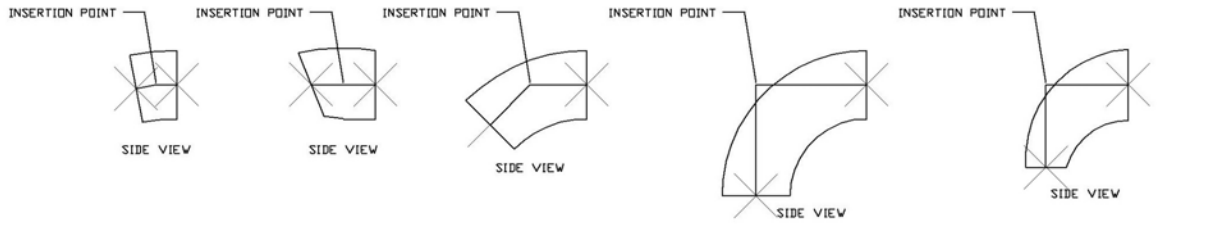


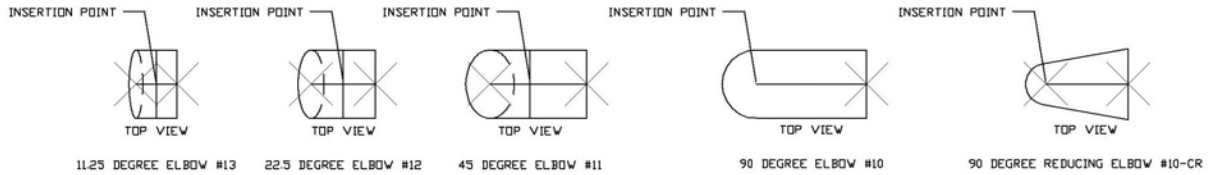
STYLE 78 COUPLING



STYLE 72 COUPLING

Elbows

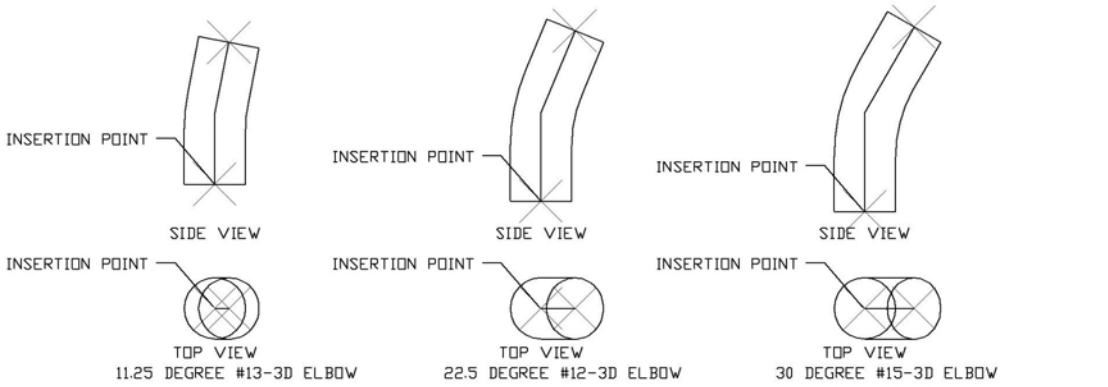


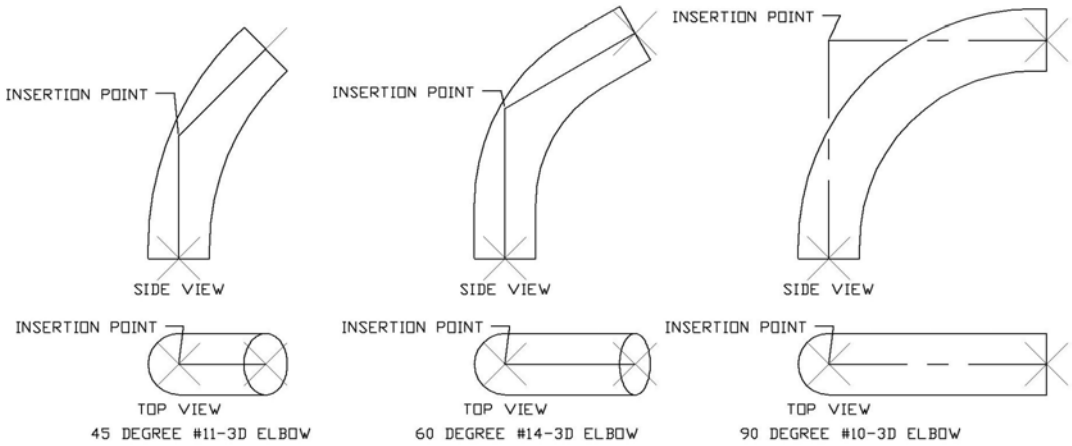


11.25 DEGREE ELBOW #13 | 22.5 DEGREE ELBOW #12 | 45 DEGREE ELBOW #11 | 90 DEGREE ELBOW #10 | 90 DEGREE REDUCING ELBOW #10-CR

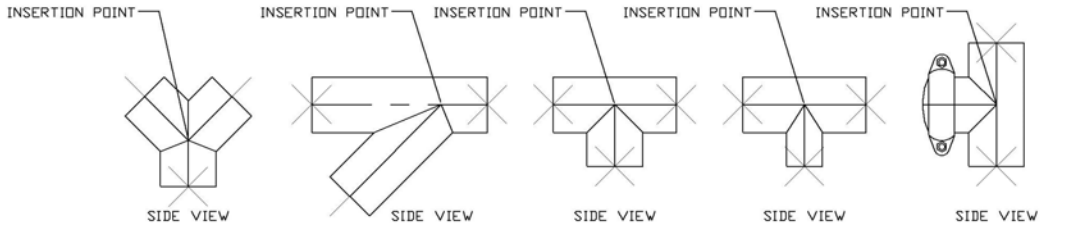
Vic Blocks 2D
Reference Sheets

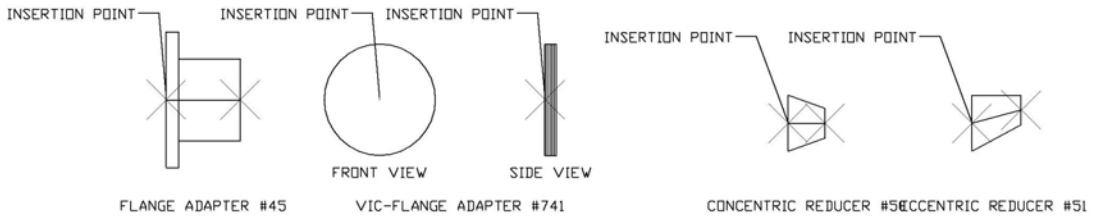
Elbows, Long Radius





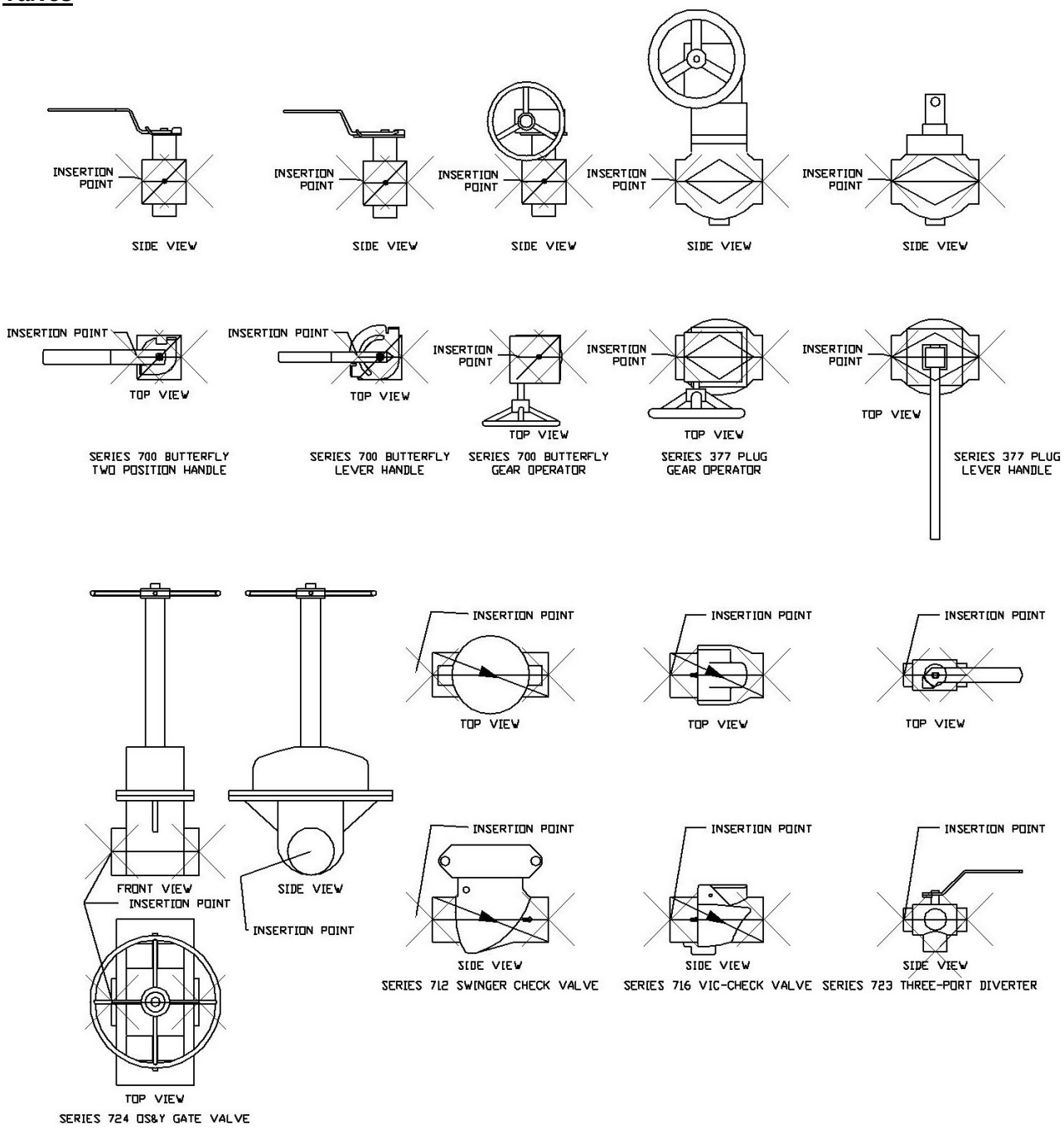
Fittings





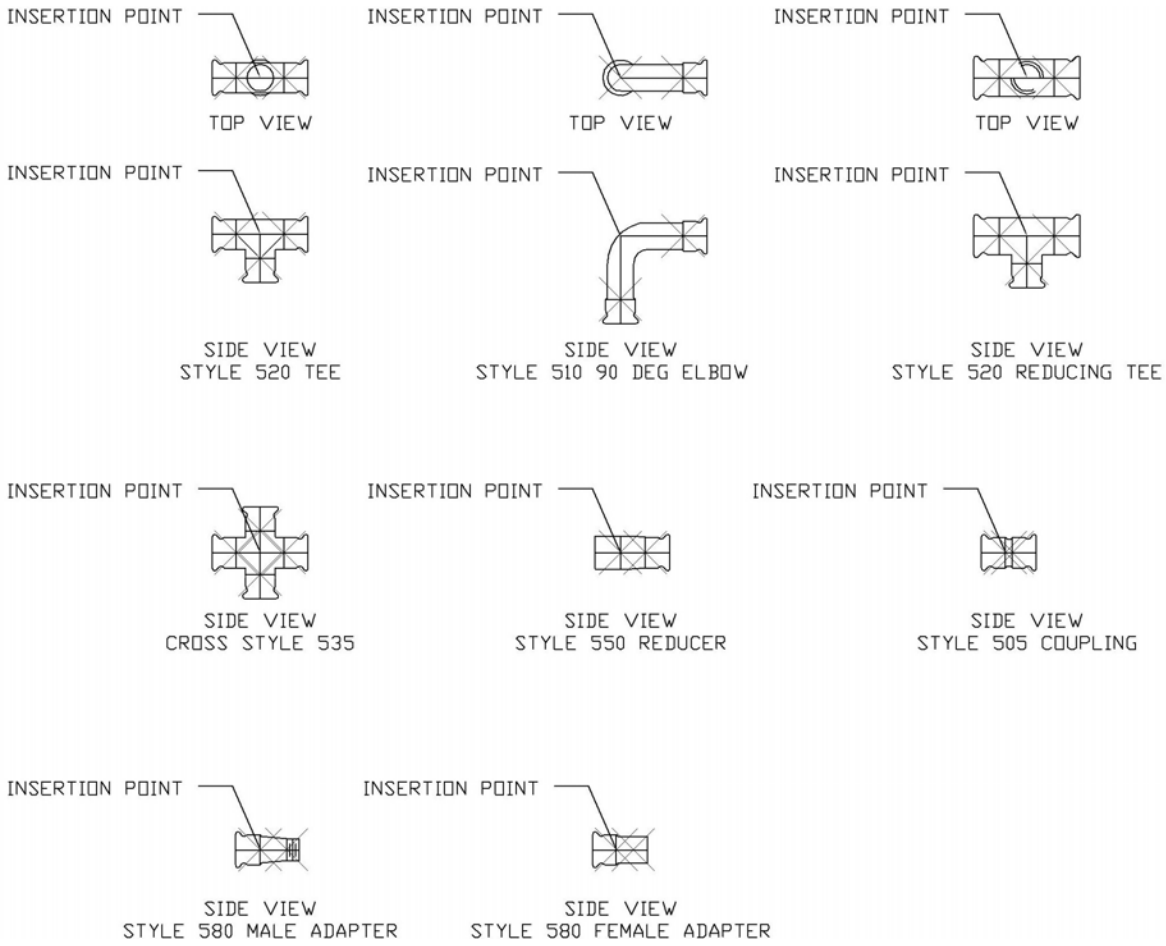
Vic Blocks 2D
Reference Sheets

Valves

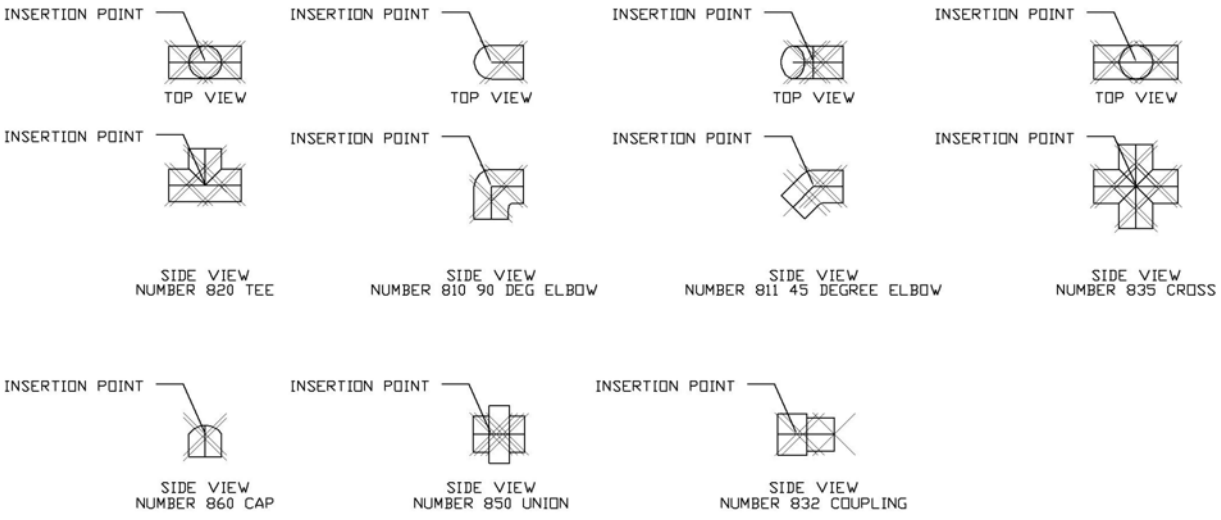


Vic Blocks 2D
Reference Sheets

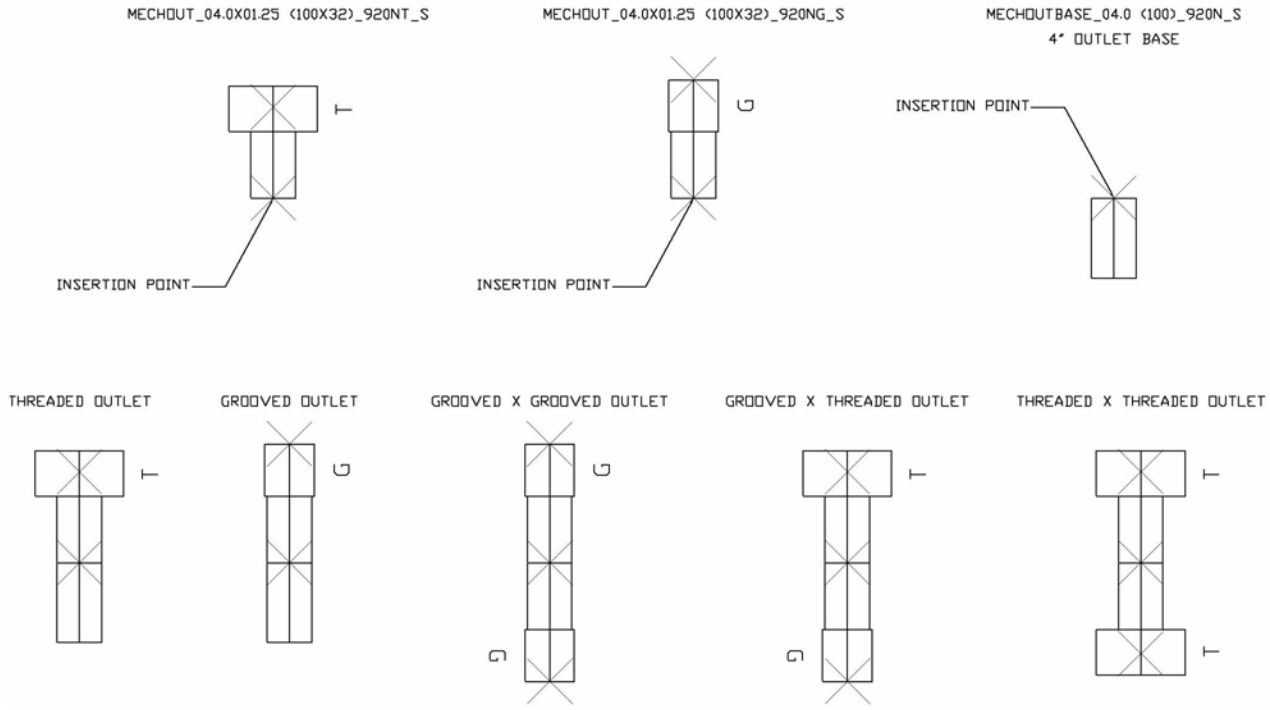
Pressfit



CPVC



Vic Blocks 2D
Reference Sheets

Mechanical T's & Crosses

Mechanical T's and Crosses are designed to be placed in halves. This allows multiple combinations to be created by the end user, yet does not take up an excessive amount of file space. You will see in the following illustration that using three (3) blocks from Vic Blocks 2D five (5) coupling combinations have been created. The insertion points are at the centerline of the pipe. To place a mechanical coupling simply select one of the halves desired, place it in the layout and select the next half and place that at the node of the previously inserted coupling half. There are three styles shown, a threaded outlet, a grooved outlet and a base.