

A Yokogawa Commitment to Industry

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CENTUM VP Engineering Course Day 5



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Day 5 Graphic Builder

Laboratory work: Graphic Generation

Example of Graphic builder

The image shows the Vigilance Graphic Builder software interface. The main canvas displays a detailed process diagram of a distillation column. The diagram includes a central distillation column, a condenser at the top, a reflux drum, and various control loops with sensors (TIC100, TIC200, TIC400) and actuators (MC100, MC101). A 'Radar Chart Temperature' is also visible in the upper left of the canvas. The interface is divided into several key areas:

- Ribbon:** Located at the top, it contains standard software menus (Home, File, Edit, View, Draw, Tools, Help) and a toolbar with icons for Save, Undo, Redo, Select, Edit Point, Edit Connection Pt., and various drawing tools (lines, rectangles, circles, text).
- Stencil pane:** Located on the left side, it lists various graphical components categorized by 'Domain Controls' and 'DCS Controls'. Examples include RadarGraph, DataCircle, DataArrow, DataBar, DataCharacter, PushButton, TouchTarget, SoftKey, Faceplate Block Butt, Overview, View, Message, Faceplate, and Trend.
- Pan & Zoom pane:** Located on the right side, it provides a smaller view of the canvas for navigation.
- Layer Window pane:** Located on the right side, it shows a hierarchical list of layers and objects. The current layer is 'Layer 1' containing several geometric shapes like Rectangle0, Text0, Rectangle1, Rectangle2, Ellipse0, and Ellipse1.
- Property Grid pane:** Located on the right side, it displays the properties of the selected object. The 'Layout' section shows Height: 868 and Width: 1500. The 'Misc' section shows Background: #FF000000 and ComponentPr: Canvas0.
- Output Area pane:** Located at the bottom center, it is a text area for displaying messages or results.
- Message pane:** Located at the bottom left, it shows a 'Find Results' and 'Message' section.

At the bottom right of the window, the status bar displays: Objects: 485 X:0476 Y:0033.

Recommended canvas sizes in Full screen mode

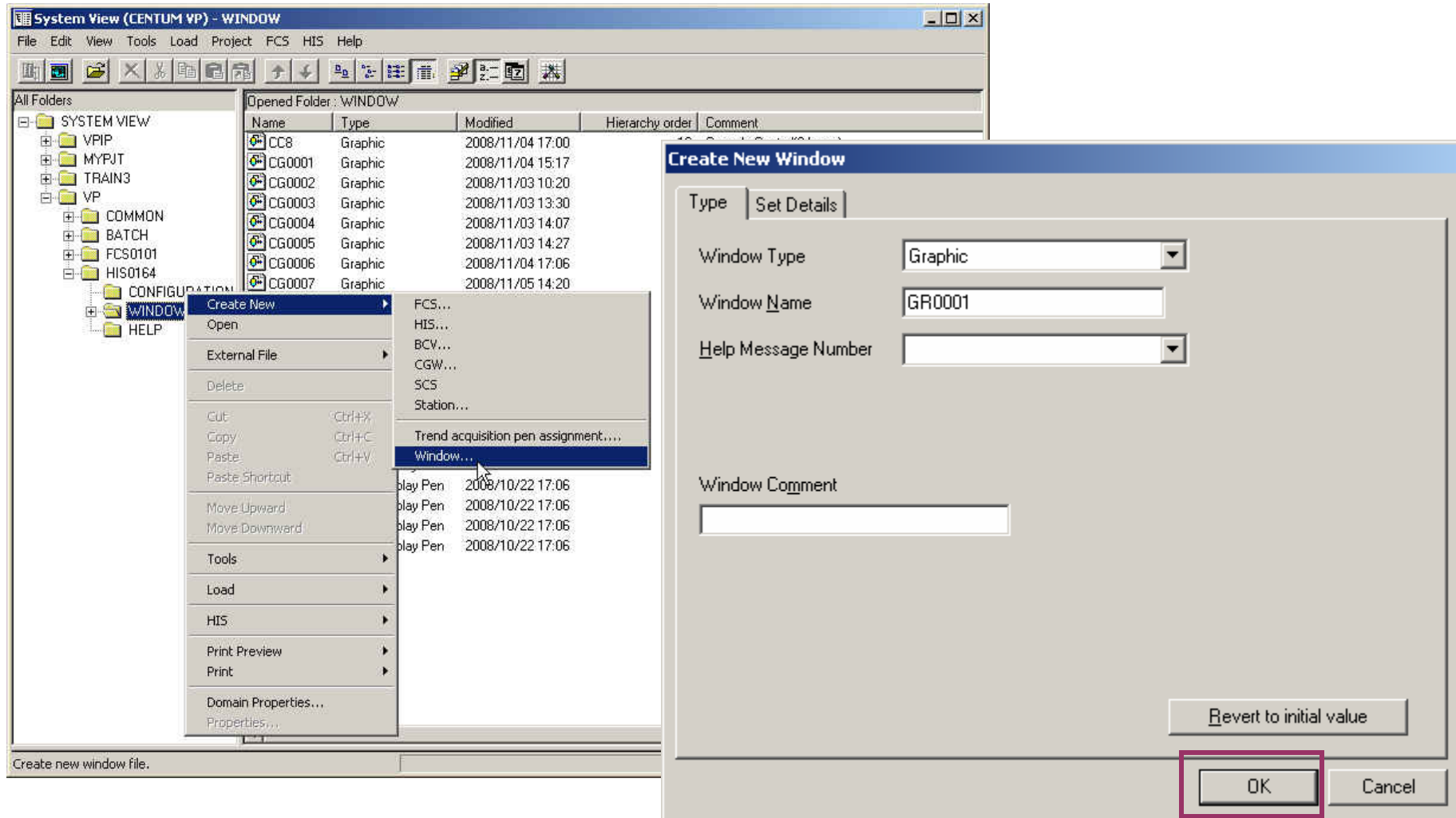
Resolution	Minimized browser bar			Maximized browser bar		
	Canvas width	Canvas height		Canvas width	Canvas height	
		Without Soft key	With Soft key		Without Soft key	With Soft key
800 x 600	718	414	334	398	414	334
1024 x 768	942	568	488	622	568	488
1280 x 1024	1198	804	724	878	804	724
1600 x 1200	1518	967	887	1198	967	887
1280 x 720	1198	524	444	878	524	444
1600 x 900	1518	690	610	1198	690	610
1920 x 1080	1838	856	776	1518	856	776
1280 x 800	1198	598	518	878	598	518
1680 x 1050	1598	828	748	1278	828	748
1920 x 1200	1838	967	887	1518	967	887

Recommended canvas sizes in Window mode

Resolution	Large Screen (-SL)			Medium Screen (-SM)		
	width	Height		Canvas width	Height	
		Without Soft key	With Soft key		Without Soft key	With Soft key
800 x 600	594	345.04	265.04	366	179.04	99.04
1024 x 768	773	468.04	388.04	478	256.04	176.04
1280 x 1024	978	638.04	558.04	606	374.04	294.04
1600 x 1200	1235	788.04	708.04	767	456.04	376.04
1280 x 720	978	449.04	369.04	606	247.04	167.04
1600 x 900	1235	566.04	486.04	767	317.04	237.04
1920 x 1080	1490	680.04	600.04	926	390.04	310.04
1280 x 800	978	473.04	393.04	606	261.04	181.04
1680 x 1050	1298	657.04	577.04	806	376.04	296.04
1920 x 1200	1490	769.04	689.04	926	446.04	366.04

Graphic View (Graphic Attribute)

Graphic Builder is used to create and edit graphic windows to operate and monitor devices.



Graphic View (Graphic Attribute)

System View (CENTUM VP) - WINDOW

File Edit View Tools Load Project FCS HIS Help

All Folders

- SYSTEM VIEW
 - VPIP
 - MYRJT
 - TRAIN3
 - VP
 - COMMON
 - BATCH
 - FCS0101
 - HIS0164
 - CONFIGURATION
 - WINDOW
 - HELP

Opened Folder : WINDOW

Name	Type	Modified	Hierarchy order	Comment
CC8	Graphic	2008/11/04 17:00	16	Console Control(8 loops)
CG0001	Graphic	2008/11/04 15:17	1	Cascade Control -Furnace
CG0002	Graphic	2008/11/03 10:20	12	Cascade Distributor-FOUT
CG0003	Graphic	2008/11/03 13:30	13	Sequence Table
CG0004	Graphic	2008/11/03 14:07	14	Calcu w/string-CALCU-C
CG0005	Graphic			
CG0006	Graphic			
CG0007	Graphic			
GR0001	Graphic			
GR0002	Graphic			
OV0001	Graphic			
OV1	Graphic			
TEST	Graphic			
TG0101	Trend Display Pen			
TG0201	Trend Display Pen			
TG0301	Trend Display Pen			
TG0401	Trend Display Pen			
TG0501	Trend Display Pen			
TG0601	Trend Display Pen			
TG0701	Trend Display Pen			
TG0801	Trend Display Pen			

Select Graphic

Graphic Builder - [Pjt:VP Stn:HIS0164 File:GR0001.edf - [46%]]

Home File Edit View Draw Tools Help

Save As Working File Save Undo Redo Select Edit Point Edit Connection Pt. Mode Font Color Line

Microsoft Sans Serif 12 abe Text Color Fill Color Stroke Color Line Start Line End Arrow Size Small

Stencil

- Basic Shape Controls
- Buttons and Data Display Controls
- Windows Controls
- DCS Controls
- ISA
- Motor
- Others
- Pipe
- Pump
- Switch
- Tank
- Valve
- VP

GR0001.edf

Level Control

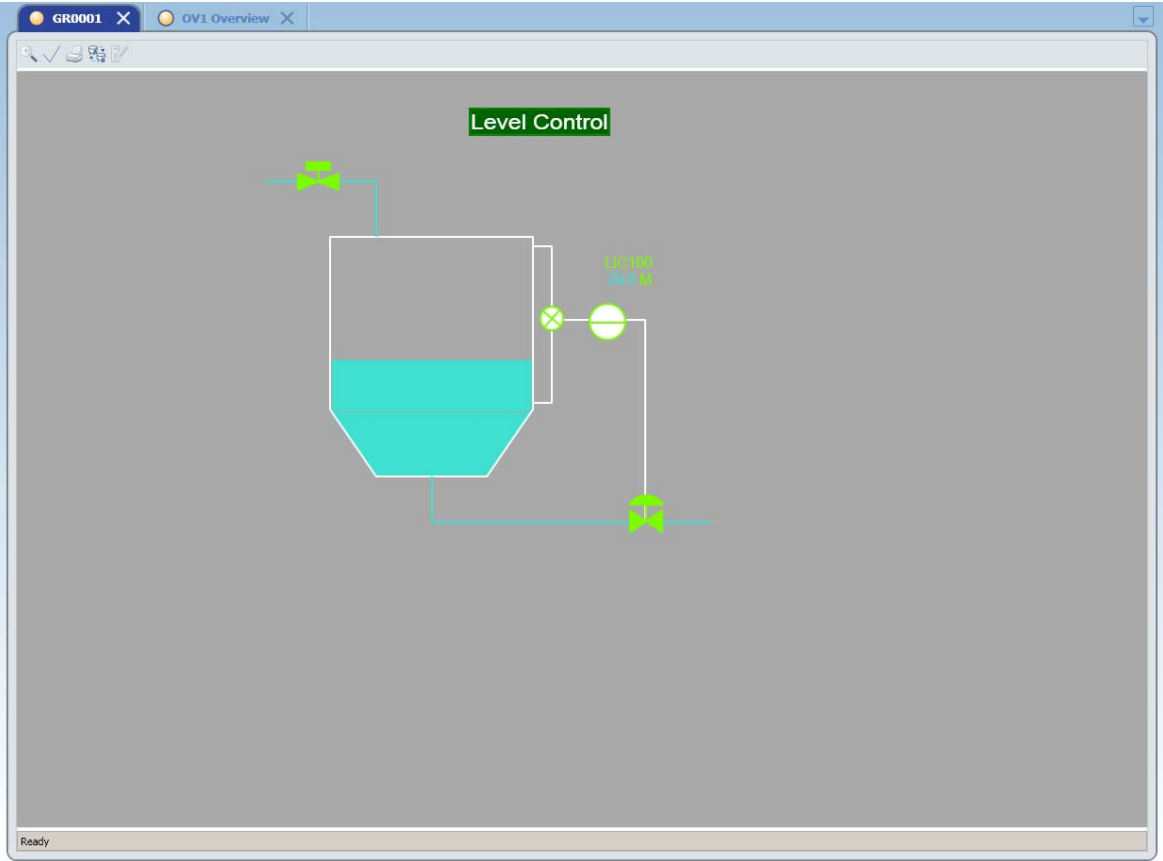
Pan & Zoom

Layer Window

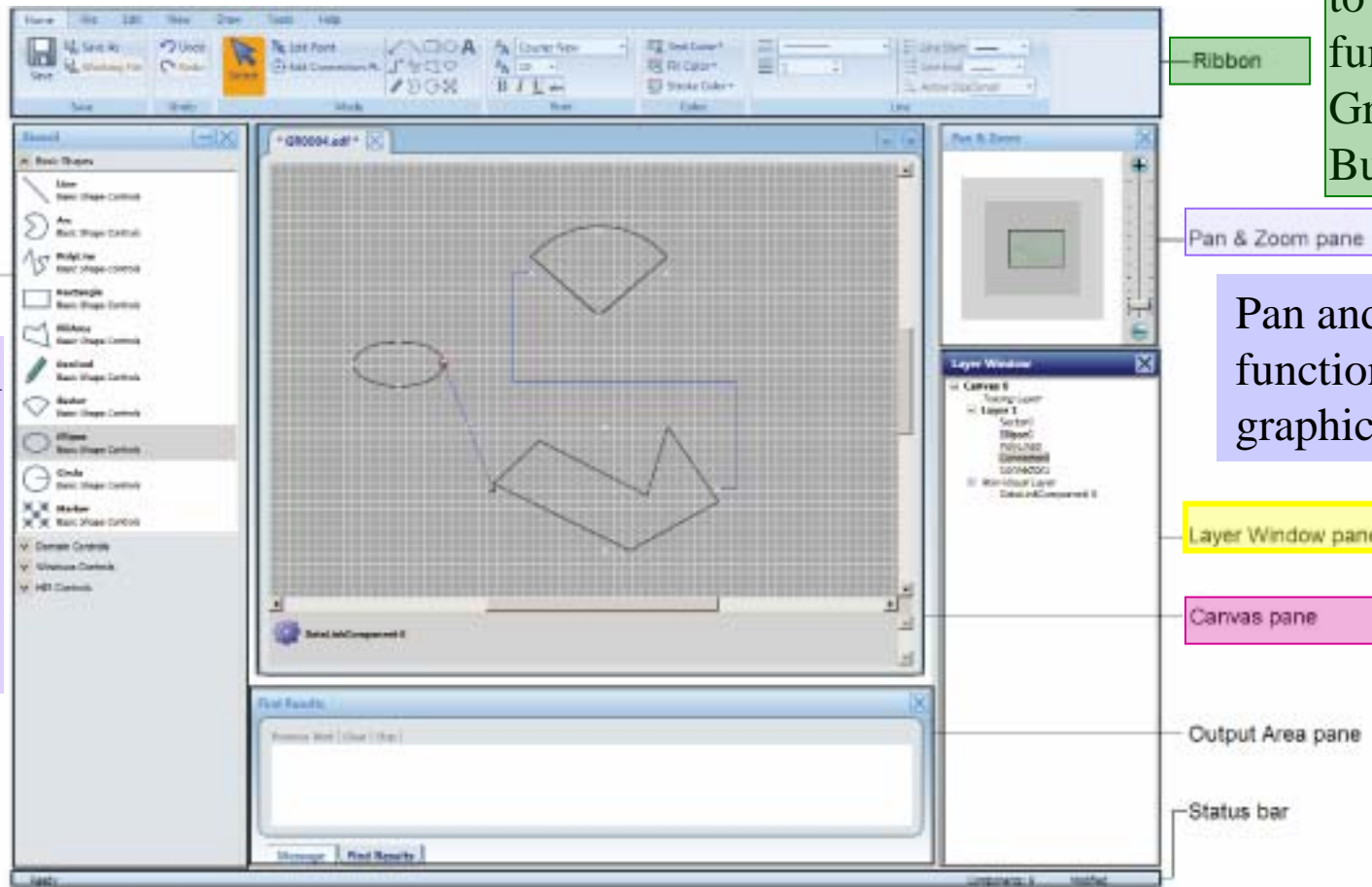
- GR0001.edf
 - Tracing Layer
 - Layer 1
 - Text1
 - DataBar0
 - FillArea4
 - PolyLine2
 - PolyLine12
 - PolyLine13
 - PolyLine14
 - PolyLine17
 - Group0
 - Circle1
 - Connector3
 - Connector4
 - Circle4
 - Line2
 - Text1
 - Text2
 - DataBar0

Ready Objects: 28 X:0669 Y:0058

Graphic View (Graphic Attribute)



Elements of Graphic Builder Interface



Enables you to access functions in Graphic Builder.

Stencil pane

A collection of components you can insert onto the canvas.

Ribbon

Pan & Zoom pane

Pan and zoom functions on a graphic page

Layer Window pane

Canvas pane

Canvas for creating or editing a graphic file.

Output Area pane

Status bar

Displays the available layers in your graphic file, including the tracing layer.



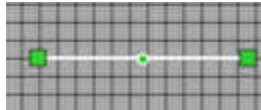
Connector	Icon
Straight	
Right-angle	

F121002E.ai

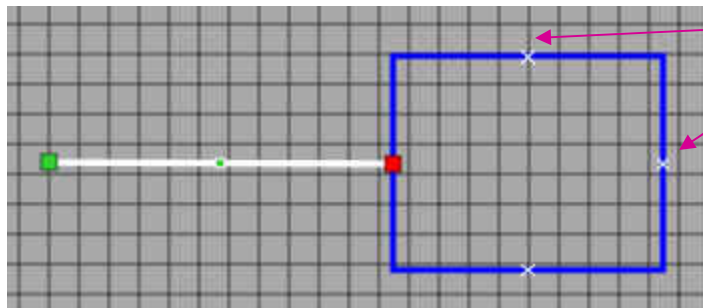
Tool	Button	Tool	Button	Tool	Button
Line		Fill Area		Marker	
Rectangle		Sector		Pen	
Ellipse		Arc		Text	
Polyline		Circle			

F120601E.ai

- 1) In the Ribbon, click the [Home] or [Draw] tab and select [Straight Connector] tool. 

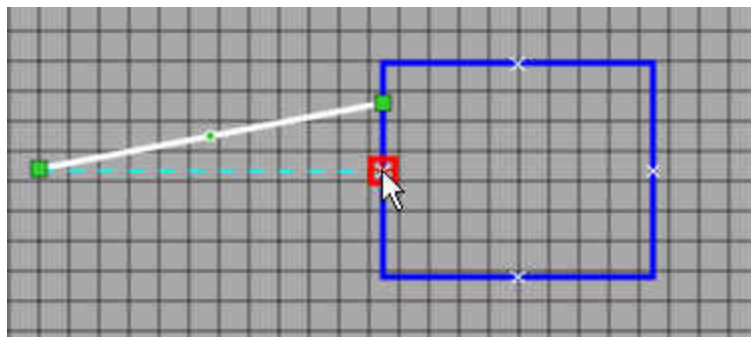


- 2) Select [Rectangle] tool.

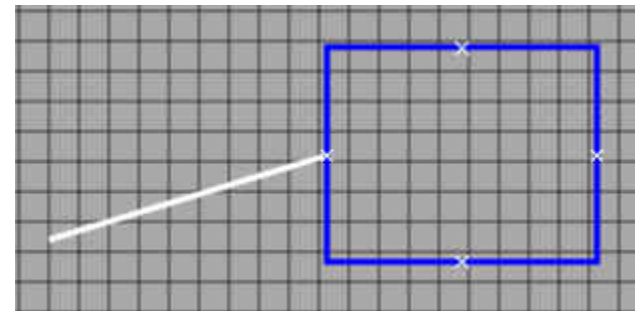


Connection points

- 3) Move the [Straight Connector] tool to the connection points.



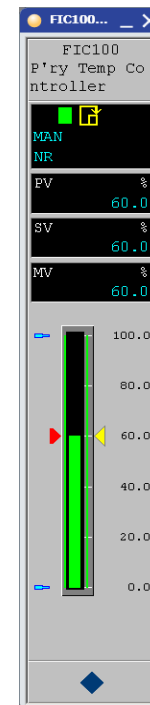
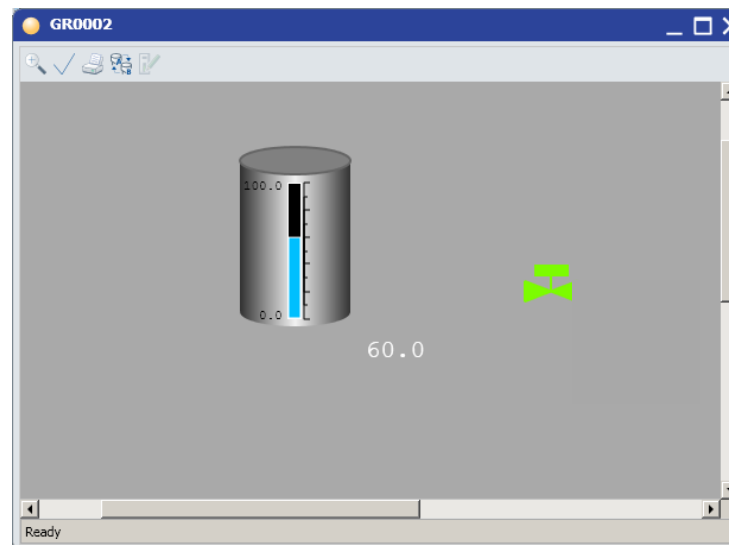
- 4) Move the Rectangle

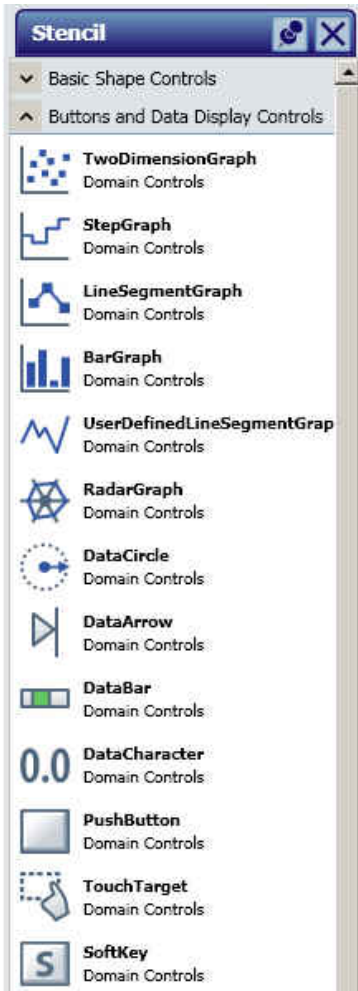


1) Drag and drop [DataCharacter] icon to the Canvas pane.



2) Right click on [DataCharacter] and select Properties.
Click [Data Link] tab, insert value: **FIC100.PV**
Click [Data Character] tab, set the [Number of Digits] to 4 and [Decimal Places] to 1.

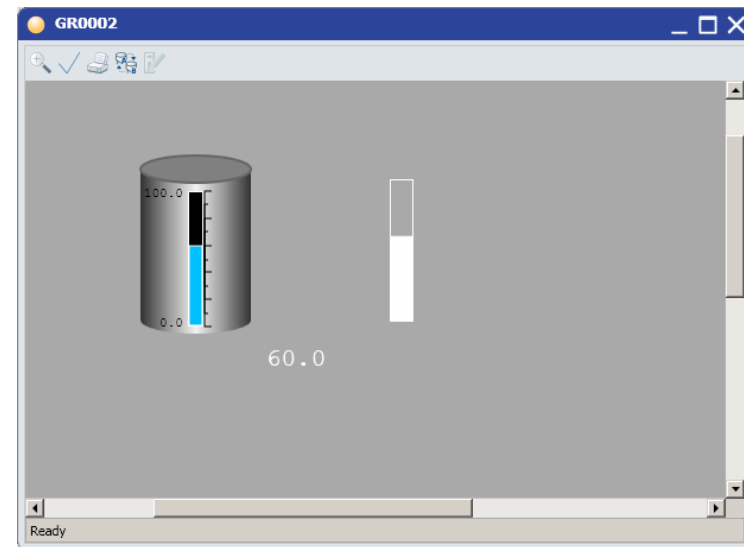




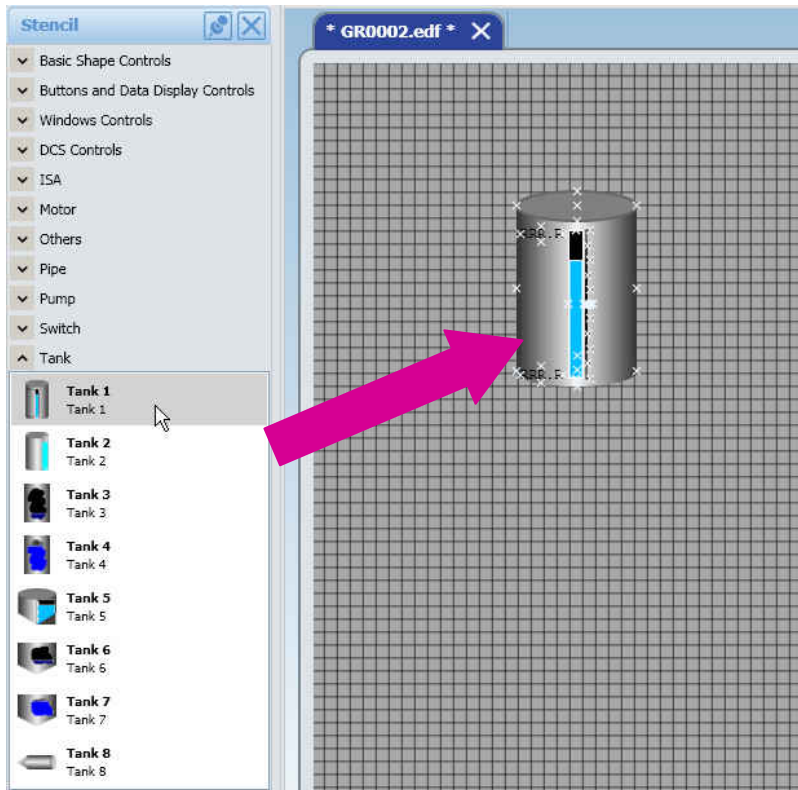
1) Drag and drop [DataBar] icon to the Canvas pane.



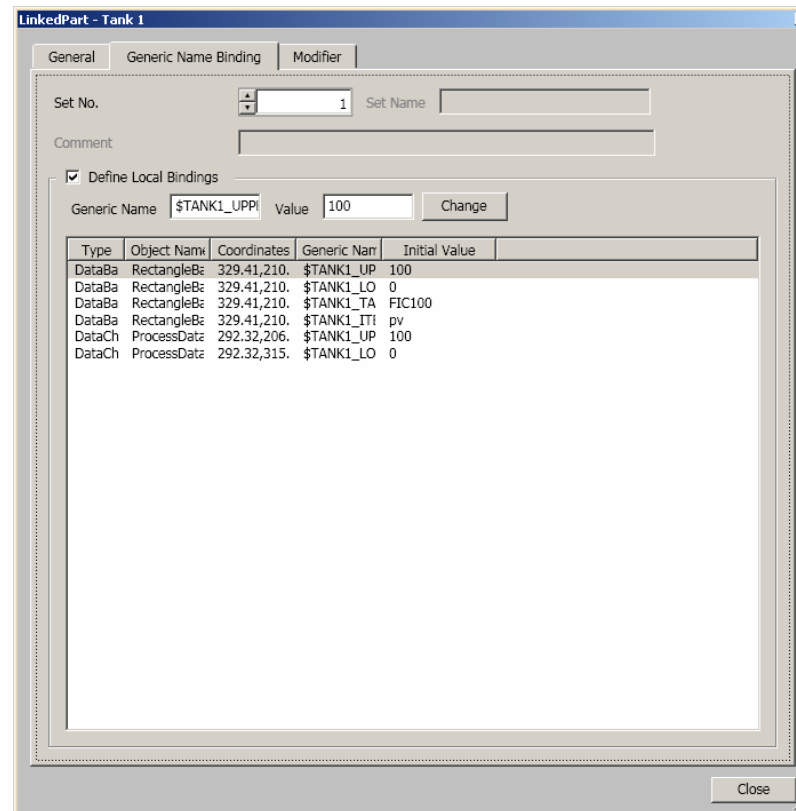
2) Right click on [DataBar] and select Properties.
Click [DataBar] tab, select [Growth Direction]: UP
Click [Data Link] tab, set the following:
[Value]: FIC100.PV
[Low Limit]: 100
[High Limit] : 0



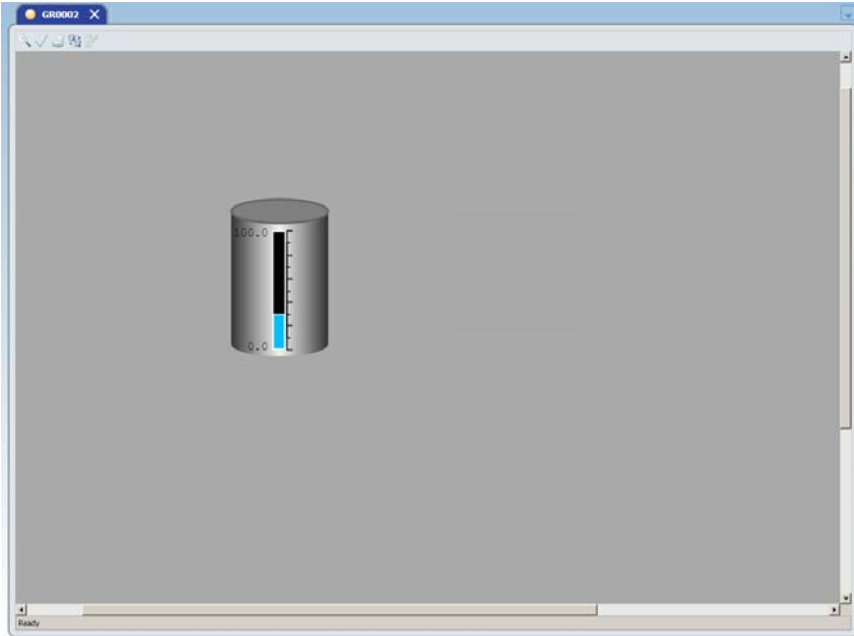
1) From the Stencil pane, drag and drop [Tank 1] to the Canvas pane.



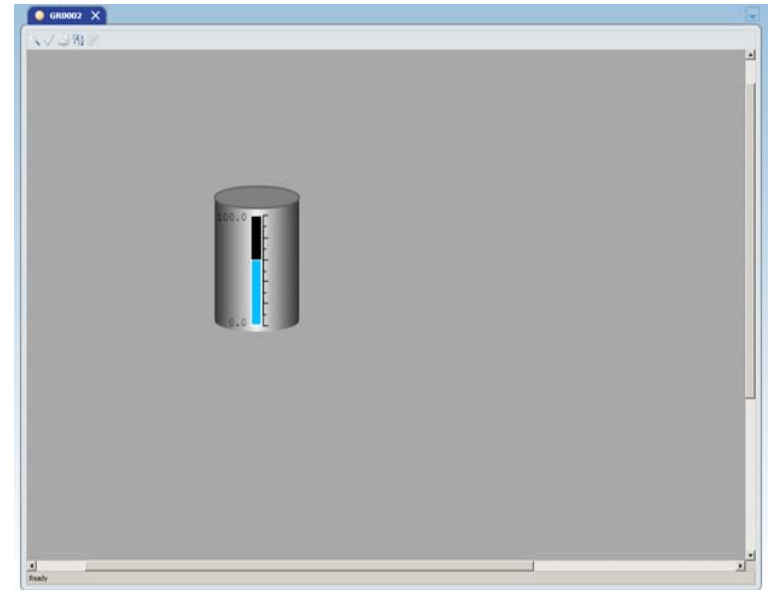
2) On [Generic Name Binding] tab, key in as shown below:



1) From the Name Input Tool Box, key in [GR0002].



2) From the Name Input Tool Box, key in [FIC100]. Change the value of [FIC100]. Notice that the level rises.



You can import images onto the tracing layer. This enables you to draw on or trace from images in Graphic Builder.

The image you select must be in one of the following formats.

- Bitmap (.bmp)
- JPEG (.jpg, .jpeg, .jpe or .jfif)
- GIF (.gif)
- PNG (.png)
- ICO (.ico)

In the Layer Window panel, right-click [Tracing Layer] and select [Load Image].

The active Tracing Layer is indicated in bold.

Non-visual layer

The non-visual layer displays Data Links.

Each graphic view contains one non-visual layer only. The non-visual layer cannot be activated, hidden, or deleted.

The following section describes the basic workflow in Graphic Builder.

1. Start Graphic Builder.
2. Create or load custom stencils (if necessary).
3. Set the general properties of the canvas.
4. Import P&ID to the tracing layer (if necessary).
5. Add layers (if necessary).
6. Add or edit components.
7. Create data links and generic names.
8. Preview the graphic file.
9. Save the file as a graphic, working, or linked part file.
10. Close Graphic Builder.

END OF PRESENTATION

