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WORKING WITH C-LIBRARY

C-LIBRARY is a catalog creation program that you can use to build and edit your own valve catalogs. This program can be started from within the control valve selection module by choosing the **Tools / Build & Edit Valve Catalogs** menu item.



Whenever you are working in C-LIBRARY, you can access online information from the Help menu or by clicking the Help button in the dialog box you are currently working in. You can also quickly display the Help Contents by clicking the Help button on the toolbar or by pressing the F1 key.

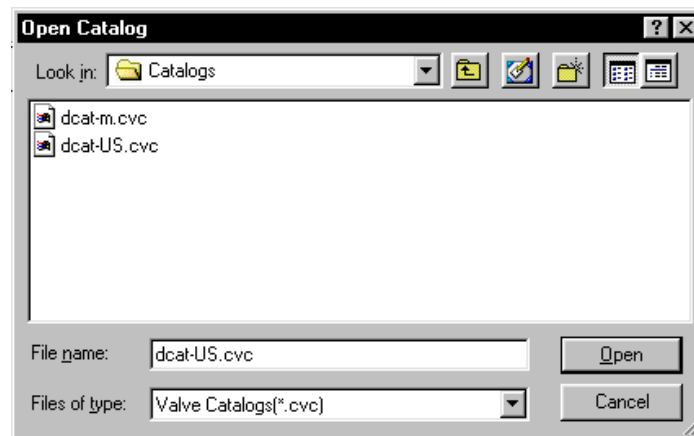
Creating a New Catalog

When creating a valve catalog, a file name must be assigned to the catalog. This is the name that is displayed when the catalog is opened in the control valve selection program.

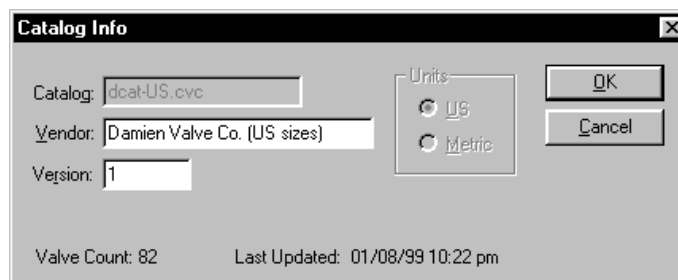
To create a catalog



- 1 Start the C-LIBRARY program.
- 2 Click the **New** button on the toolbar.



- 3 Specify the catalog name in the **File name** text box.
- 4 Click the **Save** button. The Catalog Info dialog box is displayed.



- 5 Specify the vendor name in the **Vendor** text box.
- 6 Specify the version number in the **Version** text box.
- 7 Specify the catalog units by selecting either the **US** or **Metric** units option.
- 8 Choose **OK**.

Opening an Existing Catalog

C-LIBRARY saves all of the catalog data on disk. An existing catalog can be opened and worked on at any time.

To open a catalog



- 1 Click the **Open** button on the toolbar.
- 2 In the Open Catalog dialog box, specify the name of the catalog in the **File name** text box.
- 3 Click the **Open** button to open the catalog. The Catalog Info dialog box is displayed.
- 4 If required, you can edit the data in the **Vendor** and **Version** text boxes.
- 5 Choose **OK**.

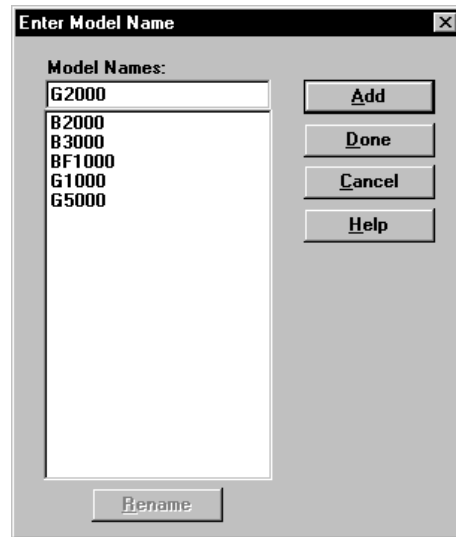
Entering the Valve Definition Items

Each valve in the catalog is defined by specifying its model name, body type, description, characteristic trim, guide style, and pressure rating. Once these items are specified, the sizes and data for the valve definition can be entered. Below is a further description of the items used to define the valves in the catalog:

Model	The valve model name.
Body Type	The valve body type or construction.
Description	An additional description of the valve body type or construction.
Characteristic Trim	The valve trim characteristic. This describes how the valve flow coefficient (Cv) varies with valve position for a constant differential pressure.
Guide Style	The method in which the flow closure member is guided throughout its travel into its seat or valve stem support.
Pressure Rating	The pressure rating of the valve assembly.

To add model names

- 1 Choose the *Valves / Model Names* menu item.



- 2 Specify a model name and click the **Add** button.
- 3 Continue to add model names as described in step 2.
- 4 Click the **Done** button when you are finished.

To add body types

- 1 Choose the *Valves / Body Types* menu item.
- 2 Specify a body type and click the **Add** button.
- 3 Continue to add body types as described in step 2.
- 4 Click the **Done** button when you are finished.

To add valve descriptions

- 1 Choose the *Valves / Valve Descriptions* menu item.
- 2 Specify a valve description and click the **Add** button.
- 3 Continue to add valve descriptions as described in step 2.
- 4 Click the **Done** button when you are finished.

To add characteristic trims

- 1 Choose the *Valves / Characteristic Trims* menu item.
- 2 Specify a characteristic trim and click the **Add** button.
- 3 Continue to add characteristic trims as described in step 2.
- 4 Click the **Done** button when you are finished.

To add guide styles

- 1 Choose the **Valves / Guide Styles** menu item.
- 2 Specify a guide style and click the **Add** button.
- 3 Continue to add guide styles as described in step 2.
- 4 Click the **Done** button when you are finished.

To add pressure ratings

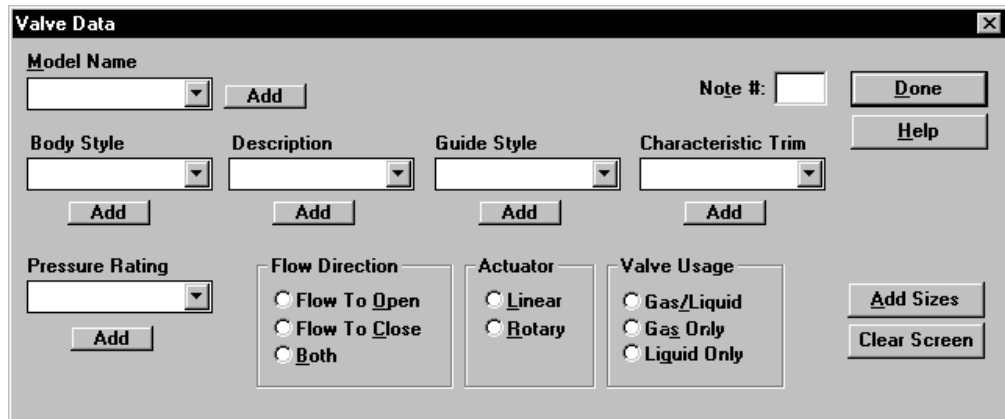
- 1 Choose the **Valves / Pressure Ratings** menu item.
- 2 Specify a pressure rating and click the **Add** button.
- 3 Continue to add pressure ratings as described in step 2.
- 4 Click the **Done** button when you are finished.

Adding Valves

Once you have specified the valve definition items, you are ready to enter the valve data.

To define the valve

- 1 Click the **Valve** button on the toolbar.



The Valve Data dialog box is a window with a title bar and a close button. It contains several sections for defining valve parameters:

- Model Name:** A drop-down list box with an **Add** button next to it.
- Note #:** A text input field.
- Body Style:** A drop-down list box with an **Add** button below it.
- Description:** A drop-down list box with an **Add** button below it.
- Guide Style:** A drop-down list box with an **Add** button below it.
- Characteristic Trim:** A drop-down list box with an **Add** button below it.
- Pressure Rating:** A drop-down list box with an **Add** button below it.
- Flow Direction:** Three radio button options: **Flow To Open**, **Flow To Close**, and **Both**.
- Actuator:** Two radio button options: **Linear** and **Rotary**.
- Valve Usage:** Three radio button options: **Gas/Liquid**, **Gas Only**, and **Liquid Only**.
- Buttons:** **Done**, **Help**, **Add Sizes**, and **Clear Screen**.

- 2 Select a valve model from the **Model Name** drop-down list box.
- 3 Select a valve body style from the **Body Style** drop-down list box.
- 4 Select a valve description from the **Description** drop-down list box.
- 5 Select a valve guide style from the **Guide Style** drop-down list box.
- 6 Select a characteristic trim from the **Characteristic Trim** drop-down list box.
- 7 Select a pressure rating from the **Pressure Rating** drop-down list box.

NOTE: You can also add valve definition items in the Valve Data dialog box by clicking the **Add** button next to the appropriate drop-down list box.

- 8 Specify the flow direction by selecting the **Flow To Open** or **Flow To Close** option button. To specify both flow to open and flow to close, select the **Both** option button.

To quickly clear all of the specified items in the Valve Data dialog box, click the **Clear Screen** button.

- 9 Specify the actuator by selecting the **Linear** or **Rotary** option button. If you specify linear, the valve data is entered in percent open from 5 to 100%. If you specify rotary, the valve data is entered in degrees of rotation from 0° to 90°.
- 10 Specify the valve usage by selecting the **Gas/Liquid**, **Gas Only**, or **Liquid Only** option button.
- 11 If you want a note associated with the valve, specify the note number in the **Note #** text box. See *Adding Valve Notes* below.

To enter the valve data

- 1 In the Valve Data dialog box, click the **Add Sizes** button.

- 2 Specify the valve and seat size.
- 3 Choose **OK**.

You can quickly TAB to the next text box in a column by pressing the "+" key on the number pad. To move back to the previous text box, press the "-" key.

Cv Values:		FI Values:		Xt Values:	
5%	87.5	5%	0.89	5%	0.72
10%	175	10%	0.89	10%	0.72
20%	406	20%	0.89	20%	0.722
30%	606	30%	0.89	30%	0.722
40%	762	40%	0.89	40%	0.722
50%	882	50%	0.89	50%	0.723
60%	959	60%	0.89	60%	0.722
70%	1000	70%	0.89	70%	0.727
80%	1030	80%	0.89	80%	0.722
90%	1040	90%	0.89	90%	0.728
100%	1090	100%	0.89	100%	0.724

- 4 Specify the valve travel in the **Stroke** text box. This data is optional.
- 5 Specify the Cv data in the **Cv Values** text boxes.
- 6 Specify the FI data in the **FI Values** text boxes.
- 7 Specify the Xt data in the **Xt Values** text boxes.

NOTE: If the FI or Xt data does not vary with valve position, you can quickly enter the data by filling in the first value and then clicking the **Fill** button. Also, you can clear the FI or Xt data at any time by clicking the **Clear Column** button.

- 8 Specify the Fs data in the **Fs Value** text box.

- 9 Click the **New Size** button to add the next valve size. Repeat steps 2 through 8 for each valve size.
- 10 Click the **Done** button when you are finished adding valve sizes.
- 11 Click the **Done** button in the Valve Data dialog box. The valve is displayed in the list of current valves.

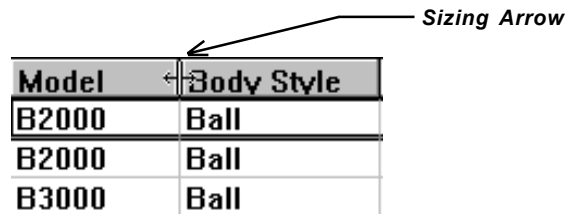
The Valve List

The valve list displays all of the valves currently in the catalog. You can individually size the columns to fit the valve data as well as sort the list by the individual columns of data. A typical list is shown below:

Model	Body Style	Description	Guide Style	Char Trim	Pressure Rating	Flow To
B2000	Ball	Segmented	Standard	Equal Percentage	Class 300	Open
B2000	Ball	Segmented	Standard	Equal Percentage	Class 300	Close
B3000	Ball	Full Port	Standard	Equal Percentage	Class 300	Both
BF1000	Butterfly	I-Disk	Standard	Equal Percentage	Class 300	Both
G1000	Globe	Single Port	Top Guided	Equal Percentage	Class 300	Open
G1000	Globe	Single Port	Top Guided	Linear	Class 300	Open
G5000	Globe	Double Port	Top/Bottm Guided	Equal Percentage	Class 600	Open
G5000	Globe	Double Port	Top/Bottm Guided	Quick Opening	Class 600	Open

To size the columns

- 1 Move the mouse pointer over the line on the right side of the column heading. The column is ready to size when the mouse pointer becomes a black double arrow.



- 2 Click and hold down the **left** mouse button, then drag the mouse to the right to make the column larger or drag it to the left to make it smaller.
- 3 Size the remaining columns in the same way.

To sort the list

- Click on the column heading for the item you want to sort by. C-LIBRARY sorts the list. The list can be sorted by any of the columns.

Editing the Valve Data

Once a valve is on the list, you can add more sizes as well as edit the data for sizes you have already entered. You can also rename any of the valve definition items at any time.

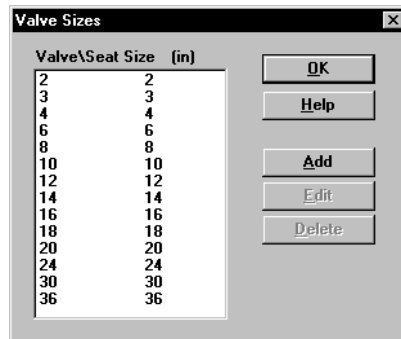
To rename a valve definition item

- 1 Display the dialog box for the valve definition item you want to rename. For example, if you want to rename a valve model name, choose the **Valves / Model Names** menu item.
- 2 Click on the item you want to rename.
- 3 Click the **Rename** button.
- 4 Specify the new name in the **New** text box.
- 5 Choose **OK**.
- 6 Click the **Done** button.

To add sizes

You can also display the Valve Sizes dialog box by double-clicking the valve on the list.

- 1 On the list, select the valve you want to add sizes to.
- 2 Choose the **Model / View Sizes** menu item.



- 3 Click the **Add** button.
- 4 In the Enter Size dialog box, specify the valve and seat size.
- 5 Choose **OK**.
- 6 Enter the valve stroke, Cv, Fi, Xt, and Fs data.
- 7 Click the **Done** button.
- 8 Repeat steps 3 through 7 to add additional valve sizes.
- 9 Choose **OK** when you are finished adding valve sizes.

To edit valve data for existing sizes

- 1 On the list, select the valve you want to edit.
- 2 Choose the **Model / View Sizes** menu item to display the Valve Sizes dialog box.
- 3 Select the valve\seat size you want to edit.
- 4 Click the **Edit** button.
- 5 Edit the valve stroke, Cv, Fl, Xt, and Fs data as required.
- 6 Click the **Done** button.
- 7 Repeat steps 3 through 6 to edit the data for additional valve sizes.
- 8 Choose **OK** when you are finished editing the valve sizes.

To delete valve sizes

- 1 On the list, select the valve you want to edit.
- 2 Choose the **Model / View Sizes** menu item to display the Valve Sizes dialog box.
- 3 Select the valve\seat size you want to delete.
- 4 Click the **Delete** button.
- 5 Repeat steps 3 and 4 to delete additional valve sizes.
- 6 Choose **OK** when you are finished deleting valve sizes.

Adding Valve Notes

The valves in a catalog can have notes associated with them. Each note is numbered and assigned to a valve by entering its number in the Valve Data dialog box.

To add a note

- 1 Choose the **Catalog / Notes** menu item.
- 2 Click the **New** button. The next available note number is listed in the **Note #** drop-down list box.
- 3 Enter the note text.
- 4 Choose **OK**.

Valve notes are stored in an .ini file that has the same name as the catalog.

To edit a note

- 1 Choose the **Catalog / Notes** menu item.
- 2 Select the note number you want to edit from the **Note #** drop-down list box.
- 3 Edit the note as required.
- 4 Choose **OK**.

Deleting Valves

You can delete valves from a catalog at any time.

To delete one or more valves

- 1 Select the valve to delete from the list.

NOTE: If you want to delete more than one valve in sequence, click on the first valve you want to delete then hold down the **Shift** key while you click the last valve you want to delete. If you want to delete multiple valves that are not sequential, hold down the **Ctrl** key while you click each valve.

- 2 Press the **Delete** key.
- 3 Choose **OK** to remove the valves from the catalog.

Updating the Valve Count

After you have added or deleted valves, you can get an update of the total number of valves in the catalog.

To update the valve count

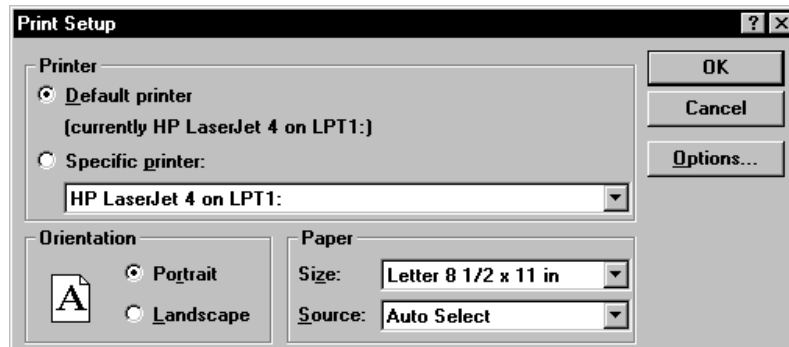
- 1 Choose the **Catalog / Update Count** menu item. A message box is displayed listing the total number of valves in the catalog.
- 2 Choose **OK**.

Setting up the Printer

In C-LIBRARY, you can select a printer and specify printer options from the File menu. Once you have set up your printer, you do not need to do it again until you want to change printers.

To set up the printer

- 1 Choose the **File / Printer Setup** menu item.



- 2 Select the **Default printer** or the **Specific printer** option.
- 3 If you need to change options specific to the selected printer, click on the **Options** button.
- 4 Choose **OK**.

Printing a Catalog

In C-LIBRARY you can print the entire valve catalog. For each valve in the catalog, the model, note number, flow direction, actuator type, body type, description, characteristic trim, guide style, and pressure rating are printed. The stroke, Cv, FI, Xt, and Xs data for every size entered is also listed.

To print a valve catalog



- 1 Open a catalog as described previously in this documentation.
- 2 Click the ***Print*** button on the toolbar. A listing of the valve catalog is sent to the printer.