16.0 Databanks

Pro-Designer supports up to four different databanks: the Designer databank, the User databank, the Processes (Flowsheet) databank, and the DIPPR databank. Starting with version 4.5, all databanks come in relational database format (Microsoft Access .mdb format). The Designer and User databanks are installed automatically with the program installation at default locations on the hard disk. They can be found in the 'Dbases' subfolder within the Pro-Designer installation folder. A demo version of the DIPPR databank with only 5 components is also installed in the same directory. If the full DIPPR databank is already available or becomes available after installation, it has to be registered with Pro-Designer like the other two databanks as explained in section 16.1 in this chapter.

The Designer databank is maintained and constantly updated by our staff at Intelligen but, unlike previous versions of Pro-Designer, it cannot be edited or modified by the user. The User databank is an expandable user-maintained databank that allows users to readily add and edit information for additional pure components, utilities, sites etc. according to their needs. The DIPPR databank is a pure-component only databank developed and maintained at Brigham Young University.

To avoid accidental corruption of their data, all databanks are password-protected. The User databank password can be provided upon request to users who are interested in expanding or modifying the databank from within Microsoft Access or would want to access the data from other applications. For regular use, however, it is highly recommended that the databanks be updated and maintained from the interfaces that Pro-Designer provides and can be accessed through the **Databanks** menu.

16.1 Databank Registration

Upon installation, Pro-Designer automatically registers the databanks with the system and makes them immediately available to the application. If the databanks are moved to another location or their file name is modified or the password is changed or a different databank is to be used, then you should inform the program accordingly. The same applies for registering DIPPR with the program since, by default, DIPPR is not assumed to be available. To do that, select **Databanks / Availability, Passwords & Locations…** from the main menu and provide the new information in the dialog that pops up (Figure 16.1). It is the responsibility of the users to make sure that the password saved within Pro-Designer matches exactly the password of the corresponding databank files. Otherwise, Pro-Designer will not be able to access those databanks. By installation, the DIPPR databank is assumed to have no password (password is an empty string). If this is not the case, the correct password can be provided with the help of the Database Locations dialog.

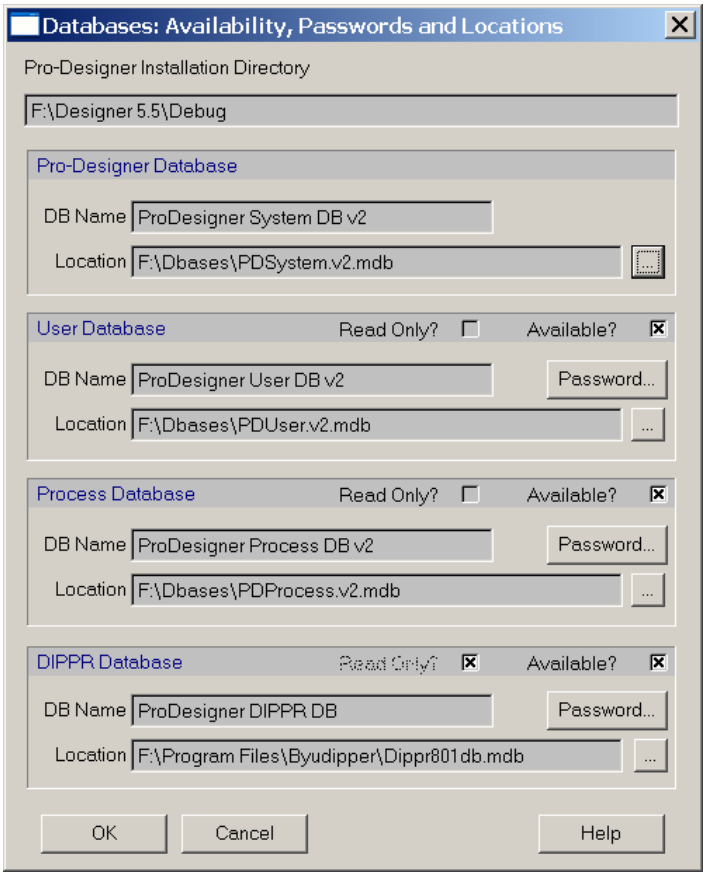

Figure 16.1: Dialog for editing the location and password of Pro-Designer and DIPPR databanks.

In previous versions of Pro-Designer (versions earlier of 5.0), changes done in the databanks did not have any effect in existing design cases. This is no longer the case for design cases that have sections or resources allocated to databank sites and resources (see section 16.13 for details). Therefore, when the databank file or location is changed or the User databank becomes unavailable, the system checks consistency between the currently open design cases and the new databanks to make sure all allocated resources can be found there (mainly the User databank.) The same check is done every time an old design case is opened. If inconsistencies are found (i.e. allocated resources cannot be found in the databank) the user is warned that dissociation of resources must occur to maintain compatibility between the open design cases and the databanks. If that dissociation is undesirable, then it is strongly recommended that the affected design cases be closed without saving and re-opened only after the correct (compatible) databank is selected through the Databank Locations dialog. Note that old-version design cases that were developed with pre-5.0 version of Pro-Designer or new design cases that have no resources allocated to the databanks are not affected in any way by changes in the databanks.

16.2 Importing Data from Old-Version User Databanks

Although much less frequently than the program itself, Pro-Designer databanks might also come in different versions. The latest version of Pro-Designer always supports the latest databank version only and that means that older version databanks cannot be used. This poses no problem for the Designer and the DIPPR databanks that are not editable by the user and are always backward compatible, i.e., the newer versions will always subsume older ones and therefore they can safely substitute them. Databank versioning, however, could be problematic for the User databank. In order to continue being able to use within Pro-Designer data that exist in older User databanks, you have to explicitly import them to the latest version databank. To do this you must use the dialog (shown in Fig. 16.2) that comes up when you select the **Databanks / Import Data …** menu option.

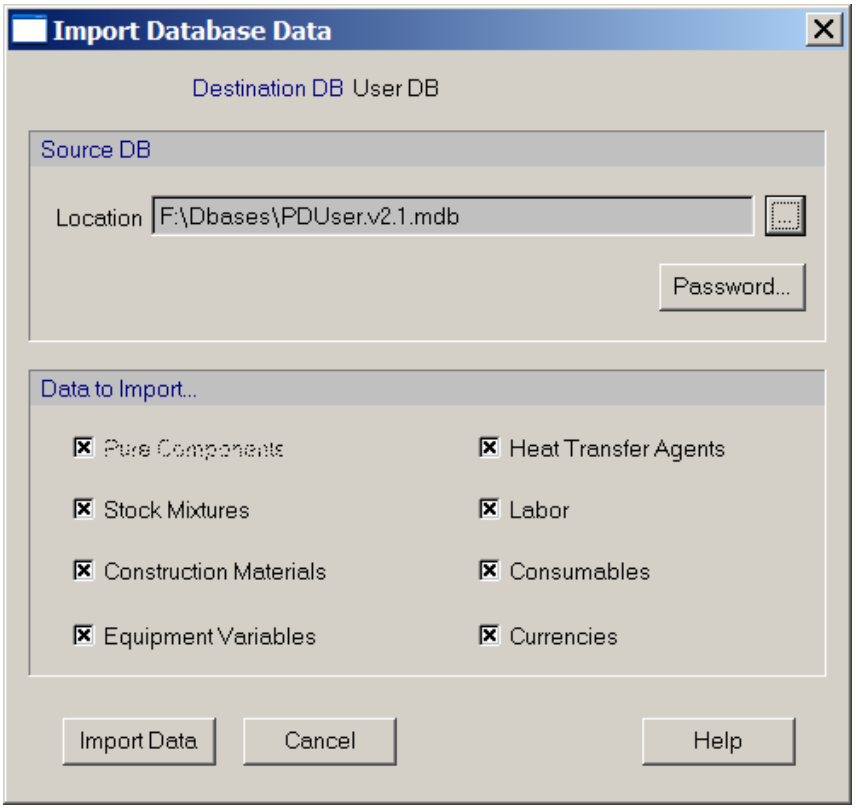

Figure 16.2: Dialog for importing data to new-version User databank

In this dialog you will have to provide the location of the old databank and its password. If the password has not been changed or is not known, you can use the **Use default (system) password** option in the Databank Password dialog to avoid having to provide a password. In that case, the program will try to open the old databank with the default password. After defining what types of data you would like to import, click on the **Import Data** button to initiate the transfer process. Note that stock mixture data cannot be transferred unless the pure components are transferred as well. When the transfer is complete, the data from the old-version databank will be available inside the new-version User databank. Please note that data importing is a very sensitive process

that could fail if it creates conflicts within the databank, e.g. if it attempts to import a component that already exists in the new databank. Users are warned for such conflicts and if the number of failures exceeds a limit, the transfer process is aborted. Therefore, it is highly recommended that this process be activated when the new-version databank is still empty (as it is the case right after installation of the new version.)

16.3 Pure Component Databank

Chemical components are used to represent the flow and composition of material in streams. They are also used as ingredients in stock mixtures (see section 16.4.) The Designer databank includes approximately 530 components and is continuously updated by our staff. Pro-Designer also supports the DIPPR pure component databank in its relational database format developed and maintained at Brigham Young University. The DIPPR databank contains over 1600 pure components along with their physical and thermodynamic properties compiled from the technical literature.

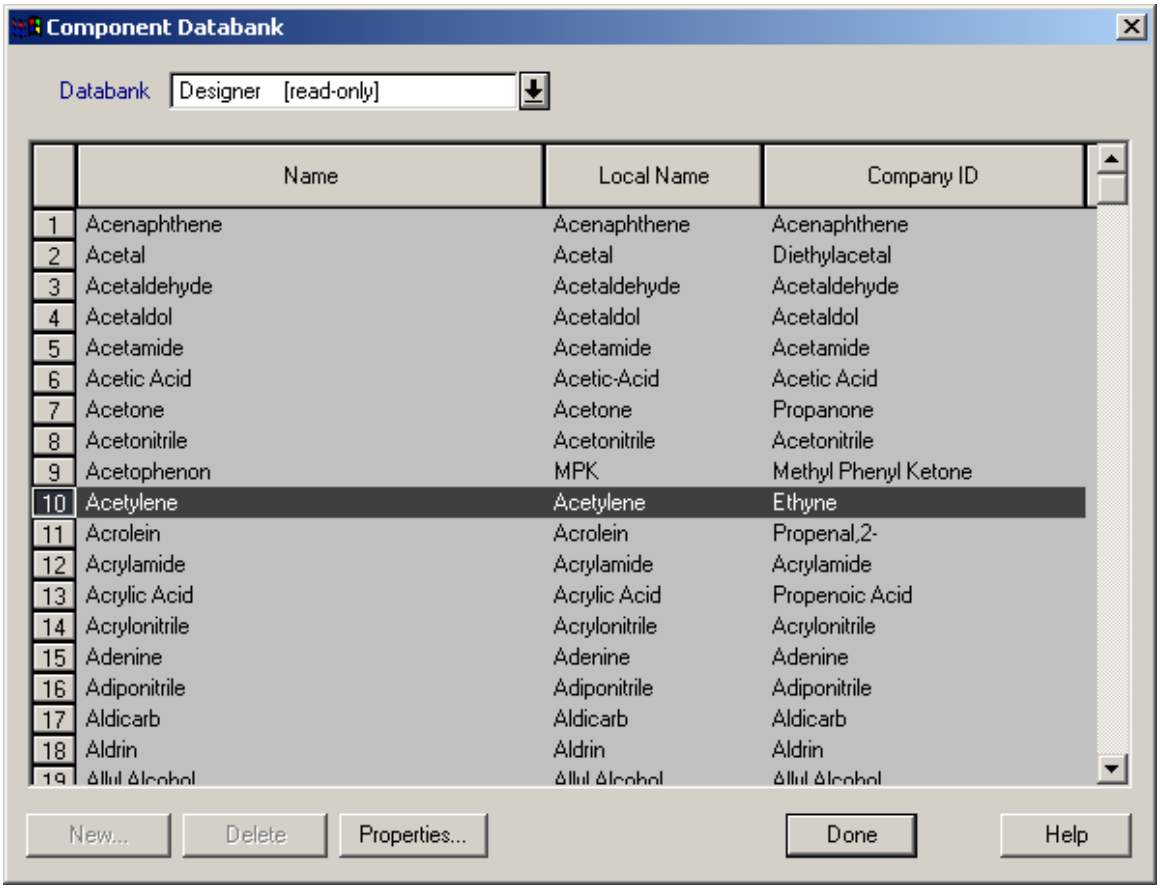

Figure 16.3: The pure component databank dialog.

To access the component databanks, use the **Databanks / Pure Components...** menu item from the main menu (or hit **F2** as a shortcut.) In the dialog that comes up (shown in Fig. 16.3), depending on what databank you choose to browse, you will be able to view the properties of a databank component, add a new one, delete or edit an old

component. To view or edit a pure component, first select it from the table (by clicking on the button at the beginning of that component's row, i.e. its index column) and then press the **Properties…** button. Alternatively, you can double-click on the component's index column. In Chapter 3 you can find a description and explanation of all data registered for a pure component in the databank. Note that changes made in the component databanks do not affect existing design cases.

16.4 Stock Mixture Databank

Stock mixtures facilitate initialization of feed streams in cases where certain raw materials (e.g., buffers, acid solutions, base solutions, etc.) are utilized as mixtures. The Designer databank includes approximately 40 mixtures.

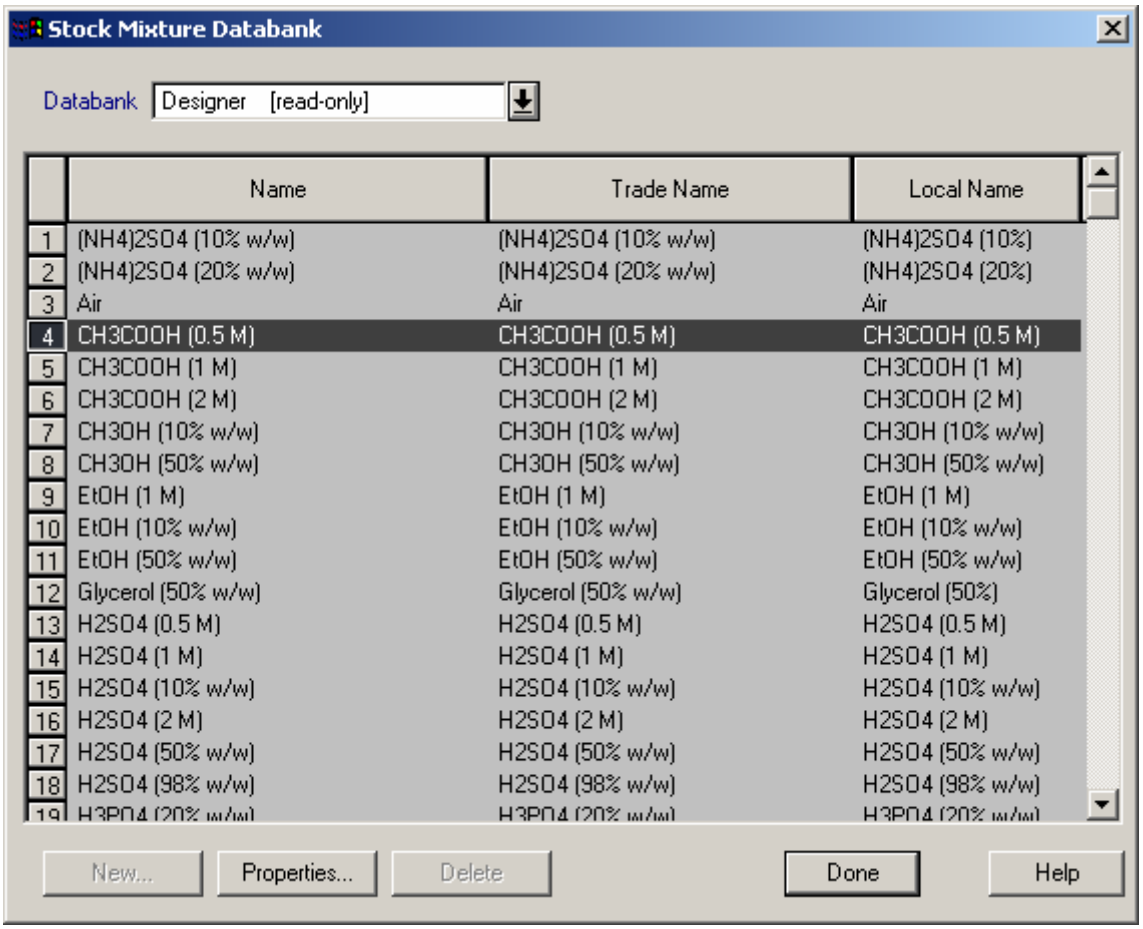

Figure 16.4: The stock mixture databank dialog.

To access the stock mixture databanks, use the **Databanks / Stock Mixtures...** menu item from the main menu (or hit **Shift+F2** as a shortcut.) In the dialog that comes up (shown in Fig. 16.4), depending on what databank you choose to browse, you will be able to view the properties of a databank stock mixture, add a new one, delete or edit an old one. To view or edit a mixture, first select it from the table (by clicking on its index column) and then press the **Properties…** button. Alternatively, you can double-click on

the mixture's index column. In Chapter 3 you can find a description and explanation of all data registered for a stock mixture in the databank. Note that changes made in the stock mixture databanks do not affect existing design cases.

16.5 Heat Transfer Agent Databank

Heat transfer agents are used by Pro-Designer in operations that involve heat exchange between the material being processed and its environment. The Designer databank maintains a (currently limited) list of heat transfer agents. To access the heat transfer agent databanks, use the **Databanks/Heat Transfer Agents...** menu item from the main menu (or hit **F3** as a shortcut.) The following dialog (Figure 16.5) appears:

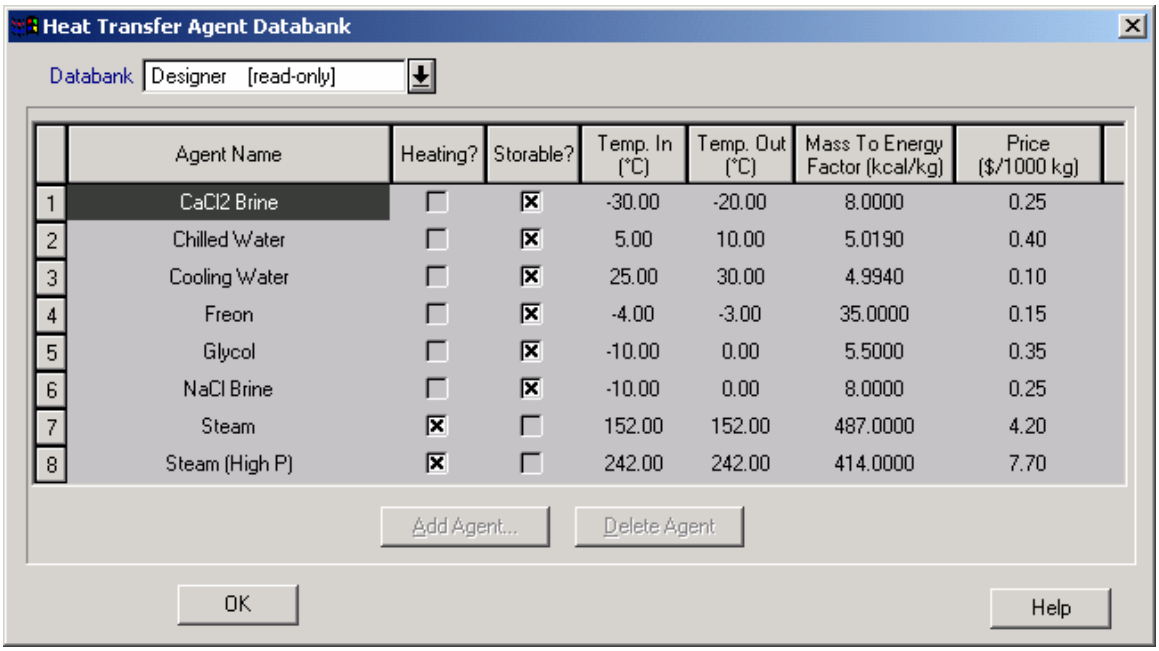

Figure 16.5: The heat transfer agent databank dialog.

In the User databank, you can extend the list of available agents by clicking on the **Add Agent…** button and filling in the information requested about the new agent. Essentially, you have to provide a name by which the system will refer to the agent, declare whether the agent will be used for heating or cooling tasks and if the agent is storable, specify the temperature at which the agent is available from the utilities support plant and the temperature at which it should be returned to the utilities plant. Finally, you should also provide an estimate for the cost that will be charged to your design case for the use of the agent in ¢/1000 kg used. Changes made in the heat transfer agent databank do not affect existing design cases or other parts of the databank even if the edited heat transfer agents are used as the basis for utilities declared in a site (see section 16.15 for details). Note, however, that you will not be able to delete from the User databank heat transfer agents used as site utilities; the site utilities will have to be removed first.

16.6 Labor Databank

Operations and sections in design cases can require the use of different labor types or staff to accomplish process-related and other tasks. The Designer databank maintains a short list of labor types that can be expanded by the user in the User databank. To access the labor databanks, use the **Databanks/Labor...** menu item from the main menu (or hit **Shift+F3** as a shortcut.) The following dialog (Figure 16.6) appears:

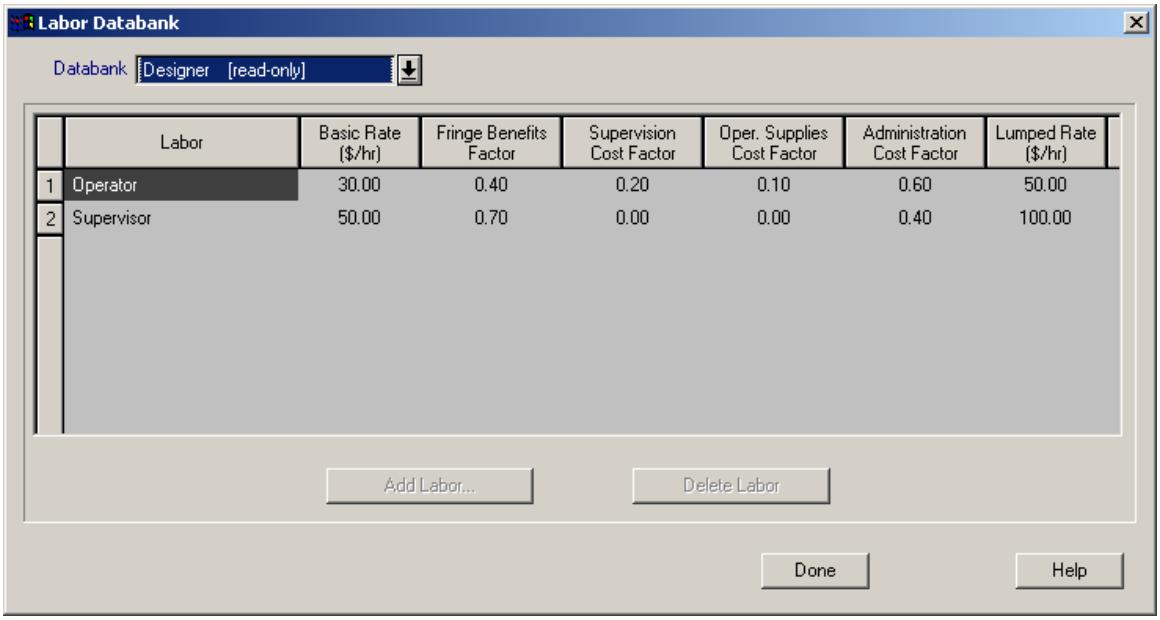

Figure 16.6: The labor databank dialog.

In the User databank, you can insert new labor types by clicking on the **Add Labor…** button and filling in the information requested about the new type. Essentially, you have to provide a name by which the system will refer to the labor type and a list of economic data that are used to calculate the labor cost. These data include a basic rate (in $/hr) along with benefits, supervision, operating supplies and administration factors, or a comprehensive lumped rate (in $/hr). The selection of what option (itemized or lumped) to use is done at the section level of every design case so it is recommended that meaningful values be provided for all cost data.

Changes made in the labor databank do not affect existing design cases or other parts of the databank even if the edited labor types are used as the basis for declaring site labor or staff (see section 16.15 for details). Note, however, that you will not be able to delete from the User databank labor types used as site labor; the site labor will have to be removed first.

16.7 Consumables Databank

Several equipment require usage of a consumable (i.e. disposable container, test tube, membrane etc.). The Designer databank maintains a list of consumable types

(categories) and consumables that are required by the different equipment in the program. There is at least one consumable registered for each consumable type. To access the construction material databanks, use the **Databanks/Consumables** menu item from the main menu. The following dialog (Figure 16.7) appears:

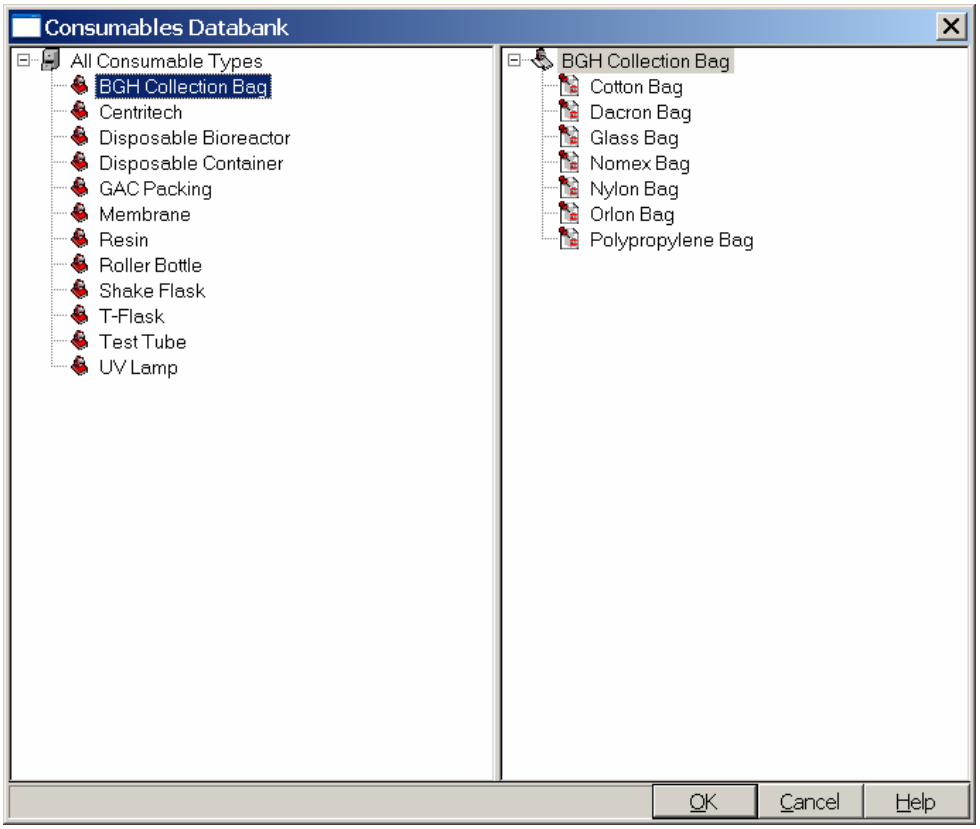

Figure 16.7: The consumables databank dialog

By right clicking on any consumable type on the left pane, the consumable type is selected and a list showing all consumables that belong to that type is shown on the right pane. In the User databank you can add/delete consumable types and specific consumables:

- To add a consumable type right-click on the **All Consumable Types** node at the top of the tree and from the pop-up menu select the **Add Consumable Type.**
- To edit a consumable type right click on the consumable type on the left pane and from the pop-menu select the **Edit Consumable Type.**
- To delete a consumable type right click on the consumable type on the left pane and from the pop-menu select the **Remove Consumable Type** option.
- To add a consumable right click on the consumable type (either on the left or right pane) and from the pop-menu select the **Add Consumable.**
- To edit a consumable right click on the consumable type on the left pane and select the consumable type. The list of consumables is shown on the right pane. Right click on the consumable to be edited and select the **Edit Consumable.**

⇨ To delete a consumable right click on the consumable type on the left pane and select the consumable type. The list of consumables is shown on the right pane. Right click on the consumable to be removed and select the **Remove Consumable** option.

16.8 Construction Materials Databank

Materials of construction are used by Pro-Designer as part of the definition of equipment in design cases or the databank. For equipment whose purchase cost is estimated using the built-in model, the corresponding material factor is used to scale the cost calculated for the default material. The Designer databank maintains a (currently limited) list of construction materials and provides material factor values for some equipment types. To access the construction material databanks, use the **Databanks/Equipment Materials...** menu item from the main menu (or hit **Ctrl+F3** as a shortcut.) The following dialog (Figure 16.8) appears:

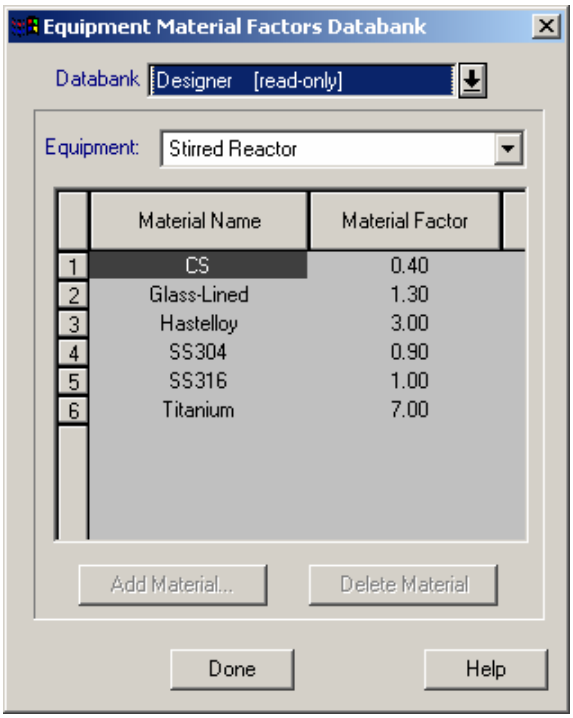

Figure 16.8: The construction material databank dialog.

In the User databank, you can extend the list of available materials by clicking on the **Add Material…** button and filling in the material factors for all equipment types for which that material will be available. A material factor value of –1 (or any non-positive value) signifies that that material is not available for the construction of equipment of the corresponding type. Changes made in the construction material databank do not affect existing design cases or other parts of the databank even if the edited materials are used for site or vendor equipment (see sections 16.10 and 16.11 for details). Note, however, that you will not be able to delete from the User databank materials used for

the construction of site or vendor equipment; the equipment will have to be removed first.

16.9 Currencies Databank

The Currencies databank belongs to the User databank and it contains user-defined currencies and their exchange rate to the US dollar. The economic calculations and reporting can be performed in the currency selected by the user. To access the currencies databank, use the **Databanks/Currencies...** menu item from the main menu (or hit **Ctrl+F4** as a shortcut.) The following dialog (Figure 16.9) appears:

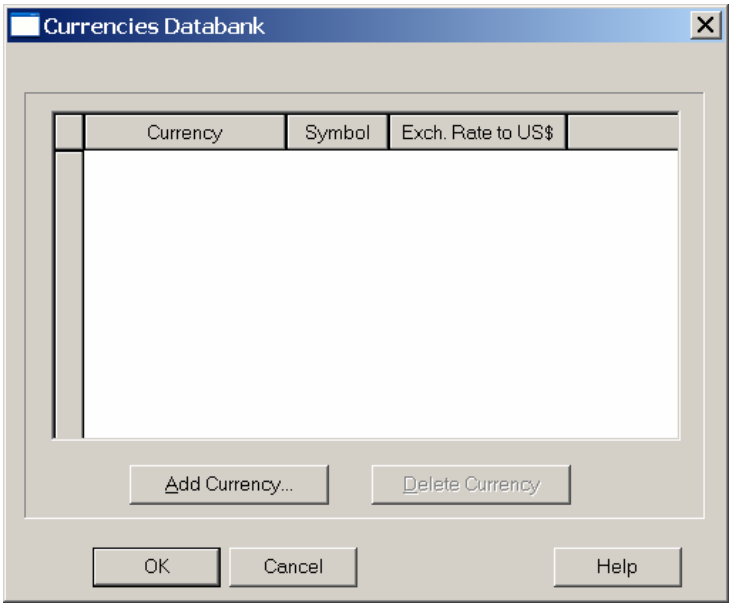

Figure 16.9: The currencies databank dialog.

You can add a new currency to the User databank by clicking on the **"Add Currency"** button. To edit the properties of a registered currency select the currency and change its symbol or its exchange rate.

16.10 Equipment in Sites Databank

Flowsheet equipment in design cases can be allocated to site equipment to denote that existing equipment are to be used to carry out a series of process tasks. The User databank lets you declare existing equipment in sites and subsequently use them in design cases. A site equipment table does not exist in the Designer databank.

To access the site equipment databank and add or modify site equipment, use the **Databanks/Equipment/in Sites...** menu item from the main menu (or hit **F4** as a shortcut.) For a populated User databank, the site equipment dialog will look similar to the one shown in Fig. 16.10.

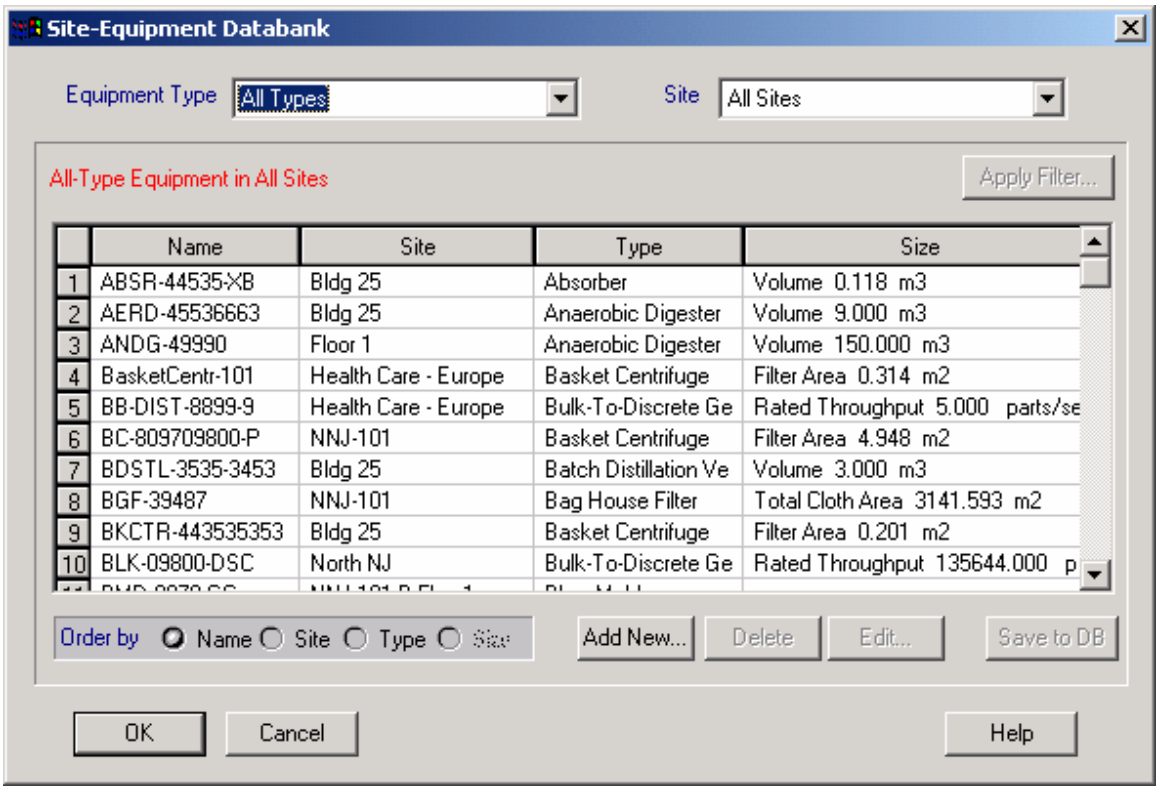

Figure 16.10: The site equipment databank dialog.

Through this dialog, you can view site equipment of any type that exists in any site. The displayed equipment can be sorted by name, site, type or size. For same-type equipment, the **Apply Filter...** button can be used to screen and display equipment that satisfy certain specification. You can extend the list of site equipment by clicking on the **Add New…** button. In that case, the new equipment definition (Fig. 16.11) dialog appears. You have to provide a name for the new site equipment, its type and the site where it belongs. Its data can be initialized to default values, borrowed from those of an existing site equipment or set according to vendor equipment (see section 16.11 for details).

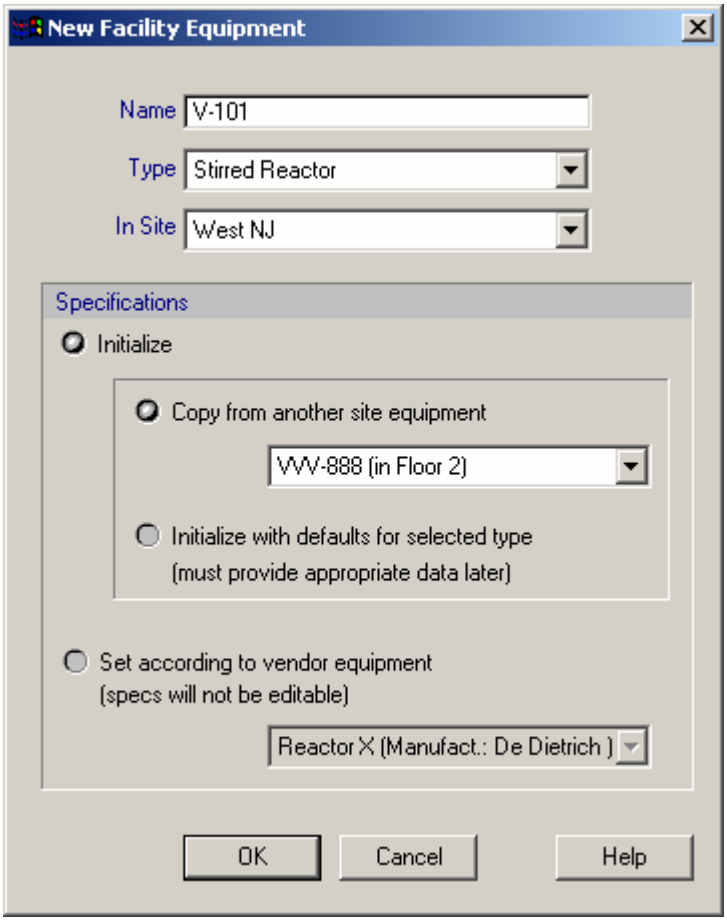

Figure 16.11: The new site equipment dialog.

To edit the properties of a site equipment you have to click on its index column on the table to select it and then click on the **Edit…** button, or alternatively, double-click on its index column. The dialog that comes up organizes the equipment data in four tabs.

The **Specs Tab**, shown in Fig. 16.12, displays at the top the name, type, material of construction, the vendor equipment (if any) according to which it was constructed and (optionally) the vendor name. The table shown in the middle of the page shows all basic specifications of the equipment. By selecting each one of these entries you can see and edit the value for every specification on the Value pane just right to the table. Note that specifications for equipment built according to vendor equipment are not editable. To edit these values you will have to edit the vendor equipment itself as described in section 16.11. The bottom part of the tab is reserved for comments or notes regarding the use, status etc. of that equipment.

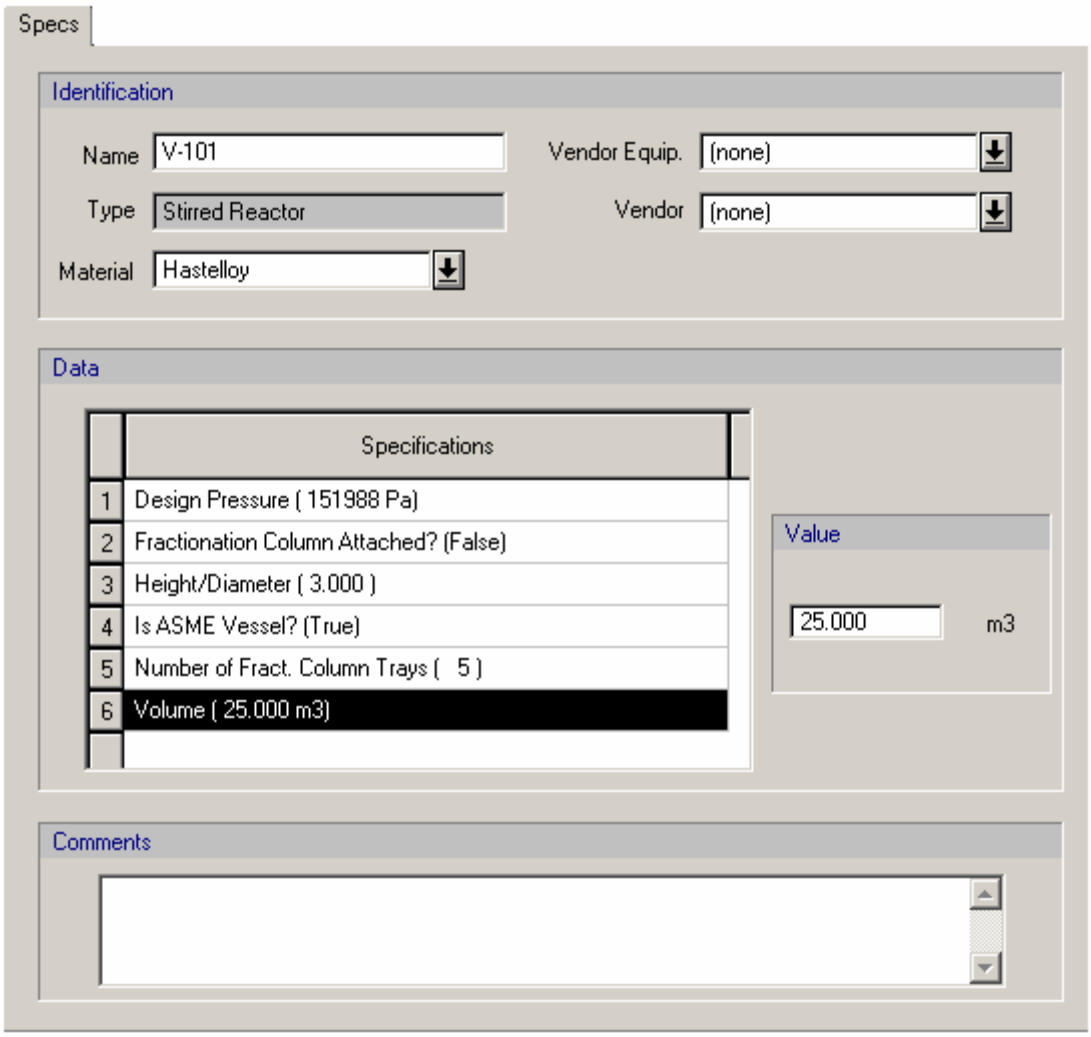

Figure 16.12: The Specs tab of the Equipment Data dialog.

The **Cost Data Tab** displays the purchase cost of the equipment, they year it was purchased, and various capital cost and operating cost factors to be used in economic calculations for flowsheet equipment allocated to it.

The **Extra Specs Tab**, shown in Fig. 16.13, allows the declaration of specifications that are unique for the edited equipment and do not belong to its basic description (not present in the **Specs Tab**.) Through this tab, you can add a new specification in the dialog that pops up when you press the **Add New Spec…** button. For a specification to be included for this equipment it has first to be declared as a specification variable in the corresponding databank (see section 16.14 for details.) Existing specifications can be deleted or edited the same way that the basic specifications are edited in the **Specs Tab**.

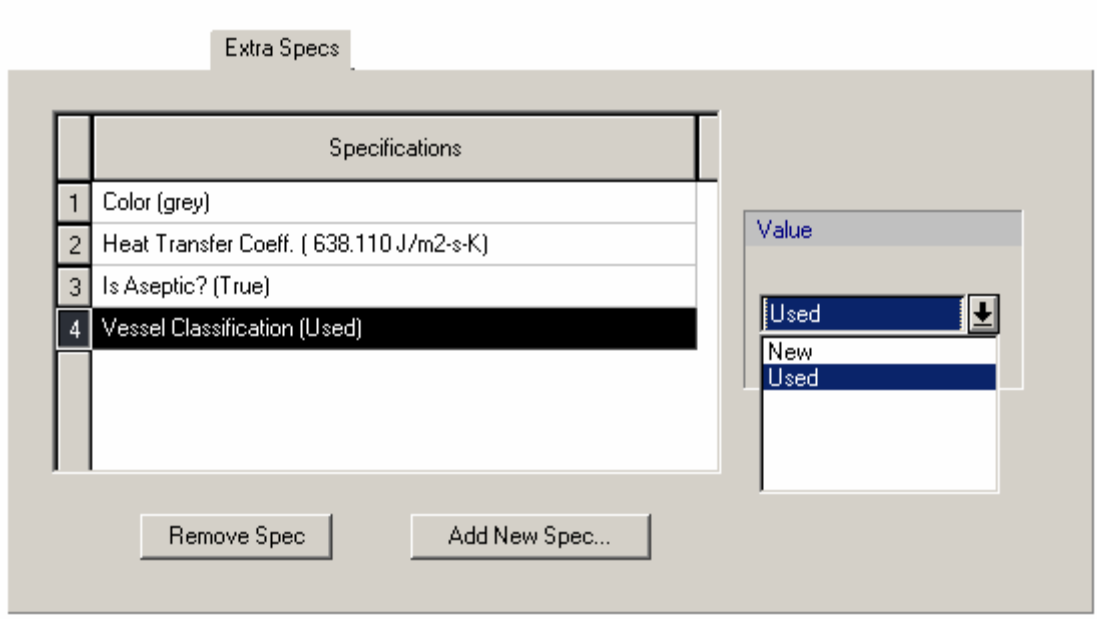

Figure 16.13: The Extra Specs Tab of the Equipment Data dialog.

Finally, the **Picture Tab** allows you to define the path of a bitmap file where a picture of the site equipment can be found. The databank stores the path of the bitmap file and not the file itself so if that file is moved or deleted you have to make sure that the database stored information is up-to-date.

Changes made in the site equipment databank affect existing design cases (open or closed at the time of modification) that contain flowsheet equipment allocated to the edited site equipment. Pro-Designer requires that opened design cases are consistent with the currently available databanks. Therefore, all changes done in the site equipment databank will automatically be propagated to affected flowsheet equipment or the equipment would become unallocated. Such changes could affect both material balances as well as economic results so re-solving might be needed for all affected design cases.

16.11 Vendor Equipment Databank

Both the Designer and User databanks come equipped with a table where users can declare equipment available from vendors or manufacturers. Unlike site equipment, vendor equipment are not assumed to exist; they just represent a set of specifications according to which actual equipment can be manufactured. Flowsheet equipment in design cases can have their data set according to some vendor equipment; this signifies the intention to buy certain equipment with given specs for the needs of the modeled process.

To access the vendor equipment databanks and add or modify vendor equipment, use the **Databanks/Equipment/from Vendors...** menu item from the main menu (or hit **Shift+F4** as a shortcut.) The following dialog (Figure 16.14) appears:

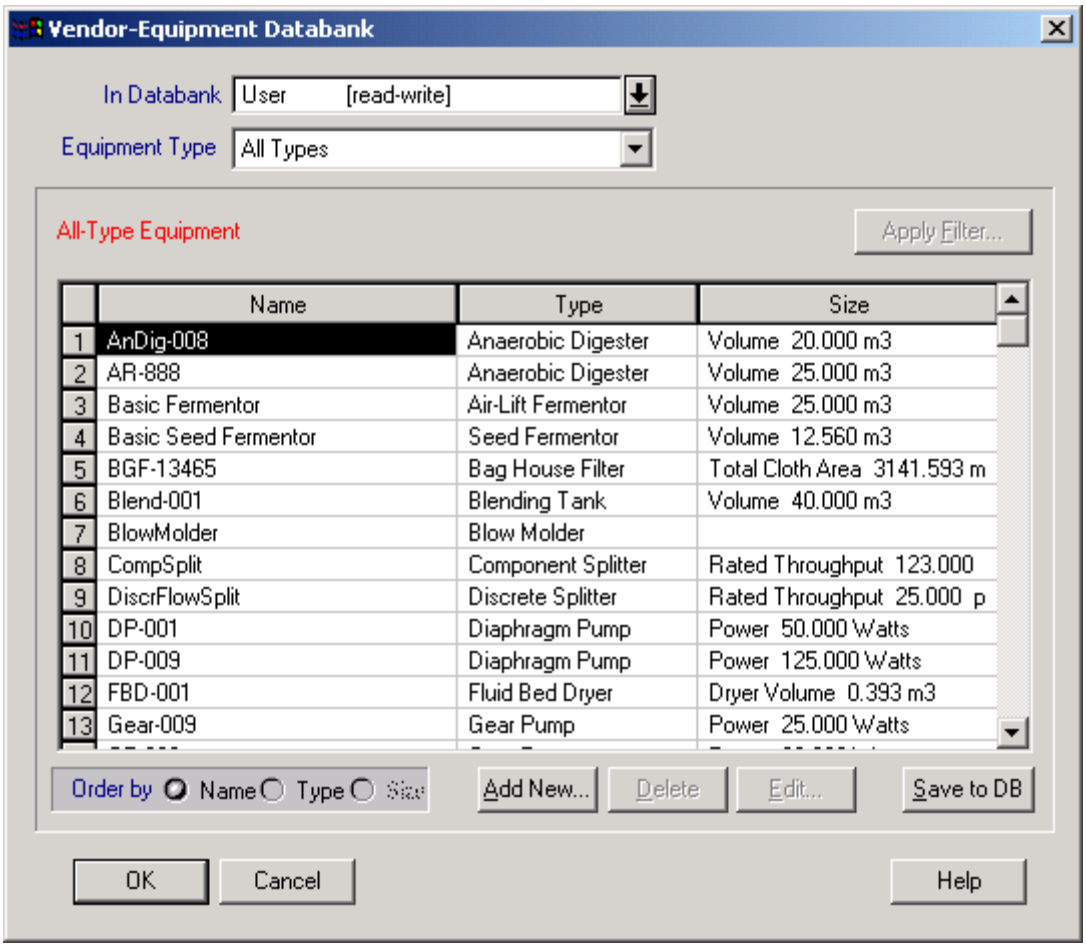

Figure 16.14: The vendor equipment databank dialog.

The layout and functionality of this dialog is similar to the Site Equipment dialog (see section 16.10) except that there is no site information here. A new vendor equipment can be initialized with either default data or borrow its data from another vendor equipment of the same type. You can view (in the Designer databank) or edit (in the User databank) vendor equipment by first selecting it and then clicking the **View…** or **Edit…** button or double-clicking on its table index column. The vendor equipment data dialog that pops up has five tabs.

The **Specs Tab** is almost identical to the corresponding tab for site equipment. The only difference is that here you can define a manufacturer and a manufacturer product ID. The manufacturer can be selected from the list of registered manufacturers in the databank (see section 16.12 for details) or a new manufacturer can be declared on the fly by just typing its name in the corresponding box.

The **Cost Data Tab** displays the purchase cost of the equipment and a reference year for it. To account for variations in the equipment's instrumentation or purchase options, the purchase cost includes a low-end, a nominal and a high-end value.

The **Vendors Tab** tabulates vendors that sell this equipment along with vendor specific information (vendor product ID and selling prices.) As for the manufacturers, a new vendor can be created on the fly through this tab or an already registered vendor can be selected (see section 16.12 for details.)

The **Extra Specs** and **Picture Tabs** are identical to those of the site equipment as described in section 16.10.

Changes made in the vendor equipment databank affect existing design cases (open or closed at the time of modification) that contain flowsheet equipment whose data are set to match those of the edited vendor equipment. As with site equipment, consistency of open design cases with the available databanks is always enforced. Modifications in the vendor equipment databank can also affect the site equipment databank if there are site equipment constructed based on edited or deleted vendor equipment. Those changes will be propagated to the affected site equipment.

16.12 Vendor/Manufacturer Databank

Both the Designer and User databanks come equipped with a table where users can declare equipment vendors and manufacturers. To access the vendor/manufacturer equipment databanks, use the **Databanks/Equipment/Vendors/Manufacturers...** menu item from the main menu (or hit **F5** as a shortcut.) The following dialog (Figure 16.15) appears:

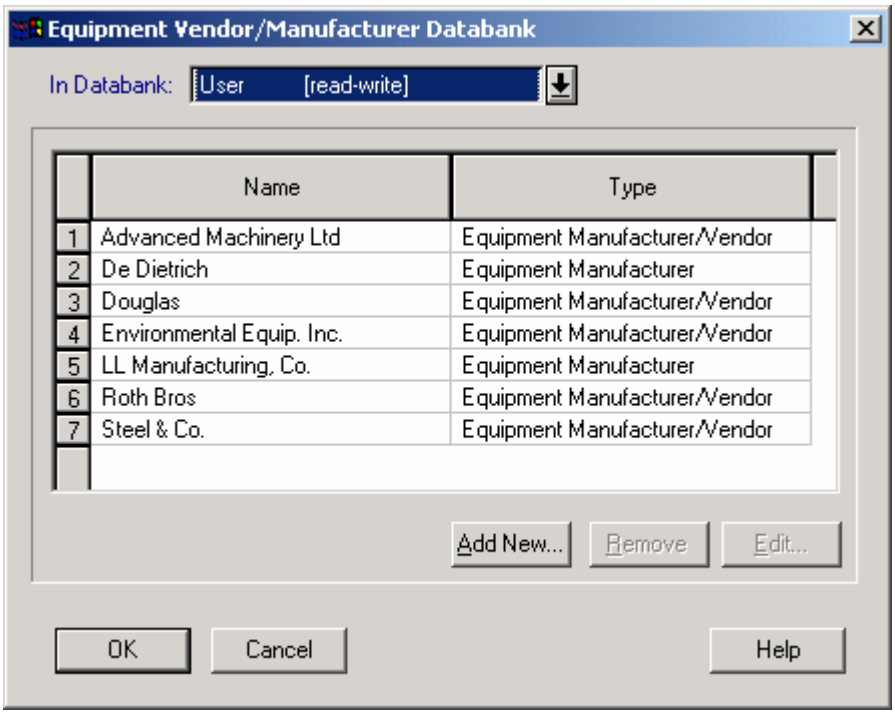

Figure 16.15: The equipment vendor/manufacturer databank dialog.

By pressing the **Add New…** button in the User databank you can declare a new equipment supplier. From the **Type** column of the table you can choose to set the type of the selected supplier to Vendor only, Manufacturer Only or Vendor/Manufacturer (the default option.) You can view (in the Designer databank) or edit (in the User databank) a vendor/manufacturer by selecting it and clicking the **View…** or **Edit…** button or double-clicking on its table index column. The vendor/manufacturer data dialog that pops up has (maximum) three tabs.

The **Identification Tab** displays identification information about the vendor/manufacturer such as the company name, location, contact person information etc.

The **Equipment Supplied Tab** lists the vendor equipment that the vendor or vendor/manufacturer sells along with vendor-specific data such as vendor product IDs, selling prices etc. You can add new equipment in that list by clicking on the **Add…** button and selecting from the list of already declared vendor equipment. For convenience there is an **Equipment Data…** button that lets you see (but not modify) the properties of listed equipment. This tab is not available for equipment suppliers denoted as Manufacturer Only.

The **Equipment Manufactured Tab** tabulates equipment manufactured by the edited vendor/manufacturer. New equipment for the manufacturer can be declared by pressing the **Add…** button. For convenience there is an **Equipment Data…** button that lets you see (but not modify) the properties of listed equipment. This tab is not available for equipment suppliers denoted as Vendor Only.

If a vendor/manufacturer is removed from the databank, then all its manufactured equipment will also be removed unless there are affected site equipment. In that sense, deletion of manufacturers could affect design cases that contain equipment attached to equipment they manufacture. This is not the case for vendors since when a vendor is removed from the databank or its list of supplied equipment changes, the affected vendor equipment will not be removed from the databank.

16.13 Equipment Type Databank

The Designer databank contains a hierarchical list of all equipment types used in Pro-Designer. For every equipment type, the Designer databank holds a list of specifications that are necessary for the characterization of equipment inside a design case and match exactly the properties of that equipment in Rating Mode. The User databank has a similar table where user-defined specifications per equipment type can be deposited. To view and edit the list of specifications for every equipment type, use the **Databanks/Equipment/Types...** menu item from the main menu (or hit **F6** as a shortcut.) The following dialog (Figure 16.16) appears:

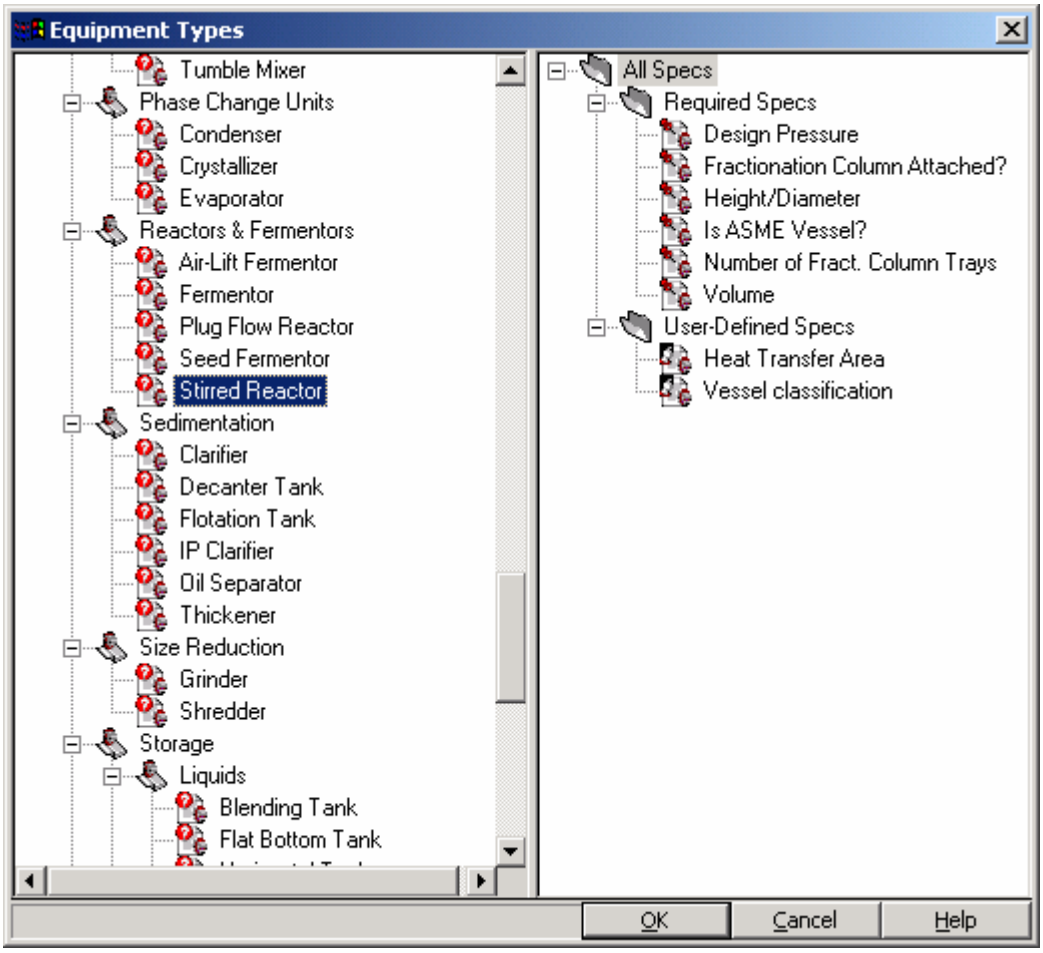

Figure 16.16: The equipment type databank dialog.

On the left-hand-side pane you can view all Pro-Designer equipment types organized hierarchically in groups (Filters, Vessels/Reactors etc.) On the right-hand-side pane you can inspect the list of required specifications for every equipment type and the list of user-defined specifications. The former list includes all specifications that Pro-Designer needs to know about a piece of equipment so that all calculations are done properly. This list is not editable. You can right-click on the **User-Defined Specs** branch of the tree to add a new specification from the list of available variables or create a new. You can right-click on any particular specification to view (for Required Specs) or edit (for User-Defined Specs) its properties as they apply to the selected equipment type. Since the same specification can be shared by different equipment types, variable editing at this level is limited only to the default values that are applicable to the selected equipment type. For a more detailed explanation of the specification variables, see section 16.14. Upon closing this dialog by clicking OK, the new list of user-defined variables for the edited equipment types will be propagated to all databank site and vendor equipment of the same type. So, if a specification is removed from an equipment type it will be removed from all site and vendor equipment of this type. It is therefore highly recommended that you use extreme caution when editing the specifications for every equipment type. Changes affecting databank site and vendor equipment, in turn, affect design cases that use them, so again, Pro-Designer will make sure that opened design cases are consistent with the currently

available databank even if that enforces dissociation of flowsheet equipment from their databank counterparts.

16.14 Specification Variable Databank

In Pro-Designer, all equipment (whether in a design case or the databank) are characterized by a set of specification variables. The Designer databank contains specification variables that are needed for the basic characterization of all equipment types. In the User databank, you can store in a similar table additional specification variables that could become part of the basic description for some equipment type (see section 16.13) or used as extra variables for the description of a particular site or vendor equipment (see sections 16.10 and 16.11.)

To access the specification variable databank use the **Databanks/Equipment/Specification Variables...** menu item from the main menu (or hit **Shift+F6** as a shortcut.) The following dialog (Figure 16.17) appears:

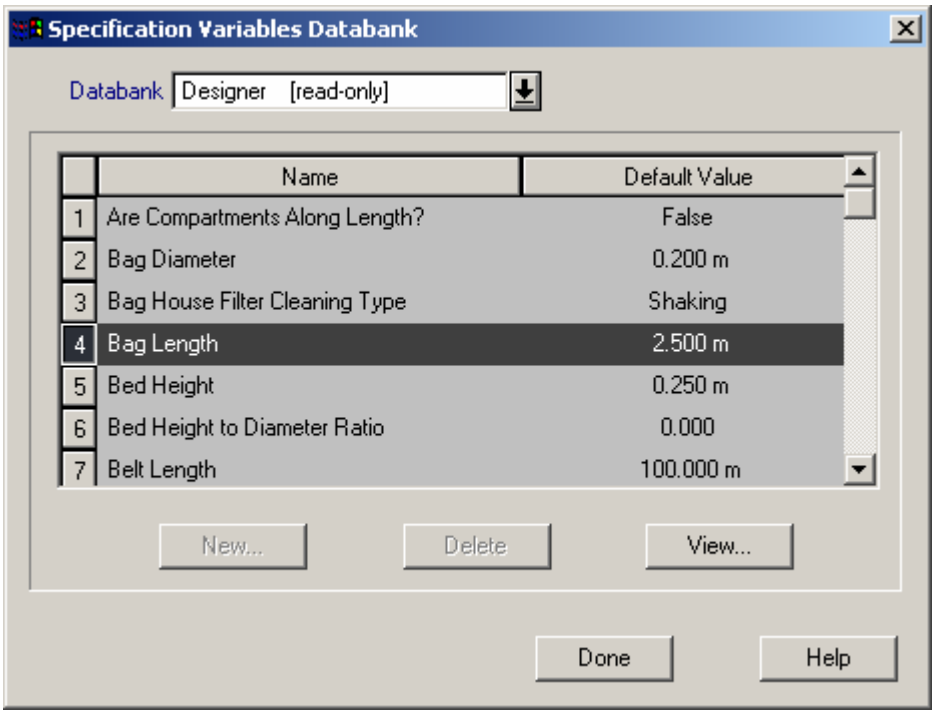

Figure 16.17: The equipment specification variable databank dialog.

By pressing the **New…** button in the User databank you can declare a new variable. You can view (in the Designer databank) or edit (in the User databank) a variable by selecting it and clicking the **View…** or **Edit…** button or double-clicking on its table index column. The variable definition dialog that pops up is shown in Fig. 16-18.

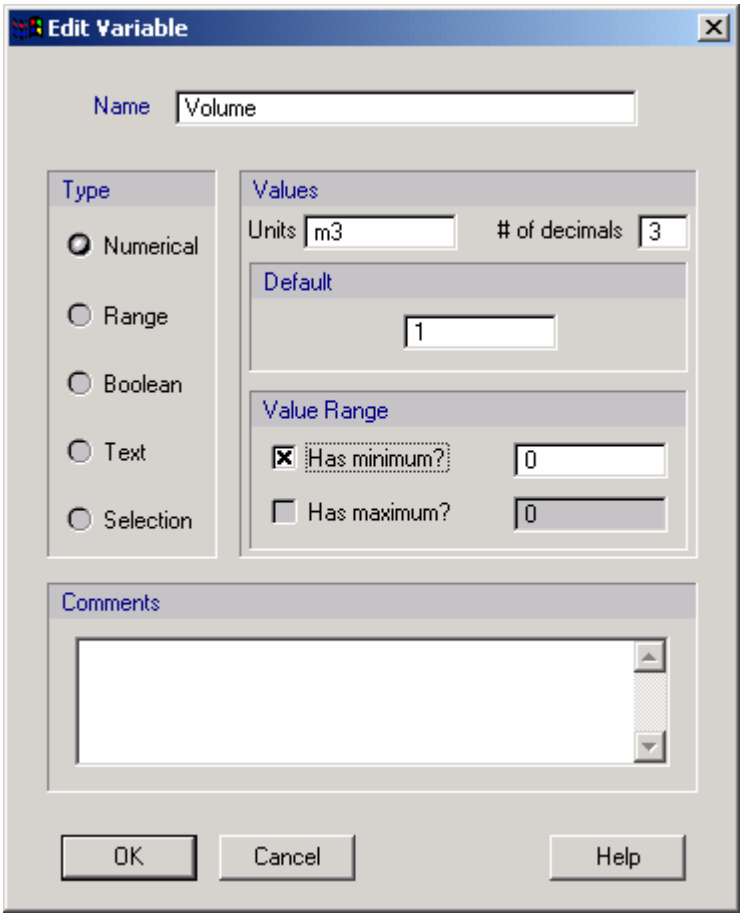

Figure 16.18: The variable definition dialog.

What needs to be defined in this dialog is a unique name for the variable, its type, its default value and optionally comments or notes on what it represents or where it is used. A variable can be one of the following five types: numerical, range, Boolean, text or selection. An example of a range variable is the operating temperature range, for example 200-500K. For a numerical or range variables, you need to define its default value(s), the corresponding units (if any), the number of decimal values that will be used when setting or displaying this variable and (optionally) its minimum or maximum value. A boolean variable can only take two values: true or false. A text variable can take any string value up to 32 characters long. A selection variable has a list of options from which a value can be chosen; for example a 'color' variable can have green, blue, red as options.

Note that for a user-defined variable that is already used by databank equipment you will not be able to change its type or delete from the User databank. You will have first to remove it from the specification list of all equipment and then change its type or delete it. Any other change in the specification variable databank will have no effect in existing design cases.

16.15 Site Databank

Pro-Designer lets you define in the User databank existing physical sites and facilities along with their equipment and resources that can then be mapped to sections in your design cases. The allocation process allows you to declare that a given procedure is to be carried out in a piece of equipment as exists in the databank and will also use the corresponding site resources. For obvious reasons, such a table does not exist in the Designer databank and the provided User site databank comes empty. To access the site databank use the **Databanks/Sites and Resources...** menu item from the main menu (or hit **F8** as a shortcut.) The dialog for a populated site databank will look similar to the one shown in Fig. 16.19.

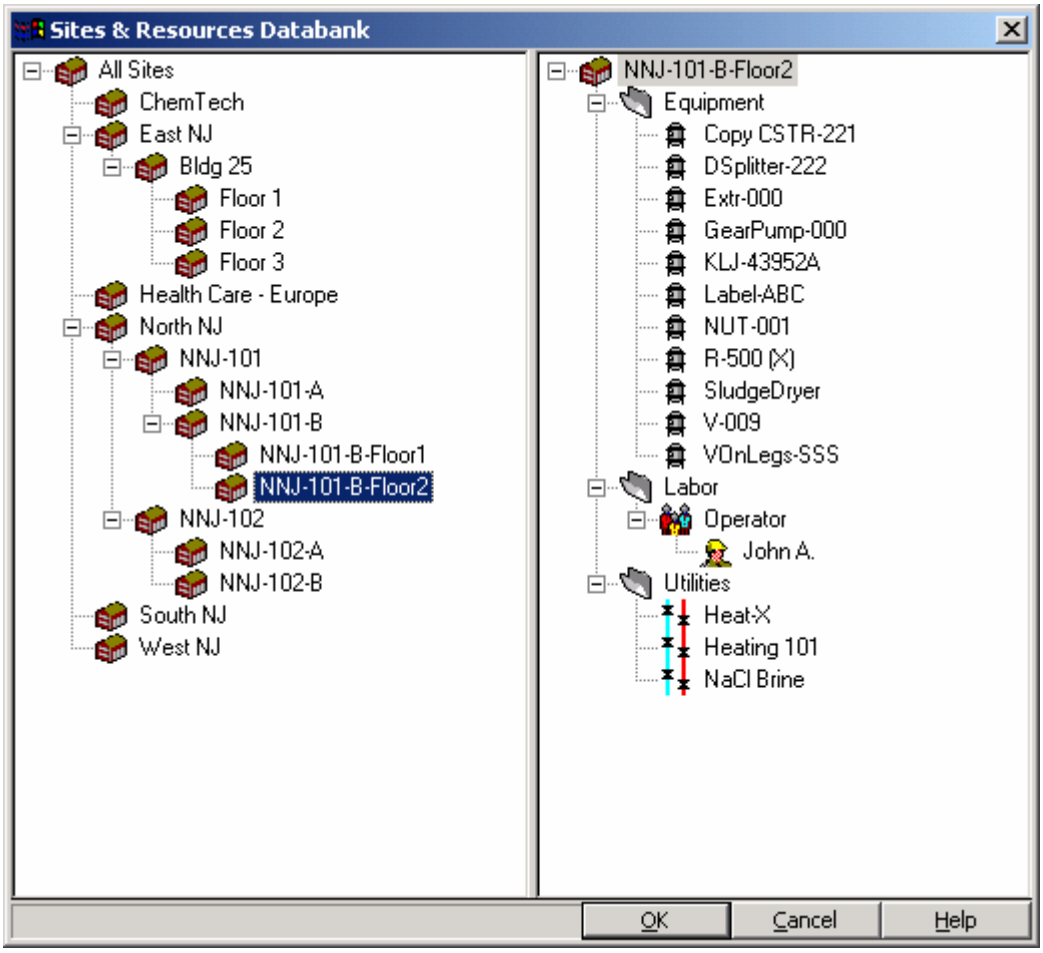

Figure 16.19: The site databank dialog.

On the left-hand-side pane of this dialog you see all declared sites organized in a hierarchical tree. The right-hand-side pane displays the resources of the selected site organized in three groups: Equipment, Labor and Utilities. The following paragraphs explain how you can add, delete or edit sites and their resources in the site databank. As a general rule all these actions are menu activated. To activate these context-specific menus right-click on the item of interest as explained in detail below.

➔ To introduce a new top-level site...

Right-click on the **All Sites** tree node at the top of the sites tree and from the menu that pops-up select the **Add New Site…** item.

➔ To introduce a new child site...

Right-click on the parent site and from the menu that pops-up select the **Add Child Site…** item.

➔ To edit site data...

Right-click on the desired site (either on the site or the resource tree) and from the menu that pops-up select the **Edit Site…** item. The dialog that comes up contains four tabs.

The **Identification Tab** displays identification information about the site such as the name, location, contact person information etc.

The **Capital Investment and Operating Cost Tabs** contain a series of economic data pertaining to this site. When a section in a design case is allocated to a databank site you have the option to use the site's economic data or overwrite them at the section level. You can find an explanation of all data displayed on these tabs in Chapter 8.

The **Picture Tab** lets you to define the path of a bitmap file where a picture of the site can be found. The databank stores the path of the bitmap file and not the file itself so if that file is moved or deleted you have to make sure that the database stored information is up-to-date.

➔ To add equipment to a site...

After selecting the desired site from the site tree, right-click on the **Equipment** node in the resource tree and from the menu that pops-up select the **Add Equipment…** item. The process of adding new equipment is identical to that described in section 16.10 through the site equipment databank.

➔ To edit site equipment data...

After selecting the desired site from the site tree, right-click on the desired equipment in the resource tree and from the menu that pops-up select the **Edit Equipment Data…** item. The process of editing equipment data is identical to that described in section 16.10 through the site equipment databank.

➔ To add a new site labor type...

After selecting the desired site from the site tree, right-click on the **Labor** node in the resource tree and from the menu that pops-up select the **Add Labor…** item. You will be presented with the dialog shown in Fig. 16.20.

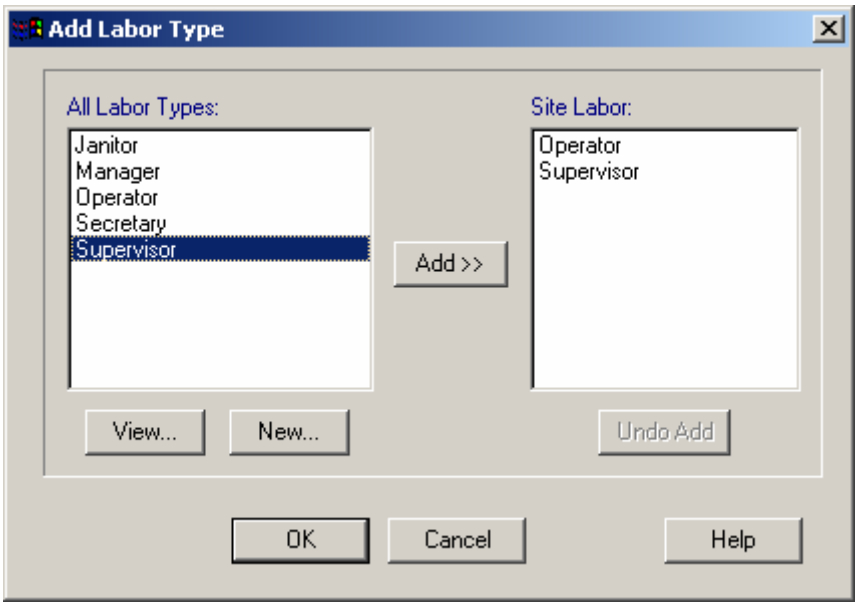

Figure 16.20: Dialog for adding a new site labor type.

The left-hand-side list in this dialog contains all generic labor types as declared in the Designer and User databank. The right-hand-side list contains the ones defined for the edited site. You can use the **Add >>** button to add a new labor type in the site or the **New…** button to introduce a new labor type in the User databank and then add it to the site list.

➔ To edit site labor data...

After selecting the desired site from the site tree, right-click on the desired labor type in the resource tree and from the menu that pops-up select the **Edit Labor Data…** item. A description of the dialog that comes up and the data it contains is given in Chapter 7.

➔ To add new site staff...

After selecting the desired site from the site tree, right-click on the desired labor type where the new staff will belong and from the menu that pops-up select the **Add Staff…** item. A description of the dialog that comes up and the data it contains is given in Chapter 7.

➔ To edit staff data...

After selecting the desired site from the site tree, right-click on the desired staff and from the menu that pops-up select the **Edit Staff Data…** item. A description of the dialog that comes up and the data it contains is given in Chapter 7.

➔ To add a new site utility...

After selecting the desired site from the site tree, right-click on the **Utilities** node in the resource tree and from the menu that pops-up select the **Add Utility…** item. You will be presented with the dialog shown in Fig. 16.21.

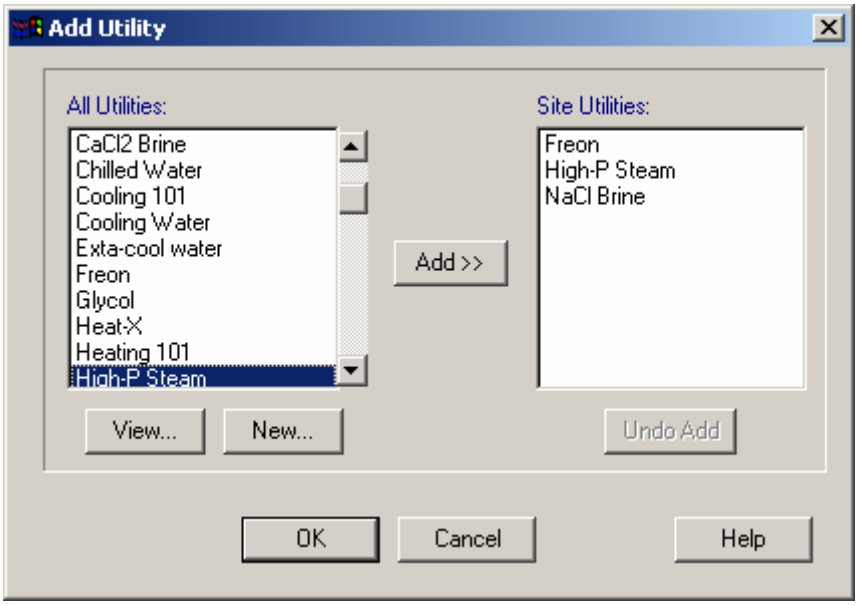

Figure 16.21: Dialog for adding a new site utility.

The left-hand-side list in this dialog contains all generic heat transfer agents as declared in the Designer and User databank. The right-hand-side list contains the ones defined for the edited site. You can use the **Add >>** button to add a new utility in the site or the **New…** button to introduce a new utility in the User databank and then add it to the site list.

➔ To edit utility data...

After selecting the desired site from the site tree, right-click on the desired utility in the resource tree and from the menu that pops-up select the **Edit Utility Data…** item. A description of the dialog that comes up and the data it contains is given in Chapter 7.

Changes made in the site databank affect existing design cases (opened or closed at the time of the modification) that contain sections allocated to the edited sites. Pro-Designer requires that open design cases are consistent with the currently available databanks. Therefore, all changes done in the site databank will automatically be propagated to open design cases even if de-allocation is needed to maintain consistency. Resources that can no longer be found in the site databank will be substituted with generic resources. Such changes could affect both material balances as well as economic results so re-solving might be needed for all affected design cases.

16.16 Processes Databank

Pro-Designer has a Process Databank where different users can deposit the design cases they develop. This databank can serve as a reference point for multiple user facility. You can set your user name for the application by selecting **File/ Application Settings** from the main menu.

To view the design cases registered in the Process Database select **Databanks / Processes / View** from the main menu. You will be presented with the dialog shown in Figure 16.22. Selecting a process on the left hand side (i.e. click on Bgal5_5b) the information relevant to that design case is displayed on the right hand side.

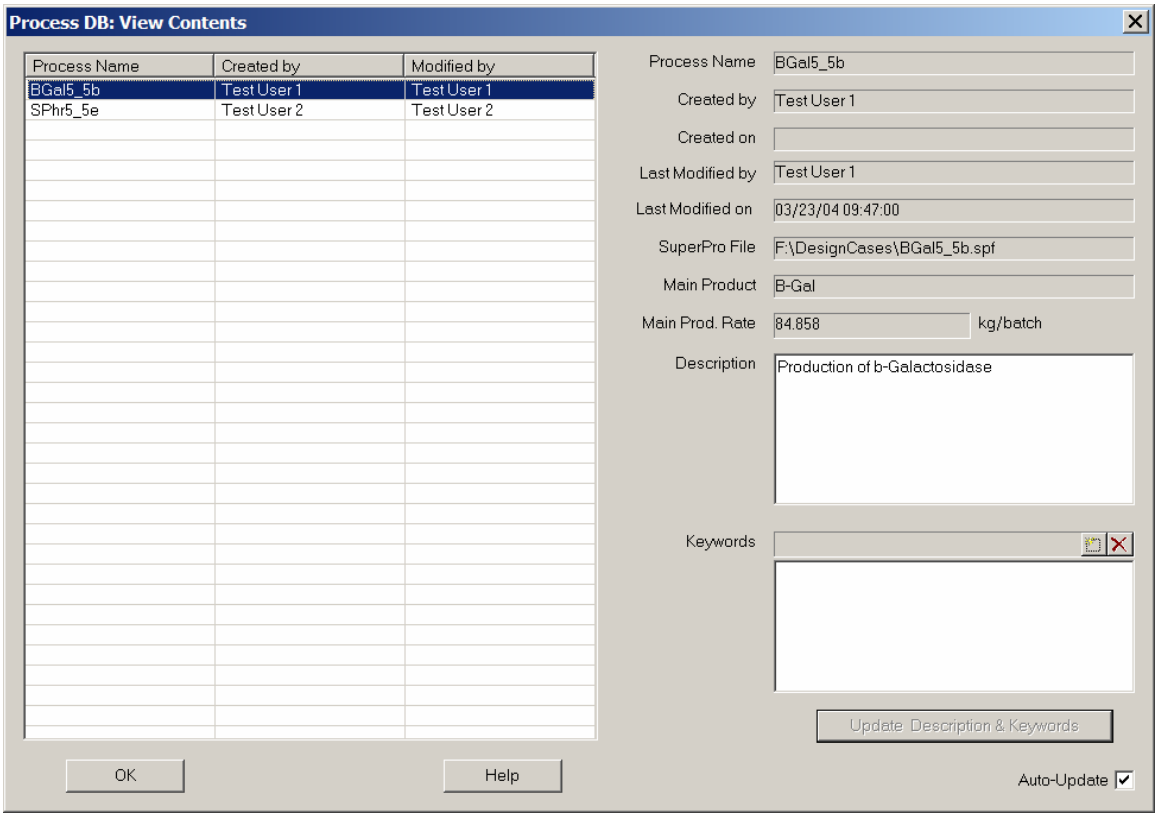

Figure 16.22: Dialog for viewing the registered processes.

You can search among the different processes registered in the database if you select **Databanks / Processes / Search** from the main menu. You will be presented with the dialog shown in Figure 16.23. You can select if you want all processes to be displayed, or you can search the registered processes by process name, user (author), process product, or keywords.

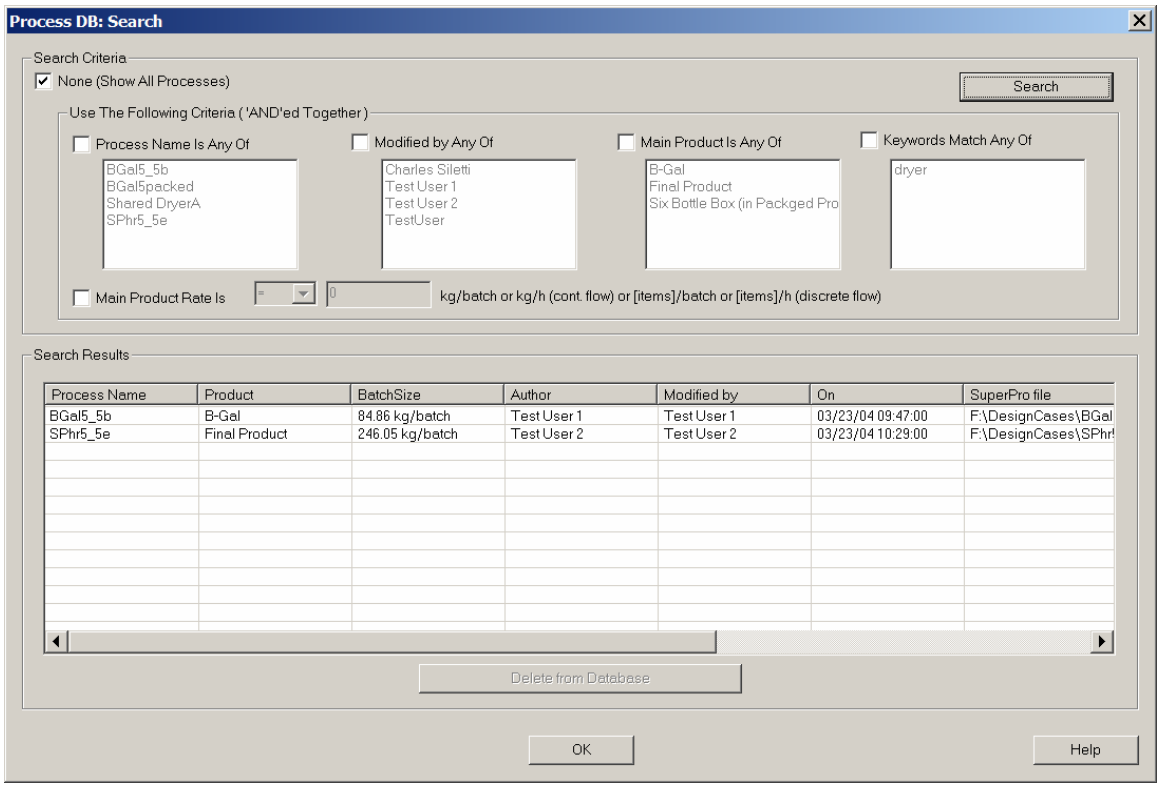

Figure 16.23: Dialog for searching the registered processes.

Finally if you are working on a design case that you want to deposit on the processes databank select **Databanks / Processes / Export Current Process** from the main menu. You will be presented with the dialog shown in Figure 16.24.

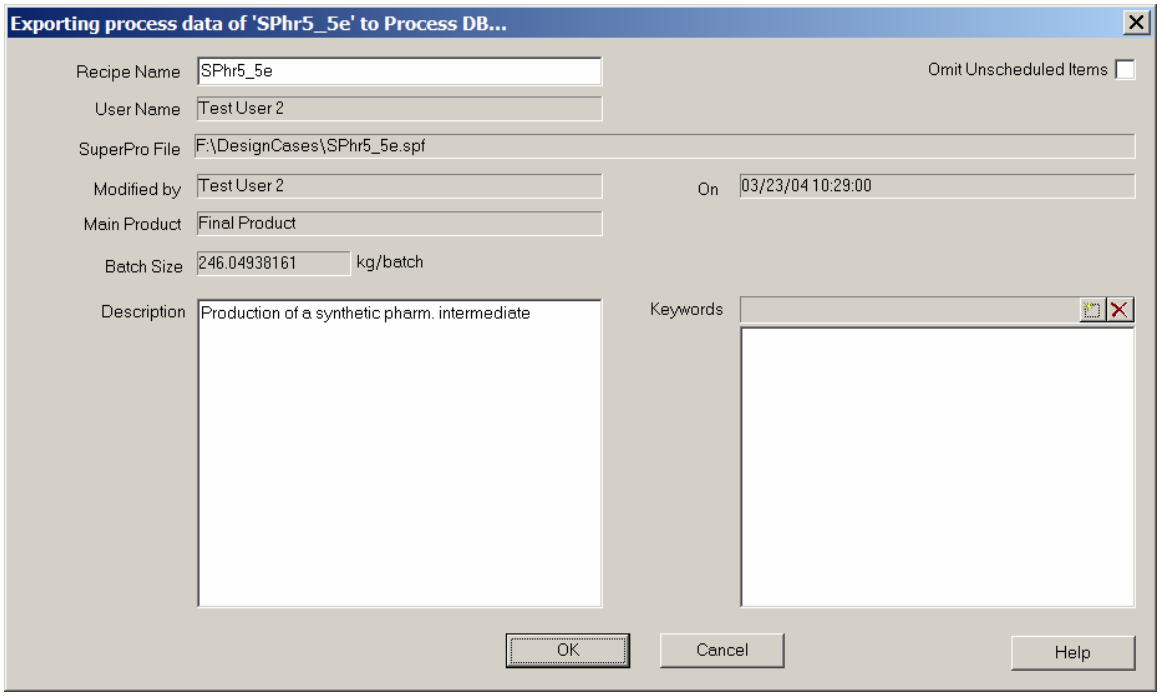

Figure 16.24: Dialog for exporting (registering) the current design case.

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