AUCOTEC
Create Synergy – Connect Processes

Engineering Base

Find Specification

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1 The Find Specification Assistant

On selecting objects from the specification catalog, it is sometimes difficult to find the specification object that matches the start object as closely as possible in the multitude of offered objects. The **Find Specification** assistant allows you to restrict the display of objects of the specification catalog using filters, and to select the specification object in accordance with the displayed attribute values.

The data is restricted by means of the filters defined in the device and pipeline type assistant. The individual filters can be nested to restrict the range of the offered specification catalog elements as precisely as possible.

Prerequisite

One of the following licenses is required to use the assistant:

- EB Basic Engineering
- EB Process Engineering
- EB Detailed Engineering
- EB Plant Engineering
- EB Plant Engineering (Campus).

The **Find Specification** assistant consists of the two modules

- Rule Designer
  Using the **Rule Designer**, you can define filters that are to be considered for the selection of elements from the specification catalog. The display of the filtered data in the result table can be defined individually.
- Find Specification
  On starting the **Find Specification** module on an element in the Engineering Base Explorer or a sheet, all elements of the specification catalog matching the defined filter criteria are displayed in a results table and can be selected and taken over from there.

The defined filters are saved in the configuration **Find Specification** in the folder **Templates**/**Configurations** of the database.

1.1 The Rule Designer Module

In the Rule Designer, filters are defined for device and pipeline types. For each filter level, the type's attributes that are to be used for the filter are selected, and the corresponding relational operators are defined.

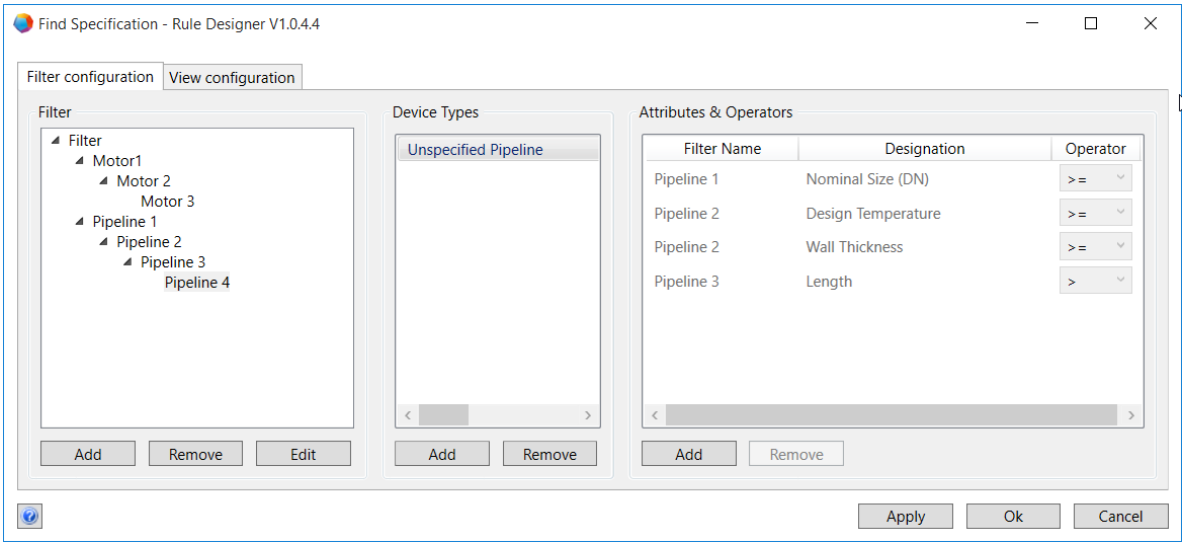
The view of the results table can be defined for each device or pipeline type used in a filter. It is possible to define the order or the displayed columns, to display additional attributes and to determine the data sorting.

A device or pipeline type can only be used in one filter definition.

To start the Rule Designer

1. Mark an object in the Engineering Base Explorer or on a sheet.
2. On the shortcut menu, click **Select Assistant**, select the assistant **Find Specification/Rule Designer** and click **Run**.

This opens the tab **Filter Configuration** in the **Find Specification/Rule Designer** dialog.



The dialog is divided into the three areas **Filter**, **Device Types** and **Attributes & Operators**.

If there is no configuration file **Find Specification** available yet in the **Database templates** /**Configurations**, no filters are displayed and some buttons in the areas **Device Types** and **Attributes & Operators** are inactive.

3. Mark **Filter** in the **Filter** area and select **Add** on the shortcut menu or click the **Add** button.
4. Enter the name of the new filter in the **Add Filter** dialog and confirm your entry via **Ok**.
5. Mark the new filter.

   In the area device types, the button **Add** is activated.
6. In area **Device Types**, click **Add**.

   This opens the **Add Device Type** dialog that displays all available device and pipeline types.

   Types that are already used for another filter definition cannot be selected again. The respective selection box is marked and highlighted in gray.
7. Mark the selection box of the device type for which you want to define a filter and confirm your selection with **OK**.

   The selected device or pipeline types are displayed in **Device Types**.
8. Click the device type.

   The buttons in area **Attributes & Operators** are activated.
9. In area **Attributes & Operators**, click **Add**.

   The attributes of the selected device type are offered for selection in the **Add Attribute** dialog. Attributes already selected on another filter level cannot be selected again. The respective selection box is marked and highlighted in gray.
10. Mark one or several attributes and confirm your selection with **OK**.

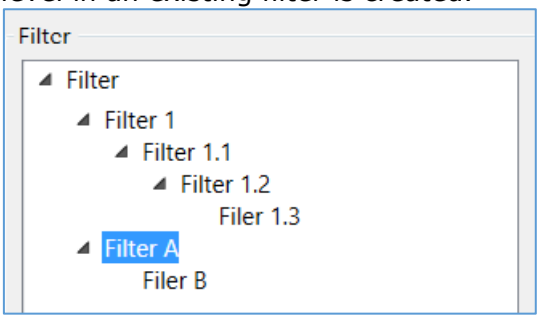
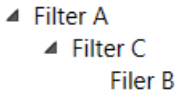
    The selected attributes are listed in the area **Attributes & Operators**.

11. Select a relational operator for each attribute.

The relational operators **<** , **>, >=** and **<=** only take effect with numerical attributes.

12. Save the defined filters by clicking **Apply** or close the dialog by clicking **Ok**.

Dialog Filter Configuration

Area	**Meaning**	
Filter	In this area, a filter can be added, deleted or renamed. By defining several filter levels, the selection of specification catalog data can be refined even further.	
	Add	Depending on the starting point, either a new filter or a new level in an existing filter is created.  **Starting point filter**: A new filter is created. It is created in parallel to the existing filters (in the example, filter 1 and filter A). **Starting point existing filter**: A new level is added below the existing filter or filter level. In the example, the starting point was filter A. 
	Remove	Removes only the marked filter level. All other filter levels of the filter (above or below the marked level) are not deleted.
	Edit	Allows you to change the filter designation of the marked object in the filter tree.
Device Types	In this area, you can select the device or pipeline type for which you want to define a filter. The buttons will only become active once a filter is marked in the **Filter** area.	
	Add	In the displayed **Add Device Type** dialog, all device and pipeline types available in Engineering Base are offered for selection.  Types that are already used for another filter definition cannot be selected again. The respective selection box is marked and highlighted in gray. A multiple selection is possible. The selected device type is displayed in the **Device Types** area, and it is available on all filter levels of the defined filter.

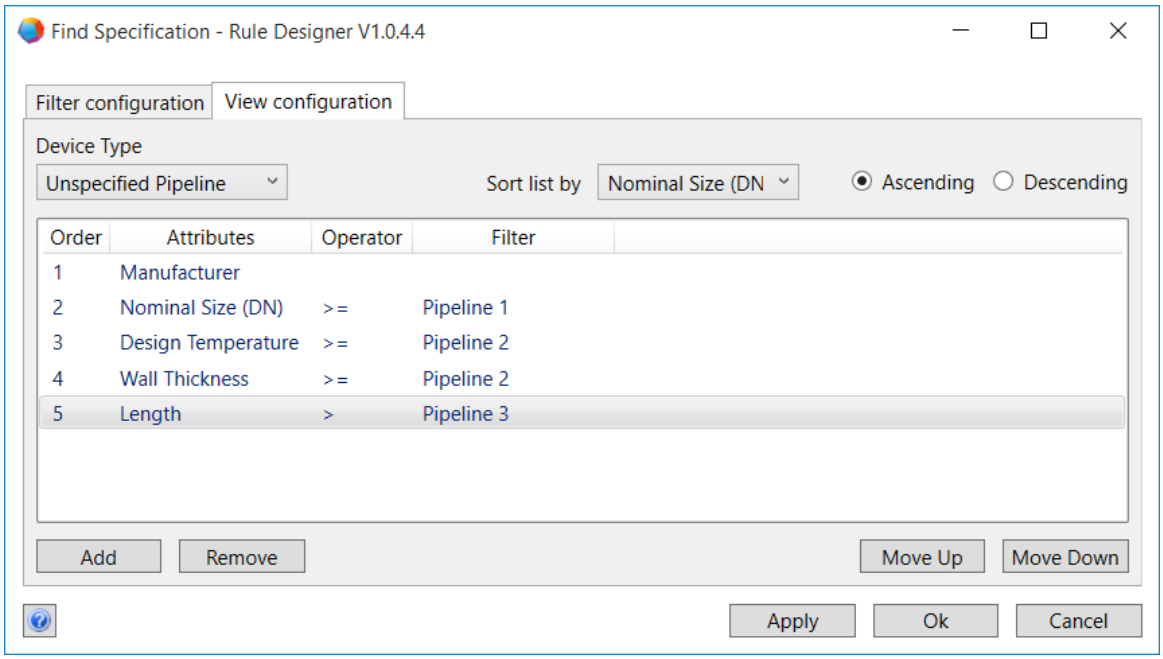
	Remove	After confirming a confirmation prompt, the marked device type is removed from the active filter level and all subordinate filter levels. However, the selected attributes of the device type are still displayed.
Attributes & Operators	In this area, the attributes of a device type can be added or removed for a filter level. The filter name, the attribute name (designation) and a selection field for a relational operator are displayed in the overview. A relational operator can be defined for each attribute. For information purposes, the selected attributes of the superordinate filter levels are also displayed with their relational operators.	
	Add	All attributes of the selected device type are offered for selection in the displayed **Add Attribute** dialog.  Attributes already selected on another filter level cannot be selected again. The respective selection box is marked and highlighted in gray. A multiple selection is possible. Further attributes, for instance individually created ones, can be selected via **Show all Attributes**. In this area, already selected attributes are not displayed as inactive. The selected attributes are displayed in the **Attributes & Operators** area together with their related filter level. For each attribute, a relational operator can be selected via the cursor key in column Operator.  The relational operators **>, >=** ,**<** and **<=** only take effect with numerical attributes.
	Remove	After confirming the confirmation prompt, the marked attribute is deleted.

The selected attributes are associated with the filter. The displayed device types only serve as an aid for the selection of the required attributes.

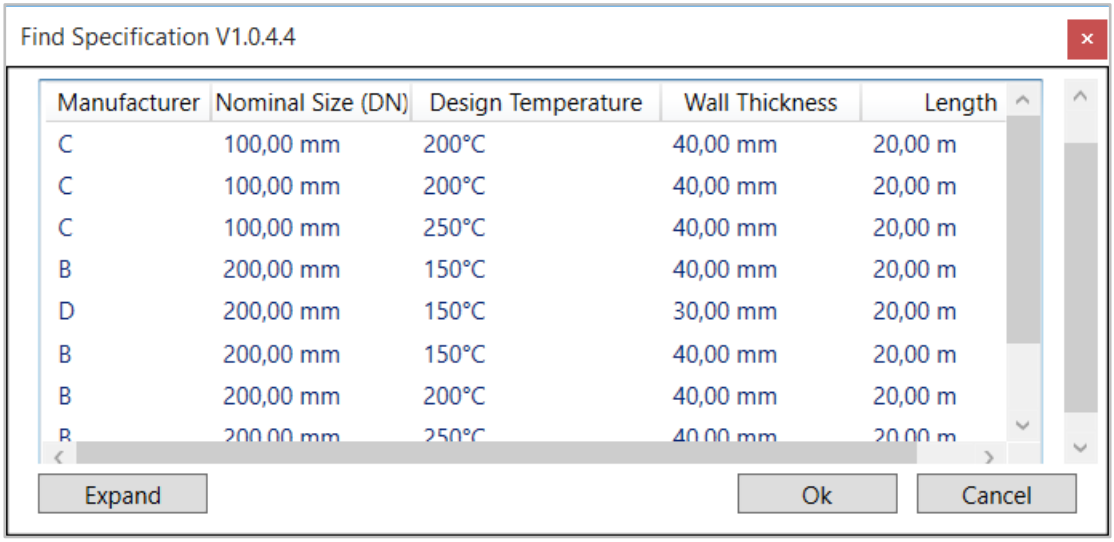
The View configuration dialog

This dialog offers an overview on all attributes that have been selected for a device type in the filter configuration. For each attribute, the assigned relational operators and the assigned filter level are also displayed.

The attributes are displayed in the sequence defined in the filter configuration.



The sequence in column **Order** specifies the sequence of the columns in the results table of the **Find Specification** module.



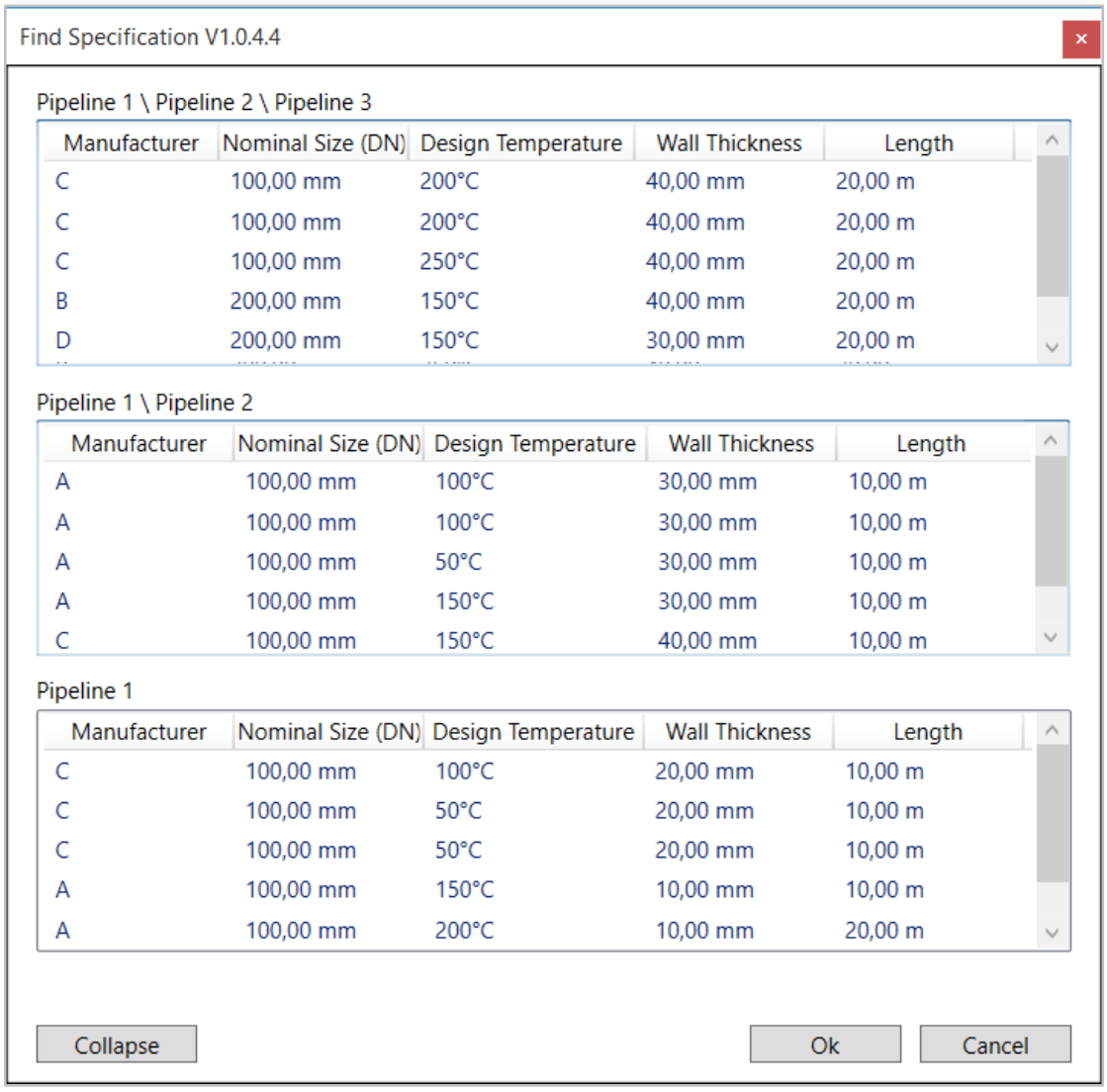
Selection box or button	Meaning
Device Type	In the selection field **Device Type**, all device types selected in the **Filter Configuration** dialog for the filter definition are offered for selection. For each device type, the sequence of the columns and the data sorting can be adapted.
Sort list by Ascending Descending	Via the selection field, you can define by which attribute the data is to be sorted in ascending or descending order in the results file of the **Selection** module.
Move Up **Move Down**	The value in column **Order** determines the position of the attribute column in the results table of the **Selection** module. To change the column order, a marked attribute can be moved up or down in the sequence via these buttons.
Add	Further attributes to be displayed in the results table of the **Selection** module can be selected in the displayed **Add Attribute** dialog. An attribute selected here is not assigned to any filter level and can therefore be selected for a filter definition.
Remove	After confirming the confirmation prompt, a marked attribute is removed from this dialog and no longer shown in the results table.

1.2 The Find Specification Module

To start the Find Specification module

1. Mark an object in the Engineering Base Explorer or on a sheet.
2. On the shortcut menu, click **Find Specification**.

   A table of specification catalog objects matching the filter criteria is displayed in the **Find Specification** dialog.



   The data matching all filter levels is displayed first.

   Via **Expand**, the data not matching all filter levels can be displayed additionally.

   Via **Collapse**, only the data is again shown that matches the most refined filter.

   If an object matches the conditions of the most refined filter (e.g. Motor1\ Motor2\Motor3), this object is no longer displayed in the less refined filters (Motor1\Motor2 und Motor1).

3. Select the element to be taken over from the specification catalog. Double-click or click **OK** to confirm your selection.

   The data of the selected element is taken over into the start object.