Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

<table>
<thead>
<tr>
<th>DANGER</th>
<th>indicates that death or severe personal injury will result if proper precautions are not taken.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WARNING</td>
<td>indicates that death or severe personal injury may result if proper precautions are not taken.</td>
</tr>
<tr>
<td>CAUTION</td>
<td>indicates that minor personal injury can result if proper precautions are not taken.</td>
</tr>
<tr>
<td>NOTICE</td>
<td>indicates that property damage can result if proper precautions are not taken.</td>
</tr>
</tbody>
</table>

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.
Preface

Purpose of the manual

This document provides support for process control with Advanced Process Functions (APF) software in the SIMATIC PCS 7 environment.

The "APF Operating Manual" only contains information on operator control and monitoring of APF functions in the SIMATIC PCS 7 runtime system. You can find information on APF configuration in the following manuals:

- APF Installation and Configuration
- APF Engineering Manual
- APF Function Manual

The "APF Operating Manual" describes the main functions of the APF user interfaces. The illustrations it contains should be regarded as examples.

You need to continue to take project-specific characteristics into consideration.

Core content

The following core issues are covered in this document:

- How are materials and material lots created and edited?
- How are storage locations created and edited?
- How are parameter sets created and edited?
- How are jobs created and controlled?

Validity

This documentation is valid for V2.1 of the APF software package.
Table of contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>Security information</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Overview</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Material management</td>
<td>11</td>
</tr>
<tr>
<td>3.1</td>
<td>Structure and functions of the user interface</td>
<td>12</td>
</tr>
<tr>
<td>3.2</td>
<td>Editing materials</td>
<td>13</td>
</tr>
<tr>
<td>3.2.1</td>
<td>Creating materials</td>
<td>13</td>
</tr>
<tr>
<td>3.2.2</td>
<td>Editing material properties</td>
<td>14</td>
</tr>
<tr>
<td>3.2.3</td>
<td>Copying and pasting materials</td>
<td>14</td>
</tr>
<tr>
<td>3.2.4</td>
<td>Deleting materials</td>
<td>15</td>
</tr>
<tr>
<td>3.3</td>
<td>Material search</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>Material lot management</td>
<td>19</td>
</tr>
<tr>
<td>4.1</td>
<td>Structure and functions of the user interface</td>
<td>20</td>
</tr>
<tr>
<td>4.2</td>
<td>Editing material lots</td>
<td>21</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Creating material lots</td>
<td>21</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Editing material lot properties</td>
<td>22</td>
</tr>
<tr>
<td>4.2.3</td>
<td>Copying and pasting material lots</td>
<td>22</td>
</tr>
<tr>
<td>4.2.4</td>
<td>Deleting material lots</td>
<td>22</td>
</tr>
<tr>
<td>5</td>
<td>Storage location management</td>
<td>23</td>
</tr>
<tr>
<td>5.1</td>
<td>Editing storage locations</td>
<td>24</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Structure and functions of the user interface</td>
<td>24</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Creating storage locations</td>
<td>24</td>
</tr>
<tr>
<td>5.1.3</td>
<td>Editing storage location properties</td>
<td>27</td>
</tr>
<tr>
<td>5.1.4</td>
<td>Updating the actual values of a storage location</td>
<td>27</td>
</tr>
<tr>
<td>5.1.5</td>
<td>Copying and pasting storage locations</td>
<td>28</td>
</tr>
<tr>
<td>5.1.6</td>
<td>Deleting storage locations</td>
<td>29</td>
</tr>
<tr>
<td>5.2</td>
<td>Overview of storage locations</td>
<td>30</td>
</tr>
<tr>
<td>5.2.1</td>
<td>Structure and functions of the user interface</td>
<td>30</td>
</tr>
<tr>
<td>5.2.2</td>
<td>Updating actual values</td>
<td>31</td>
</tr>
<tr>
<td>5.2.3</td>
<td>Finding storage locations</td>
<td>32</td>
</tr>
<tr>
<td>5.2.4</td>
<td>Finding materials / material lots in storage locations</td>
<td>34</td>
</tr>
<tr>
<td>5.3</td>
<td>Faceplates</td>
<td>36</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Booking materials / material lots</td>
<td>36</td>
</tr>
<tr>
<td>5.3.2</td>
<td>Clearing materials / material lots</td>
<td>38</td>
</tr>
<tr>
<td>5.3.3</td>
<td>Rebooking materials / material lots</td>
<td>39</td>
</tr>
<tr>
<td>5.3.4</td>
<td>Rebooking materials / material lots</td>
<td>41</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Converting material</td>
<td>42</td>
</tr>
<tr>
<td>5.3.6</td>
<td>Deleting unused material lots</td>
<td>44</td>
</tr>
<tr>
<td>5.3.7</td>
<td>Displaying materials / material lots on the basis of pre-defined search criteria (AS-controlled)</td>
<td>46</td>
</tr>
</tbody>
</table>
5.3.8 Displaying storage locations with pre-defined search criteria (AS-controlled).................48

6 Parameter management...........................................................................................................51

6.1 Editing parameter sets........................................................................................................52
6.1.1 Structure and functions of the user interface.................................................................52
6.1.2 Creating parameter sets.................................................................................................52
6.1.3 Editing parameter set properties...................................................................................54
6.1.4 Copying and pasting parameter sets...............................................................................54
6.1.5 Delete parameter set.......................................................................................................55

6.2 Edit parameter set faceplate...............................................................................................56

7 Job management....................................................................................................................59

7.1 Block icon..........................................................................................................................60
7.2 Structure and functions of the faceplate.............................................................................61

7.3 Operating the block.............................................................................................................64
7.3.1 Setting "Internal"/"External" mode....................................................................................64
7.3.2 Creating jobs..................................................................................................................64
7.3.3 Editing jobs in the job list..............................................................................................65
7.3.4 Setting "Cyclic"/"One time" mode....................................................................................66
7.3.5 Setting "Manual"/"Automatic" mode...............................................................................67
7.3.6 Executing jobs.................................................................................................................68
7.3.7 Controlling jobs..............................................................................................................69
Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

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The following modules can be operated and monitored in process mode depending on the APF configuration:

- Material management
- Material lot management
- Storage location management
- Parameter management
- Job management

Editors and pre-configured process pictures (WinCC process pictures) with block symbols (icons) and corresponding faceplates are available for operator control and monitoring of APF modules.

**Note**

The editors are available in several variants as of APF version 2.1. For example, the material lot editor (.pdl picture) available by default as FB_MAT_LOT_ED (recommended for resolution 1280x1024), is also additionally available as FB_MAT_LOT_ED-1920 optimized for 1920x1080 resolution and an improved form.

The editor-pictures and faceplates for the previous version are shown in this manual. The new pictures were revised only in terms of design (for example, different font sizes, fonts, colors, gray markings, small red icons with mandatory input fields, among other things), the operation is identical, however. The assignment or specification of the editor pictures is made in the engineering phase, the operator has no influence on this.

The following figure shows an example of the new representation:
The APF modules use the WinCC authorization system. Depending on the configuration and login, certain functions may not be available. Three authorization levels are realized in the editors, but some faceplates do not have the second level.

The authorizations in each level are as follows:

- You can use the menus and view data.
- You can also edit existing data.
- You can operate all functions, including generating new and deleting existing data.

You can undo changes using the "Cancel" button in the operator control dialogs. The button is not described separately in the following sections, since it is not a separate function.

The drop-down lists for selecting "...group" and "...class" are only displayed if more than one group/class is actually available.
The editor for the "Material management" APF module provides the following functions:

- Displaying available material classes, material types and materials
- Creating new materials
- Copying and deleting materials
- Editing general and specific material properties
3.1 Structure and functions of the user interface

The figure below shows the structure of the editor:

1. Selection of material classes, material types and materials
   In this area, you can make a selection from the available material classes, material types and materials. The data and functions displayed in the user interface area are adapted dynamically depending on your selection.

   The material classes and corresponding material types are specified in the configuration phase and cannot be edited in the user interface. New materials can be assigned to the defined material classes and material types in the user interface.

   The new editor for the higher resolution contains, in addition above the "Material" drop-down list, a "Material Search" button (with a binoculars icon) that enables a convenient material search. The dialog is described later.

2. General material properties
   This area displays the material properties that do not depend on the selected material class or selected material type.

3. Specific material properties
   The configuration of the selected material class determines the material properties that are displayed in this area and whether or not they can be edited.

4. Buttons for editing materials
   This area contains all the buttons needed to edit materials.
3.2 Editing materials

3.2.1 Creating materials

To create a new material, follow these steps:

1. Select the material class to which the material is to be assigned.

2. Select the material type.

   **Note**
   
   The display of available material types depends on the selected material class.

3. Click "New". 
   Default values appear in the dialog boxes.

4. Click the "Name" box.

   The "Name" dialog opens.

5. Enter a name for the material and click "Execute". The material name must be unique.

6. Depending on the configuration, enter a unique ID.

7. Click on the "Unit" box and enter a unit for the material.

8. Click on the "Description" box.

   The "Description" dialog opens.

9. Enter a description for the material.

10. Click on the "Version" box and enter a version number.

11. Click the "Save" button.

12. Confirm the prompt in the subsequent dialog with "Execute". 

   The material is created.
3.2.2 Editing material properties

To edit the specific properties of a material, follow these steps:

1. Select the material with the properties you want to edit.

   **Note**
   
   The available materials displayed depend on the selected material class and material type.

   The boxes for the editable properties are activated.

2. Click on the box of the property to be edited and make the desired changes. Depending on the configured format, the properties may be edited, for example, using a drop-down list or an additional dialog.

3. Click the "Save" button.

4. Confirm the prompt in the subsequent dialog with "Execute".

3.2.3 Copying and pasting materials

You can duplicate a material (within the same material class) and then change its properties. To duplicate a material, follow these steps:

1. Select the material to be duplicated from the "Material" drop-down list.

   **Note**
   
   The available materials displayed depend on the selected material class and material type.

2. Click the "Copy" button.

   The material and its properties are copied to the clipboard.
3. Click the "New" button or select another material.
4. Click the "Paste" button.
The material is duplicated.
5. Assign a unique material name (ID as well, depending on the configuration) and adapt the material properties.
6. Click the "Save" button.
7. Confirm the prompt in the subsequent dialog with "Execute".

3.2.4 Deleting materials

To delete a material, follow these steps:

1. Select the material to be deleted from the "Material" drop-down list.

   **Note**
   
The available materials displayed depend on the selected material class and material type.

2. Click "Delete".
3. Confirm the prompt in the subsequent dialog with "Execute".
3.3 Material search

The search dialog opens by clicking on the "Material Search" button (binoculars icon, only available above the "Material" drop-down list in the new editor dialog for high resolution).

To search for a material, follow these steps:

1. Enter this material name in the upper text box. The wildcard "%" stands for any string. You can also enter several wildcards.
2. Press the Return key or click on the "Search" button.
3. The search can take several seconds. A message appears during this.
4. If materials with the desired name are found, the number of hits and a maximum of the first 10 materials found are displayed with name, class and type.
5. The first hit is automatically selected, which is indicated by the green highlighting. Clicking on a different material name selects it. The selected material name appears in the lower part of the screen.
6. Pressing the „Übergabe”/“Takeover” button transfers the selected material to the editor screen. The drop-down list there is filled accordingly and the material data is displayed. Depending on the amount of data, this can take some time (similar to manual operation of the editor drop-down lists). The search screen is closed and the editor can be operated again normally.

7. If you do not want to transfer any data to the editor screen, press the „Abbruch”/“Cancel” button.
Material management

3.3 Material search
Material lot management

The editor for the "Material management" APF module provides the following functions:

- Displaying available material classes, material types, materials and material lots
- Creating new material lots
- Copying and deleting material lots
- Editing general and specific material lot properties

In addition to the editor, there is also a faceplate for displaying and deleting material lots that are no longer used by storage location management. This dialog is described under "Deleting material lots not in use" in "Storage location management".
4.1 Structure and functions of the user interface

The figure below shows the structure of the editor:

1. Selection of material classes, material types, materials and material lots
   In this area, you can make a selection from the available material classes, material types, materials and material lots. The data and functions displayed in the user interface area are adapted dynamically depending on your selection.
   The material classes and corresponding material types are specified in the configuration phase and cannot be edited in the user interface. The materials are defined via the user interface in material management. You can create and edit new material lots for the individual materials in the material lot management user interface (4).

2. General material lot properties
   This area displays the material lot properties that do not depend on the configuration of the material lots in the configuration phase.

3. Specific material lot properties
   The configuration of the material lots determines the material lot properties that are displayed in this area and whether or not they can be edited.

4. Buttons for editing material lots
   This area contains all the buttons needed to edit material lots.
4.2 Editing material lots

4.2.1 Creating material lots

To create a new material, follow these steps:

1. Select a material class and a material type.
2. Select a material.
3. Click "New". Default values appear in the dialog boxes.
4. Click the "Name" box.
   The "Name" dialog opens.
5. Enter a name for the material lot and click "Execute". The name must be unique.
6. Depending on the configuration, enter a unique ID.
7. Click the "Unit" box and enter a unit for the material lot.
8. Click on the "Description" box and enter a description of the material lot in the subsequent dialog.
9. Click on the "Version" box and enter a version number.
10. Click the "Save" button.
11. Confirm the prompt in the subsequent dialog with "Execute".

The material lot is created.
4.2.2 Editing material lot properties

To edit the properties of a material lot, follow these steps:

1. Select the material lot with the properties you want to edit.
   The boxes for the editable properties are activated.

2. Click on the box of the property to be edited and make the desired changes.
   Depending on the configured format, the properties may be edited, for example, using a drop-down list or an additional dialog.

3. Click the "Save" button.

4. Confirm the prompt in the subsequent dialog with "Execute".

4.2.3 Copying and pasting material lots

You can duplicate a material lot and then change its properties.

To duplicate a material lot, follow these steps:

1. Select the material lot to be duplicated from the "Material lot" drop-down list.

2. Click the "Copy" button.
   The material lot and its properties are copied to the clipboard.

3. Click the "New" button or select another material lot.

4. Click the "Paste" button.
   The material lot is duplicated.

5. Assign a unique material lot name (ID as well, depending on the configuration) and adapt the material lot properties.

6. Click the "Save" button.

7. Confirm the prompt in the subsequent dialog with "Execute".

4.2.4 Deleting material lots

To delete a material lot, follow these steps:

1. Select the material lot to be deleted from the "Material lot" drop-down list.

2. Click "Delete".

3. Confirm the prompt in the subsequent dialog with "Execute".
The editors for the "Storage location management" APF module provide the following functions:

- Displaying the available storage location groups and storage locations
- Creating new storage locations
- Copying and deleting storage locations
- Editing general and specific storage location properties
- Displaying setpoints and actual values of the storage locations
- Booking and clearing materials and material lots (including partial quantities)
- Material, material lot and storage location search
5.1 Editing storage locations

5.1.1 Structure and functions of the user interface

The figure below shows the structure of the editor:

① Selection of storage location groups and storage locations
In this area, you can make a selection from the available storage location groups and storage locations.

The storage location groups are specified in the configuration phase and cannot be edited via the user interface. New storage locations can be assigned to the defined storage location groups in the user interface.

② General storage location properties
This area displays the storage location properties that do not depend on the configuration of storage location groups in the configuration phase.

③ Specific storage location properties
The configuration of the storage location groups determines the storage location properties that are displayed in this area and whether or not they can be edited.

④ Buttons for editing storage locations and updating data records
This area contains all the buttons needed to edit storage locations. You can use the "Update" button to read the most recent storage location values (actual values) from the AS and display them.

⑤ Actual storage location values
The actual values configured for a selected storage location are displayed in this area.

5.1.2 Creating storage locations

To create a new storage location, follow these steps:

1. Select the storage location group to which the storage location is to be assigned.
2. Click "New".
3. Click the “Name” box. The “Name” dialog opens.

4. Enter a name for the storage location and click "Execute". The name must be unique.

5. Depending on the configuration, enter a unique ID.

6. Click on the "Location identifier" box and enter the identifier for the storage location.

**Note**

A new storage location may only be created during configuration and in conjunction with the addition and configuration of a corresponding storage location function block (FB_STORR/FB_STORI).

7. Click on the "Block path" box and, in the subsequent dialog, enter the name of the tag assigned to the relevant function block ("FB_STOR").

8. Click on the "AS number" box and enter the number of the AS in which the corresponding function block ("FB_STOR") is configured.

The "Block path" and "AS number" are required to update and save the storage location values.

9. Click on the "Description" box and enter a description of the storage location.

10. Click on the "Version" box and enter a version number.
11. From the "Format (contents)" drop-down list, select a number format for the display of storage location parameters. The following formats are available:

- INTEGER
- REAL without decimal places
- REAL with 1 decimal place
- REAL with 2 decimal places
- REAL with 3 decimal places
- REAL with 4 decimal places

12. From the drop-down list under "Booking mode", select one of the following modes:

<table>
<thead>
<tr>
<th>Booking mode</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Only one material lot may be booked to the storage location. Material lots may not be mixed.</td>
</tr>
<tr>
<td>2</td>
<td>Only identical material lots can be booked. Different material lots may not be mixed.</td>
</tr>
<tr>
<td>3</td>
<td>Different material lots of the same material can be booked. Different material lots may be mixed.</td>
</tr>
</tbody>
</table>

13. Click on the "Save" button and confirm the prompt in the subsequent dialog with "OK". The storage location is created.
5.1.3 Editing storage location properties

To edit the properties of a storage location, follow these steps:

1. Select the storage location with the properties you want to edit. The boxes for the editable properties are activated. The configuration determines whether or not the boxes can be edited.

2. Click on the box of the property to be edited and make the desired changes. Depending on the configured format, you can enter the properties directly, using a drop-down list or an additional dialog. Releases are listed in a separate window where they can be activated. The up to 128 releases per release type are shown in a maximum of 4x32 colored boxes. A green box means "Released". In the example below, the storage location for material class "Liquids" is released.

3. Click on the "Save" button and confirm the prompt in the subsequent dialog with "OK".

4. After format changes, click "Update" to update the numerical display.

5.1.4 Updating the actual values of a storage location

In the user interface, you can access the current actual values of a selected storage location from the AS and display them.
To update the actual values of a storage location, follow these steps:

1. Select the storage location to be updated from the "Storage location" drop-down list.

   **Note**
   The display of available storage locations depends on the selected storage location group.

2. Click the "Update" button.

   The actual values of the storage location are updated.

### 5.1.5 Copying and pasting storage locations

You can duplicate a storage location and then change its properties.

To duplicate a storage location, follow these steps:

1. Select the storage location to be duplicated from the "Storage location" drop-down list.

   **Note**
   The display of available storage locations depends on the selected storage location group.

2. Click the "Copy" button.

   The storage location and its properties are copied to the clipboard.
3. Click the “New” button or select another storage location. Click the “Paste” button. The storage location is duplicated.

4. Assign a unique storage location name (ID as well, depending on the configuration) and adapt the storage location properties.

5. Click the “Save” button.

6. Confirm the prompt in the subsequent dialog with “Execute”.

5.1.6 Deleting storage locations

To delete a storage location, follow these steps:

1. Select the storage location to be deleted from the “Storage location” drop-down list.

   **Note**
   
   The display of available storage locations depends on the selected storage location group.

2. Click “Delete”.

3. Confirm the prompt in the subsequent dialog with “OK”.

   **Note**
   
   If the storage location is no longer needed, the corresponding function block (FB_STORR/ FB_STORI) can be deleted during configuration.
5.2 Overview of storage locations

In addition to the editor for creating and editing storage locations, the "Storage location management" APF module provides an additional user interface with an overview of all storage locations of a storage location group and allows specific searches for storage locations, materials and material lots.

5.2.1 Structure and functions of the user interface

The figure below shows the structure of the user interface:

1. Selection of storage location groups
   In this area, you can make a selection from the available storage location groups. The storage location groups are specified in the configuration phase and cannot be edited via the user interface.

2. Overview of storage locations in a selected storage location group
   This area lists all storage locations (up to 25 per page) in the selected storage location group together with their attributes/actual values (up to 10). The attributes and actual values displayed depend on the configuration of the storage location properties in the configuration phase.

3. Navigation
   The buttons in this area allow you to navigate between data records when there are more than 25 storage locations.

4. Update and search buttons
   - Update actual values: You can use this button to access the current actual values of storage locations from the AS and update them in the overview.
   - Find storage locations: You can use this button to access the faceplate for searching for storage locations and enter the required search criteria.
   - Find materials / material lots: You can use this button to access the faceplate for searching for materials / material lots and enter the required search criteria.
5.2.2 Updating actual values

Using the “Actual values” button in the "Update" area, you can access the actual values of the currently displayed storage locations in a selected storage location group from the AS and update them in the overview.

To update the actual values, follow these steps:

1. Select a storage location group from the "Storage location group" drop-down list. The storage locations of the selected storage location group are displayed.

2. Click the "Actual values" button in the "Update" area.

The actual values of the currently displayed storage locations are updated.
5.2.3 Finding storage locations

To search for storage locations according to specific criteria, proceed as follows:

1. Click the "Storage locations" button in the "Search" area. The faceplate for finding storage locations opens.

![Faceplate for finding storage locations]

**Note**
The faceplate for finding storage locations can be configured in any process picture irrespective of the pre-configured user interface. In this case, the faceplate is accessed via the corresponding block icon.

2. Select a storage location group.
3. Specify the required search criteria. The following search criteria can be set (provided they have been configured in the configuration phase):

<table>
<thead>
<tr>
<th>Search criteria</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material class</td>
<td>Class of material contained in the storage location you are looking for.</td>
</tr>
<tr>
<td>Material type</td>
<td>Type of material contained in the storage location you are looking for.</td>
</tr>
<tr>
<td>Check theoretical fill level &lt;0</td>
<td>The theoretical fill level is a value which is calculated on the basis of booking and clearing processes and specified during configuration. If the check box is selected, the system checks whether the value is less than or equal to zero.</td>
</tr>
<tr>
<td>Storage location state (OR)</td>
<td>In this area, you can select one or more storage location states. The search uses the logical operator &quot;OR&quot; to search for and evaluate the selection.</td>
</tr>
<tr>
<td>Material status (OR)</td>
<td>In this area, you can select one or more material states. The search uses the logical operator &quot;OR&quot; to evaluate the selection.</td>
</tr>
<tr>
<td>Procedure enables</td>
<td>You can use the &quot;Select&quot; button to access the list of defined procedure enables and select these. You can define the logical operator for the search with the selected procedure enables using the &quot;AND/OR&quot; button. An exclamation mark symbol is displayed in this area when one or more procedure enables are selected.</td>
</tr>
<tr>
<td>Filter/sorting</td>
<td>User-defined filters and/or sorting can be selected and the values of the parameters configured set in an additional mask.</td>
</tr>
</tbody>
</table>

4. Click "Find". The results of the search are shown in tabular form in the faceplate. If there are multiple storage locations, you can navigate between the data records displayed using the "Next" and "Back" buttons. The "Reset" button clears the selected search criteria.
5.2.4 Finding materials / material lots in storage locations

To search for materials / material lots in storage locations according to specific criteria, proceed as follows:

1. Click the "Materials/Material lots" button in the "Search" area. The faceplate for finding materials / material lots opens.

2. Select a material class.
3. Select a material type.
4. Select the material and/or material lot to be found.

Note

The faceplate for finding materials / material lots can be configured in any process picture irrespective of the pre-configured user interface. In this case, the faceplate is accessed via the corresponding block icon.
5. Specify any other search criteria. The following search criteria can be set (provided they have been configured in the configuration phase):

<table>
<thead>
<tr>
<th>Search criteria</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage location state (OR)</td>
<td>In this area, you can select one or more storage location states. The search uses the logical operator &quot;OR&quot; to search for and evaluate the selection.</td>
</tr>
<tr>
<td>Material status (OR)</td>
<td>In this area, you can select one or more material states. The search uses the logical operator &quot;OR&quot; to evaluate the selection.</td>
</tr>
<tr>
<td>Procedure enables</td>
<td>You can use the &quot;Select&quot; button to access the list of defined procedure enables and select these. You can define the logical operator for the search with the selected procedure enables using the &quot;AND/OR&quot; button. An exclamation mark symbol is displayed in this area when one or more procedure enables are selected.</td>
</tr>
<tr>
<td>Filter/sorting</td>
<td>User-defined filters and/or sorting can be selected and the values of the parameters configured set in an additional mask.</td>
</tr>
</tbody>
</table>

6. Click "Find". The results of the search are shown in tabular form in the faceplate. If there are multiple storage locations, you can navigate between the data records displayed using the "Next" and "Back" buttons. The first material lot is always shown. If there are several material lots in the storage location, an additional button appears in the row, showing all material lots in another screen window. A blue exclamation mark in the row indicates that the material lot you are looking for is not the first in the storage location.
5.3 Faceplates

In addition to the pre-configured user interfaces (see Editing storage locations (Page 24) and Overview of storage locations (Page 30)), there are also a number of other faceplates which provide the following functions:

- Booking materials / material lots to the storage locations
- Clearing materials / material lots from the storage locations
- Rebooking materials / material lots in the storage locations
- Search for storage locations according to pre-defined search criteria
- Search for materials / material lots in the storage locations according to pre-defined search criteria

5.3.1 Booking materials / material lots

Block icon

The faceplate is accessed with a configured button. The button display depends on the configuration.
Operating the faceplate

To book materials / material lots to a storage location, follow these steps:

1. Open the faceplate with the corresponding block icon.

2. Select a storage location group.

3. Select a storage location.
   The material lots in the storage location, the quantities in the lots and certain storage location properties are displayed in the faceplate.

4. Select a released material class and a released material type.

   **Note**
   Editing and selection options in the faceplate depend on the configuration.

5. Select a material.

6. Select a material lot.

7. Specify the quantity to be booked.

8. You can also record supplementary batch information to be entered in the message system.
9. Click "Book".
   The material quantity is booked at the selected storage location. The quantity is displayed in the middle section of the faceplate.

10. Click the "Update" button to update the data displayed in the faceplate.

**Note**
Booking is only successful if it complies with the booking mode and quantity specifications for the storage location.

### 5.3.2 Clearing materials / material lots

#### Block icon
The faceplate is accessed with a configured button. The button display depends on the configuration.

#### Operating the faceplate
To clear materials / material lots from a storage location, follow these steps:
1. Open the faceplate with the corresponding block icon.
2. Select a storage location group.
3. Select a storage location. The material lots in the storage location, the quantities in the lots and certain storage location properties are displayed in the faceplate.

**Note**

Editing and selection options in the faceplate depend on the configuration.

4. Specify the quantity to be cleared.

5. You can also record supplementary batch information to be entered in the message system.

6. Click the "Clear" button. The material quantity is cleared from the selected storage location. The display in the center of the faceplate is updated accordingly.

**Note**

If the storage location is empty, you can use this button to delete the stored material. The "Update" button updates the data record display.

**5.3.3 Rebooking materials / material lots**

**Block icon**

The faceplate is accessed with a configured button. The button display depends on the configuration.
Operating the faceplate

To perform rebooking, follow these steps:

1. Open the faceplate with the corresponding block icon.
2. Select a storage location group.
3. Select a storage location.
   The material lots in the storage location, the quantities in the lots and certain storage location properties are displayed in the faceplate.

   ![Faceplate Image]

   **Note**

   Editing and selection options in the faceplate depend on the configuration.

4. You can change an existing booking as follows:
   - Select the material lot
     ![Material Lot Selection]
   - Change the quantity
     ![Material Quantity Change]

5. Click the "Save" button to save the changes.
   The material quantity is cleared from the selected storage location. The display in the center of the faceplate is updated accordingly.
6. If you do not want to save the changes, click "Cancel" instead of "Save".
7. Click the "Update" button to update the data displayed in the faceplate.

---

**Note**

Rebooking is only successful if it complies with the booking mode and quantity specifications for the storage location.

---

### 5.3.4 Rebooking materials / material lots

**Block icon**

The faceplate is accessed with a configured button. The button display depends on the configuration.

**Operating the faceplate**

To rebook materials from one storage location to another, follow these steps:

1. Open the faceplate with the corresponding block icon.
2. In the "Source" area, select the group of the storage location from which the material quantity is to be cleared.
3. In the "Source" area, select the storage location from which the material quantity is to be cleared.
4. In the "Destination" area, select the group of the storage location to which the material quantity is to be booked.
5. In the "Destination" area, select the storage location to which the material quantity is to be booked.
6. Specify the quantity to be booked.

7. Click “Rebook”. The material quantity is rebooked.

**Note**

Rebooking is only successful if it complies with the booking mode and quantity specifications for both storage locations.

### 5.3.5 Converting material

**Block icon**

The faceplate is accessed with a configured button. The button display depends on the configuration.

**Operating the faceplate**

To convert the name of a material in a storage location, follow these steps:

1. Open the faceplate with the corresponding block icon.
2. Select the group of the storage location with the material to be converted.
3. Select the storage location. The material lots in the storage location, the quantities in the lots and certain storage location properties are displayed in the faceplate.

4. Select a released material class and a released material type.

Note
Editing and selection options in the faceplate depend on the configuration.

5. Select the target material.

6. Select the corresponding material lot.
7. Specify the quantity to be additionally booked.

8. Click "Convert". The material is converted and the specified material quantity is booked at the storage location.

5.3.6 Deleting unused material lots

Block icon

The faceplate is accessed with a configured button. The button display depends on the configuration.
Operating the faceplate

To delete unused material lots, follow these steps:

1. Open the faceplate with the corresponding block icon.
   The unused material lots are displayed. These are material lots which are no longer booked in any storage location.

   ![Material Lots Display](image)

   

   **Note**

   If the data records do not fit onto one page, you can navigate between them using the "Next" and "Back" buttons.

   The "Update" button updates the data record display. This is particularly important for the operation of multiple workstations.

2. Select the material lot to be deleted. You can change the selection with the "Up" and "Down" keys.

3. Click the "Delete" button and confirm.
5.3 Faceplates

Note
If the change date shown in the faceplate is no longer up-to-date, a warning is generated and the lot is not deleted.

5.3.7 Displaying materials / material lots on the basis of pre-defined search criteria (AS-controlled)

Block icon
The faceplate is accessed using a configured block icon. The block icon display depends on the configuration.

Note
Depending on the configuration and the current data, it may be possible to display the faceplate automatically to indicate that a selection is necessary.
Operating the faceplate

The faceplate is accessed with the corresponding block icon:

You can switch between the following views in the faceplate:

- Standard view
  Displays search criteria and search results
- Message view
  Displaying messages
The standard view of the faceplate contains the following areas:

- "Material" search filter
  This area displays the search criteria specified in the configuration phase or in the AS.

- "Material" selection
  This area lists up to 10 materials / material lots (and therefore storage locations) for the search filter.
  You can switch the mode using the "Manual" and "Auto" buttons. In "Manual" mode, you can select one of the search results displayed. In "Auto" mode, the first search result is always selected. Depending on the selection, the display is dynamically adjusted in the "Active material" area.
  The "Update" button is used to update the search results display.

- Active material

5.3.8 Displaying storage locations with pre-defined search criteria (AS-controlled)

Block icon

The faceplate is accessed using a configured block icon. The block icon display depends on the configuration.

Note

Depending on the configuration and the current data, it may be possible to display the faceplate automatically to indicate that a selection is necessary.
Operating the faceplate

The faceplate is accessed with the corresponding block icon:

You can switch between the following views in the faceplate:

- **Standard view**
  Displays search criteria and search results

- **Message view**
  Displaying messages
The standard faceplate view is comprised of the following areas:

- "Storage location" search filter
  This area displays the search criteria specified in the configuration phase or in the AS.

- "Storage location" selection
  This area lists up to 10 storage locations for the search filter.
  You can switch the mode using the "Manual" and "Auto" buttons. In "Manual" mode, you can select one of the search results displayed. In "Auto" mode, the first search result is always selected. Depending on the selection, the display is dynamically adjusted in the "Active storage location" area.
  The "Update" button is used to update the search results display.

- Active storage location
The editors for the "Parameter management" APF module provide the following functions:

- Displaying the available parameter set groups and parameter sets
- Creating new parameter sets
- Copying and deleting parameter sets
- Editing general and specific parameter set properties

An additional faceplate to display a parameter set and to edit the properties is provided, as well.
6.1 Editing parameter sets

6.1.1 Structure and functions of the user interface

The figure below shows the structure of the editor:

1. Selecting parameter set groups and parameter sets
   In this area, you can make a selection from the available parameter set groups and parameter sets. The data and functions displayed in the user interface area are adapted dynamically depending on your selection.
   The parameter set groups are specified in the configuration phase and cannot be edited via the user interface. New parameter sets can be assigned to the defined parameter set groups in the user interface.

2. General properties of parameter sets
   This area displays the properties of the parameter sets that do not depend on the selected parameter set groups.

3. Specific properties of parameter sets
   The parameter properties displayed in this area and whether or not they can be edited depends on the parameter set group configuration.

4. Buttons for editing parameter sets
   This area contains all the buttons needed to edit parameter sets.

6.1.2 Creating parameter sets

To create a parameter set, follow these steps:

1. Select the parameter set group to which the parameter set is to be assigned.
2. Click "New".
   Default values appear in the dialog boxes.
3. Click the "Name" box.
   The "Name" dialog opens.
4. Enter a name for the parameter set and click "Execute". The name must be unique.
5. Depending on the configuration, enter a unique ID.
6. Click on the "Unit" box and enter a unit for the parameter set.
7. Click on the "Description" box. The "Description" dialog opens.

8. Enter a description for the parameter set.

9. Click on the "Version" box and enter a version number.

10. Specify the specific properties of the parameter set.

11. Click the "Save" button.

12. Confirm the prompt in the subsequent dialog with "OK". The parameter set is created.
6.1.3 Editing parameter set properties

To edit the properties of the parameter sets, follow these steps:

1. Select the parameter set with the properties you want to edit.

   **Note**
   The display of available parameter sets depends on the parameter set group selection.

   The boxes for the editable properties are activated.

2. Click on the box of the property to be edited and make the desired changes.
   Depending on the configured format, the properties may be edited, for example, using a drop-down list or an additional dialog.

3. Click the "Save" button.

4. Confirm the prompt in the subsequent dialog with "Execute".

6.1.4 Copying and pasting parameter sets

You can duplicate a parameter set (within the same parameter set group) and then change its properties.
To duplicate a parameter set, follow these steps:

1. Select the parameter set to be duplicated from the "Parameter set" drop-down list.

   ![Parameter management interface](image)

   **Note**
   The display of available parameter sets depends on the parameter set group selection.

2. Click the "Copy" button.
   The parameter set and its properties are copied to the clipboard.

3. Click the "New" button or select another parameter set.

4. Click the "Paste" button.
   The parameter set is duplicated.

5. Assign a unique name (ID as well, depending on the configuration) and adapt the parameter set properties.

6. Click the "Save" button.

7. Confirm the prompt in the subsequent dialog with "Execute".

### 6.1.5 Delete parameter set

To delete a parameter set, follow these steps:

1. Select the parameter set to be deleted from the "Parameter set" drop-down list.

   **Note**
   The display of available parameter sets depends on the parameter set group selection.

2. Click "Delete".

3. Confirm the prompt in the subsequent dialog with "Execute".
6.2 Edit parameter set faceplate

In addition to the editor, a faceplate is available to perform the following functions:

- Displaying the parameter set of the block
- Editing of parameter values (depending on the configuration)
- Recalculating the data

Block icon

The faceplate is accessed using a configured block icon. The block icon display depends on the configuration.

You can access the faceplate parameter set from the faceplate job, as well (right click).
## Operating the faceplate

| job title: | job1 | setpoint: | 2000 |
| ID: | | ID: | 1234 |
| name: | parameterset 1 | ID: | |
| UOM: | 1 | description of parameterset 1 | |
| description: | | | |
| norm amount: | 1000.000 | version: | 1,000 |
| valid date: | 01.01.1990 | last user: | OHIO |
| release: | | last access: | 23.10.2008 |
| release date: | 23.07.2008 | | |

The upper area of the faceplate shows job-related data. The lower area shows – similar to the editor – the parameter set data and the parameter values.

The configurable buttons at the bottom have the effect:

- "Calculate": Recalculation of parameter values with configured formula and recalculation of the setpoint.
- "Save": Write changed values to the function block.
- "Cancel": Discard changed values that have not yet been saved.
- "Release": Set a "release identifier" at the functional block.
**Message text in the faceplate**

The function block can effect the display of pre-defined texts as notes or messages on the faceplate. Acknowledgement may be required, depending on the configuration.
A faceplate with the following functions is available for operator control and monitoring of job management:

- Displaying available jobs
- Creating new jobs
- Running and controlling jobs
- Displaying job-specific jobs
7.1 Block icon

The faceplate is accessed using a configured block icon. The button display depends on the configuration.

The figures below are examples of the block icon:

![Block Icon Example 1]

![Block Icon Example 2]
7.2 Structure and functions of the faceplate

A faceplate with three views is available for operator control and monitoring of job management:

- **Standard view**
  In the standard view, you can control activated jobs and define the mode.

- **Parameter view**
  In the parameter view, you can define the job specification, create new jobs and activate these jobs for execution.

- **Message view**
  The message view displays job management messages.

**Note**
You can open the faceplate of the associated parameter set by right-clicking on a job.

The standard view opens when the faceplate is accessed. The other views can be accessed from a drop-down list:

The "Open loop" button displays all block views:
Standard view

The figure below shows the structure of the standard view:

1. List of activate jobs
   The active jobs and their properties are displayed in this area.
2. Buttons for controlling jobs
3. Buttons for setting "Cyclic" / "One time" and "Manual" / "Auto" modes

Note
The availability of buttons and capability for editing in the faceplate depend on the configuration.

The color of the job data row (1) depends on the job status:

<table>
<thead>
<tr>
<th>Status</th>
<th>Background color</th>
<th>Foreground color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Job interface is free</td>
<td>Gray</td>
<td>Gray</td>
</tr>
<tr>
<td>2 = &quot;Ready&quot; display text</td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>3 = &quot;Active&quot; display text</td>
<td>Green</td>
<td>Black</td>
</tr>
<tr>
<td>4 = &quot;Held&quot; display text</td>
<td>Yellow</td>
<td>Black</td>
</tr>
<tr>
<td>5 = &quot;Completing&quot; display text</td>
<td>Cyan</td>
<td>Black</td>
</tr>
<tr>
<td>6 = &quot;Aborting&quot; display text</td>
<td>red</td>
<td>Black</td>
</tr>
<tr>
<td>7 = &quot;Start&quot; display text</td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>8 = &quot;Hold&quot; display text</td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>9 = &quot;***&quot; display text</td>
<td>White</td>
<td>Gray</td>
</tr>
</tbody>
</table>
Parameter view

The figure below shows the structure of the parameter view:

1. "Activate job" button
   You can use this button to activate a job in the job list (3).
2. Creating new jobs
   In this area, you can create new jobs and transfer them to the job list.
3. Job list
   The jobs created and their properties are listed in this area. Using the buttons in this area, you can change the job sequence and delete jobs.
4. Setting "Internal"/"External" mode
   Using the buttons in this area, you can specify whether jobs are to be generated and edited in the job list over the faceplate (internally) or the AS (externally).

Note

The availability of buttons and capability for editing in the faceplate depend on the configuration.
7.3 Operating the block

7.3.1 Setting "Internal"/"External" mode
You can set whether jobs are to be generated and edited in the job list over the faceplate (internally) or the AS (externally).

To set the mode to "Internal" or "External", follow these steps:
1. Open the parameter view of the faceplate.
2. If you want to create and edit jobs using the faceplate, click the "Internal" button and confirm.
3. If you want jobs to be specified via the AS, click the "External" button and confirm.

7.3.2 Creating jobs

Requirements
- The parameter view of the faceplate is open.
- "Internal" mode is set.
Procedure

To create a new job, follow these steps:

1. Click "New".
   The job name and ID are generated automatically if this is configured in the AS; otherwise, you enter the values manually.

2. Select a parameter set.

3. If the selected parameter set operates with a "Reference quantity", you have to enter a setpoint for the parameter set.

4. Enter a description for the job.

5. Click the "Apply" button and confirm.
   The job is created, entered in the job list and transferred to the AS.

7.3.3 Editing jobs in the job list

Requirements

- The parameter view of the faceplate is open.
- "$Internal" mode is set.
Changing the sequence of jobs

To change the sequence of jobs in the job list, follow these steps:

1. Select a job from the job list.
2. Change the sequence using the "Up" and "Down" buttons.

Deleting jobs

To delete a job from the job list, follow these steps:

1. Select the job to be deleted from the job list.
2. Click the "Delete" button and confirm.

7.3.4 Setting "Cyclic" / "One time" mode

You can modify job execution by selecting "Cyclic" or "One time" mode.

One time mode

Depending on the configuration, one of the following options for executing a job in one time mode is:

- In one step: Execution is triggered using the "Activate job" button (parameter view).
- In two steps: The job is enabled with the "Activate job" button (parameter view) and then executed with the "Start" button (standard view).

The first job (position 1) in the job list is executed.
Cyclic mode

In cyclic mode, automatic job execution is triggered using the "Activate job" button. In this case, the jobs in the job list are enabled and executed one after the other.

If the job list contains no jobs, the automatic execution is either interrupted or continued depending on the configuration as soon as a new job is created in the list.

Procedure

To set "Cyclic" or "One time" mode, follow these steps:

1. Open the standard view of the faceplate.
2. To execute the jobs in the job list once, click the "One time" button and confirm.
3. To execute the jobs in the job list automatically in sequence, click the "Cyclic" button and confirm.

Note

The system switches to "One time" mode whenever a job is canceled with the "Abort" button.

7.3.5 Setting "Manual" / "Automatic" mode

You can modify job control by selecting "Manual" or "Automatic" mode.

"Manual" mode

In "Manual" mode, jobs are controlled manually using the corresponding faceplate buttons.

"Automatic" mode

In "Automatic" mode, jobs are controlled automatically via the AS.
Procedure

To set "Manual" or "Automatic" mode, follow these steps:

1. Open the standard view of the faceplate.
2. To control jobs manually via the faceplate, click the "Manual" button and confirm.
3. To control jobs automatically via the AS, click the "Automatic" button and confirm.

7.3.6 Executing jobs

You can trigger job execution manually in faceplate one time mode.

Requirements

- The following modes are set:
  - Execution of jobs: "One time" mode (standard view)
  - Controlling the jobs: "Manual" mode (standard view)
  - Controlling the job list: "Internal" mode (parameter view)
- The job list contains at least one job.

Procedure

To trigger job execution, follow these steps:

1. Open the parameter view of the faceplate.
2. Check whether the job to be executed is first in the job list.
3. Click the “Activate job” button.

Execution of the job is either triggered or released depending on the configuration.

4. If the job is released: Open the standard view of the faceplate and click "Start".

Job execution is started.

7.3.7 Controlling jobs

In "Manual" mode, the following buttons are available for controlling jobs in the standard view of the faceplate:

<table>
<thead>
<tr>
<th>Button</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
<td>Use this button to trigger execution of a job.</td>
</tr>
<tr>
<td>Hold</td>
<td>Use this button to hold execution of a job.</td>
</tr>
<tr>
<td>Next</td>
<td>Use this button to continue execution of a job which has been held.</td>
</tr>
<tr>
<td>End</td>
<td>Use this button to complete execution of a job.</td>
</tr>
<tr>
<td>Abort</td>
<td>Use this button to cancel execution of a job.</td>
</tr>
</tbody>
</table>

Note

The availability of buttons and capability for editing buttons depend on the configuration.
7.3 Operating the block