SIEMENS

# SINUMERIK

# SINUMERIK Integrate Shop Floor Integrate (SFI)

Operating Manual



Valid for software:
SINUMERIK Integrate, version 4.1 SP7
Shop Floor Integrate, version 1.4


08/2017
A5E36245407B-AC

## Legal information

### 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.

| ⚠ DANGER |
| --- |
| indicates that death or severe personal injury **will** result if proper precautions are not taken. |

| ⚠ WARNING |
| --- |
| indicates that death or severe personal injury **may** result if proper precautions are not taken. |

| ⚠ CAUTION |
| --- |
| indicates that minor personal injury can result if proper precautions are not taken. |

| NOTICE |
| --- |
| indicates that property damage can result if proper precautions are not taken. |

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:

| ⚠ WARNING |
| --- |
| Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed. |

### Trademarks

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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.

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# Preface

## SINUMERIK documentation

The SINUMERIK documentation is organized into the following categories:

- General documentation/catalogs
- User documentation
- Manufacturer/service documentation

## Additional information

You can find information on the following topics at the following address (https://support.industry.siemens.com/cs/de/en/view/108464614):

- Ordering documentation/overview of documentation
- Additional links to download documents
- Using documentation online (find and search in manuals/information)

If you have any questions regarding the technical documentation (e.g. suggestions, corrections), please send an e-mail to the following address (mailto:docu.motioncontrol@siemens.com).

## mySupport/Documentation

At the following address (https://support.industry.siemens.com/My/ww/en/documentation), you can find information on how to create your own individual documentation based on Siemens' content, and adapt it for your own machine documentation.

## Training

At the following address (http://www.siemens.com/sitrain), you can find information about SITRAIN (Siemens training on products, systems and solutions for automation and drives).

## FAQs

You can find Frequently Asked Questions in the Service&Support pages under Product Support (https://support.industry.siemens.com/cs/de/en/ps/faq).

## SINUMERIK

You can find information about SINUMERIK at the following address (http://www.siemens.com/sinumerik).

This operating manual addresses all users of the Shop Floor Integrate software.

## Benefits

The operating manual allows the target group to get familiar with the software user interface. Based on the manual, the target group is capable of responding to problems and to take corrective action.

## Standard scope

This documentation only describes the functionality of the standard version. Additions or revisions made by the machine manufacturer are documented by the machine manufacturer.

Other functions not described in this documentation might be executable in the control. This does not, however, represent an obligation to supply such functions with a new control or when servicing.

Furthermore, for the sake of clarity, this documentation does not contain all detailed information about all product types and cannot cover every conceivable case of installation, operation or maintenance.

## Technical Support

Country-specific telephone numbers for technical support are provided in the Internet at the following address (https://support.industry.siemens.com/sc/ww/en/sc/2090) in the "Contact" area.

## Security information on the product

**Note**

**SINUMERIK Integrate**

The SINUMERIK Integrate product is available as standalone (intranet) version or in cloud operation (ASP).

- Standalone (intranet):
  Read and write access to the file system and resources of the operating system of the SINUMERIK Integrate server is enabled only for users with administrator rights.
- Cloud mode (ASP):
  Siemens AG as operator ensures the security of the SINUMERIK Integrate server. Customers must only ensure the security of the infrastructure on the machine side.

Further information about server operation can be found at Industrial Security Configuration Manual (https://support.industry.siemens.com/cs/us/en/view/108862708).

**NOTICE**

**Misuse of data**

It is essential to use secure data storage when saving your data - particularly your confidential data. It is best to store this data encrypted locally or encrypted on the network. Make sure that this data cannot be accessed by unauthorized personnel.

This applies to the following data:

- Archive files
- Image files
- Project files
- Trace files
- Safety-relevant files

Further information on secure data storage can be found at Industrial Security Configuration Manual (https://support.industry.siemens.com/cs/us/en/view/108862708).

**NOTICE**

**Danger due to insecure Internet connection**

Before establishing a network connection, ensure your PC is connected to the Internet via a secure connection. Pay attention to the security-relevant notes. Further information about communications security can be found at Industrial Security Configuration Manual (https://support.industry.siemens.com/cs/us/en/view/108862708).

**NOTICE**

**Security risk through administrator rights**

If you operate a PC with permanent administrator rights, there is an increased security risk. Therefore, ensure that there is a secure operating environment, and assign administrator rights only temporarily and selectively.

Further information on the secure administration of user accounts and the assignment of rights can be found at Industrial Security Configuration Manual (https://support.industry.siemens.com/cs/us/en/view/108862708).

# Table of contents

# Fundamental safety instructions

# 1

## 1.1 General safety instructions

**⚠ WARNING**

**Danger to life if the safety instructions and residual risks are not observed**

If the safety instructions and residual risks in the associated hardware documentation are not observed, accidents involving severe injuries or death can occur.

- Observe the safety instructions given in the hardware documentation.
- Consider the residual risks for the risk evaluation.

**⚠ WARNING**

**Malfunctions of the machine as a result of incorrect or changed parameter settings**

As a result of incorrect or changed parameterization, machines can malfunction, which in turn can lead to injuries or death.

- Protect the parameterization (parameter assignments) against unauthorized access.
- Handle possible malfunctions by taking suitable measures, e.g. emergency stop or emergency off.

## 1.2 Warranty and liability for application examples

The application examples are not binding and do not claim to be complete regarding configuration, equipment or any eventuality which may arise. The application examples do not represent specific customer solutions, but are only intended to provide support for typical tasks. You are responsible for the proper operation of the described products. These application examples do not relieve you of your responsibility for safe handling when using, installing, operating and maintaining the equipment.

# 1.3 Industrial security

**Note**

**Industrial security**

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions only represent one component of such a concept.

The customer is responsible for preventing unauthorized access to its plants, systems, machines and networks. Systems, machines and components should only be connected to the enterprise network or the internet if and to the extent necessary and with appropriate security measures (e.g. use of firewalls and network segmentation) in place.

Additionally, Siemens' guidance on appropriate security measures should be taken into account. For more information about industrial security, please visit:

Industrial security (http://www.siemens.com/industrialsecurity).

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends to apply product updates as soon as available and to always use the latest product versions. Use of product versions that are no longer supported, and failure to apply latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed at:

Industrial security (http://www.siemens.com/industrialsecurity).

**⚠ WARNING**

**Unsafe operating states resulting from software manipulation**

Software manipulations (e.g. viruses, trojans, malware or worms) can cause unsafe operating states in your system that may lead to death, serious injury, and property damage.

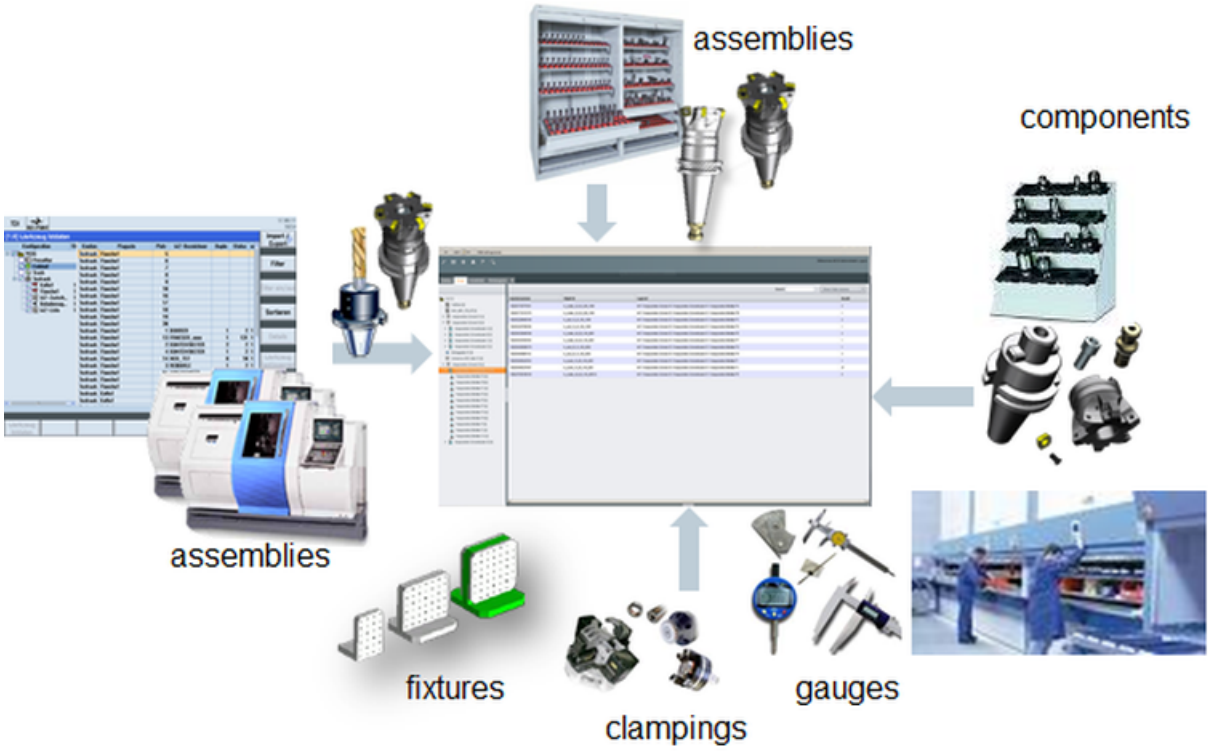
- Keep the software up to date.
- Incorporate the automation and drive components into a holistic, state-of-the-art industrial security concept for the installation or machine.
- Make sure that you include all installed products into the holistic industrial security concept.
- Protect files stored on exchangeable storage media from malicious software by with suitable protection measures, e.g. virus scanners.

# Introduction

# 2

The Shop Floor Integrate (SFI) software is used to manage production resources. The focus is on assemblies and components.

As supplement to the Manage MyTools (MMT) application from the "SINUMERIK Integrate" product, Shop Floor Integrate closes the gaps in the tool circulation of production facilities.




## Functions

Shop Floor Integrate provides the following functions:

- Managing production resources and equipment
- Data hub for all the relevant systems
- Storage and retrieval dialogs for storage locations
- User-prompted storage, retrieval and relocation of resources
- Displaying and managing storage locations for production resources and equipment
- Components when assembling and possible target storage locations when disassembling
- Managing minimum amounts

- Determination of component requirements when planning assemblies
- Own configuration for emulating storage locations for components

**Note**

**Exceptions**

- Managing clamping operations, clamping equipment, measurement and test equipment is not part of Shop Floor Integrate.
- Shop Floor Integrate can process only data sets from Teamcenter with valid revision status. Entries without revision are not displayed in Shop Floor Integrate.

## Delivery form

The latest packages and further information on the applications are stored on PridaNet and can be downloaded directly from there.

## Additional software

SINUMERIK Integrate also uses the following software:

Software that was developed for "OpenSSL" in order to use the "OpenSSL Toolkit" (http://www.openssl.org/ (http://www.openssl.org/)).

Software that was developed for "Openevidence" in order to use the "OpenEvidence Toolkit" (http://www.open-evidence.com/about/). (http://www.open-evidence.com/about/)

Cryptographic software written by Eric Young (eay@cryptsoft.com (eay@cryptsoft.com)).

Software written by Tim Hudson (tjh@cryptsoft.com). (tjh@cryptsoft.com)

Software developed by Bodo Moeller.

# Teamcenter - SFI 3

## 3.1 Teamcenter integration

The production data buffer ensures an uninterrupted operation between SFI and Teamcenter, even when the connection is interrupted.

The production data buffer prevents production stoppages caused by downtimes of the Teamcenter server or failures in the network between Teamcenter and SFI.

The production data buffer is a local database for the Teamcenter data required by SFI. SFI obtains the required Teamcenter data from the production data buffer. The production-relevant data is read and stored cyclically by the Teamcenter from the production data buffer. This causes delays after changing Teamcenter data. Consequently, this Teamcenter is at least one cycle duration old.

### Checking the Teamcenter - SFI connection

An indicator in the title bar of the SFI user interface indicates whether the "Teamcenter - SFI" connection exists or is interrupted.

- "Online" and Status "green" means: Connection exists
- "Offline" and status "red" means: Connection is interrupted
  In this case, the data processing still continues. SFI has access to the stored Teamcenter data in the production data buffer. This data is updated when the connection is re-established.

## 3.2 Phasing out assemblies

To remove assemblies orderly from the shopfloor, they can be locked in Shop Floor Integrate. Locked assemblies can be reused with restrictions, but not reset.

In this way, you can gradually withdraw obsolete or amortized assemblies from use and, if required, replace them with assemblies of a new type.

It is also possible to use assemblies, locked in Teamcenter, for test purposes in SFI.

More detailed information on the procedure can be found in the SINUMERIK Integrate, Shop Floor Integrate Installation Manual, in Section "Setting phasing in/out".

# Configuring user interface languages

# 4

The language in which Shop Floor Integrate is started, depends on the language settings on the web browser being used.

Use one of the following web browsers:

- Mozilla Firefox
- Microsoft Internet Explorer

## Available languages

Shop Floor Integrate supports the following languages

- German
- English

## Configuring a language

Before starting Shop Floor Integrate, you must define the preferred language in the settings of the web browser to be used.

As default setting, Shop Floor Integrate starts in this language that has been defined.

This means that one of the languages supported by Shop Floor Integrate must be listed as preferred language in the language settings. If all of the available languages are listed, Shop Floor Integrate starts in the language with the first the language in this list.

# Software user interface

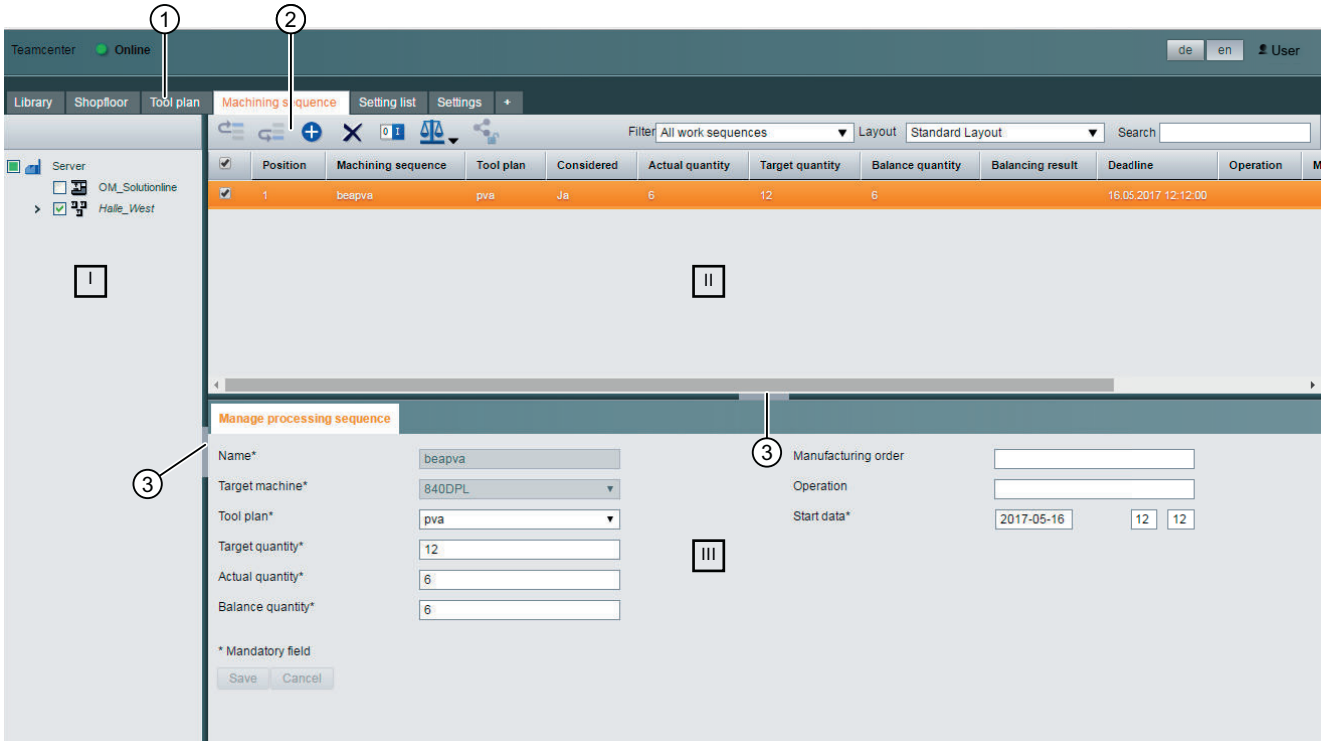
# 5

## 5.1 Design

### Screen layout

The user interface of Shop Floor Integrate allows you to manage assemblies and components in production facilities. The structure is the same at all operating levels. The layout is structured according to window areas and operating elements.

The following diagram shows the structure.




| | |
|---|---|
| ① | Dialog bar |
| ② | Toolbar |
| ③ | Area selector |
| I | Left-hand window area<br>• Tree topology<br>• Lists |
| II | Upper window area<br>• Table with integrated toolbar |
| III | Lower window area<br>• Detailed information |

# 5.2 Description

The chapter provides information about:

- Structure of the user interface
  - Window areas
  - Operator controls
  - Area selector
- Functionality of the window areas
- Display and type of system messages

## 5.2.1 Dialog bar

The dialog box contains dialogs to use and operate Shop Floor Integrate. These are saved under the tabs.

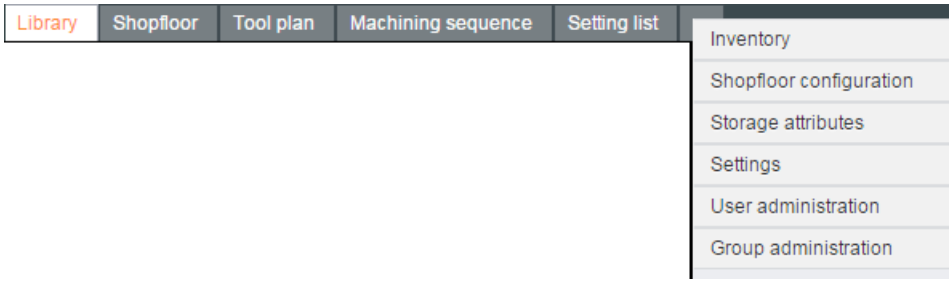
Clicking on a tab allows you to:

- Select a dialog
- Toggle between the dialogs

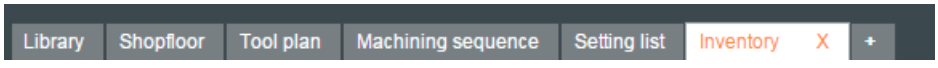
The active tab, and therefore the active dialog, has a white background.

You can add or close dialogs. Click one of the following icons:

- Add a dialog: +




- Close a dialog: X




## 5.2.2 Left-hand window area

You can see two different display formats depending on the dialog that you are presently in:

- Tree topology
- List

## Tree topology

The tree topology provides an overview of the dialog-specific folders.

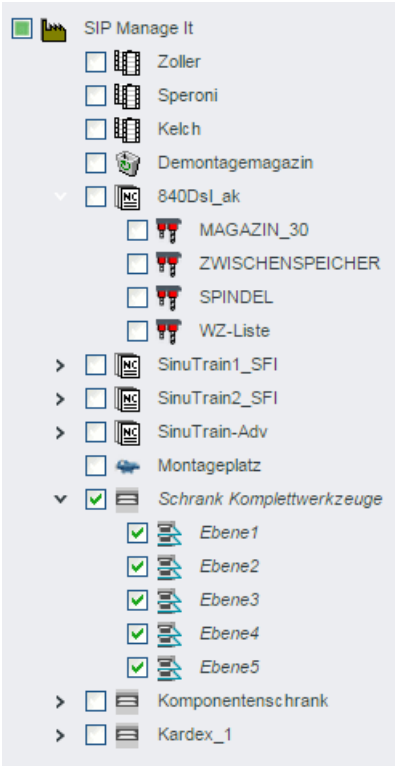
You can select the required folder by clicking on the checkboxes. The corresponding data sets are displayed in the table in the upper window area.

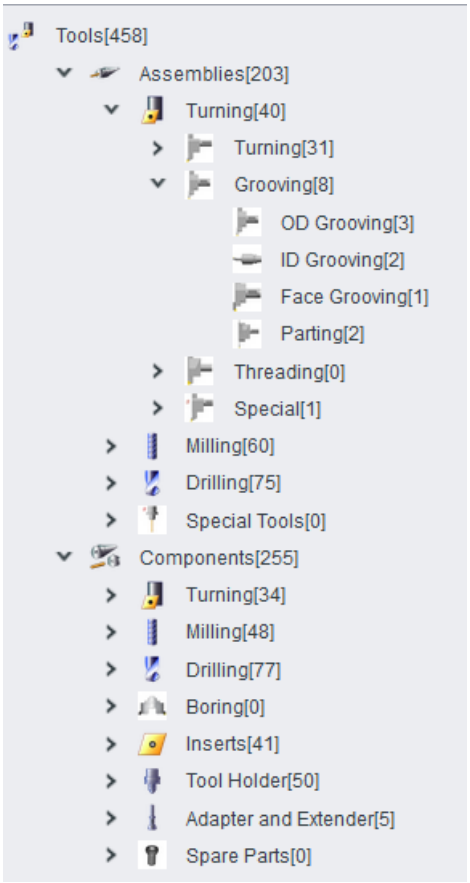
The data sets involve:

- Assemblies
- Components
- Components that have not been assembled
- Partially assembled assemblies
- Assembled components
- Tool plans
- Machining sequences

The selection can be changed any time, such as new inclusions/additions or restrictions.

The following diagram shows examples of a tree topology in the "Shopfloor" tab and in the "Library" tab.



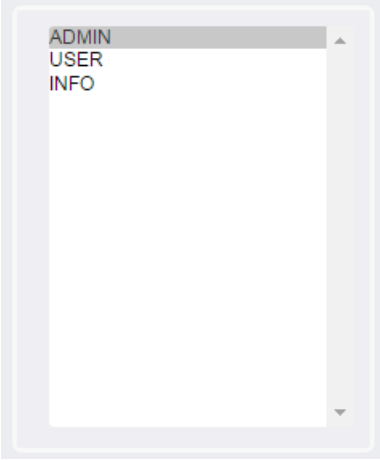



### List

You can find lists under the "User administration" and "Group administration" tabs. Data sets with user and access data are saved there.

If you select an entry in the list, the associated connection or data sets are displayed in the upper window area.

The following diagram shows an example of a list below the "Group administration" tab:




## 5.2.3 Upper window area

The upper window area shows the table with the toolbar.

The table contains the data sets of the folder that you defined in the left-hand window area via the selection.

The table depends on the specific dialog, and only contains information.

On a dialog-for-dialog basis, you can additionally classify the data displayed in the table using the following functions:

- Filters, see also Section: Creating filters (Page 35)
- Layout, see also Section: Create layouts (Page 38)
- Search, see also Section: Search function (Page 43)

### Input

In all operating areas, you can fill the input fields as follows:

- Enter text directly
- Mark text, copy with the <Ctrl+C> keys and paste into the input field with the <Ctrl+V> keys.

**Note**

**Exception: "Shopfloor configuration" tab**

Text can be marked and pasted into the input fields only in the "Shopfloor configuration" tab.

### Structure

The toolbar is a central component of the table, and is used to edit/process the data sets.

In each dialog, the display is below the dialog bar:

The functional scope of the toolbar is varied and dependent on:

- Dialog
- Data selection in the left-hand window area
- Selecting the table data via filter
- User and group rights

A overview of the icons and buttons is provided in the following Section: Icons and buttons (Page 27)


## 5.2.4 Lower window area

In the lower window area using tabs you can access the data sets listed in the table in the upper window area.

The following information is provided in the following tabs:

- Detailed information about the data sets is displayed
- Editing data sets

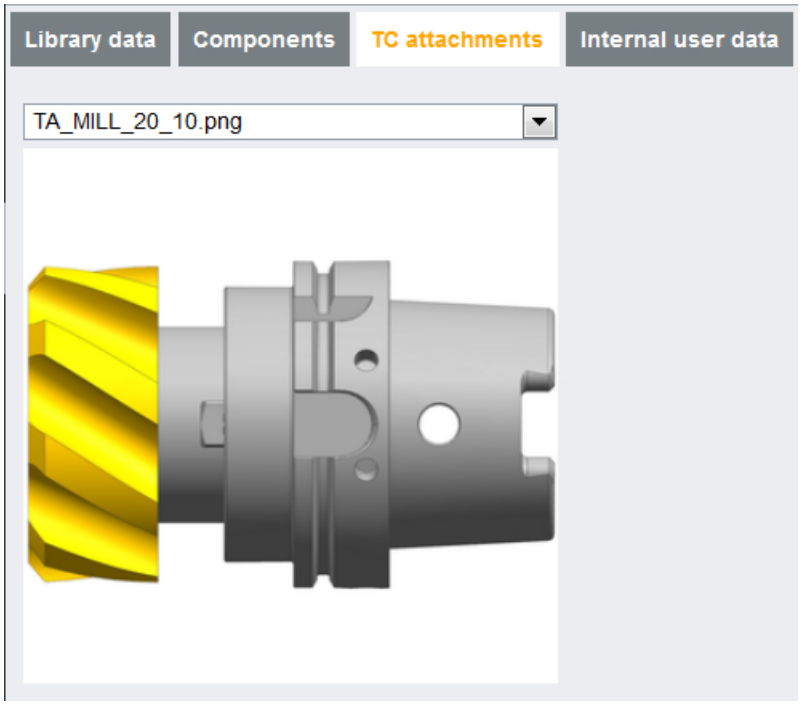
### Structure

The tabs that are available vary and are dependent on:

- Dialog
- Data selection in the left-hand window area
- Selecting the table data via filter
- User and group rights

Using the tab you can display and edit data sets as follows.

- Displaying data sets:
  - Click the required data set in the table in the upper window area.
    The lower window area opens.
  - Click the required tab.
    The data saved there are displayed.




You can then edit the data set.

- Editing data sets:
  - Click the required tab.
  - Edit the data set.
  - Save.

## 5.2.5 Icons and buttons

### Overview

The following table provides an overview of the complete functional scope of the toolbar:

| Icon | Explanation |
|---|---|
|  | Save |
|  | Delete |
|  | Add |
|  | Add user |
|  | Add group |
|  | Edit |
|  | Release the balance calculation result |
|  | Shift to the top |
|  | Shift to the bottom |
|  | Import |
|  | Print |
|  | Duplicate |
|  | Update |
|  | Start |
|  | Assemble |
|  | Disassemble |
|  | Relocate |
|  | Swap out, scrap |
|  | New balancing |
|  | Consider for balancing |
|  | Information |
|  | Phase out assembly |

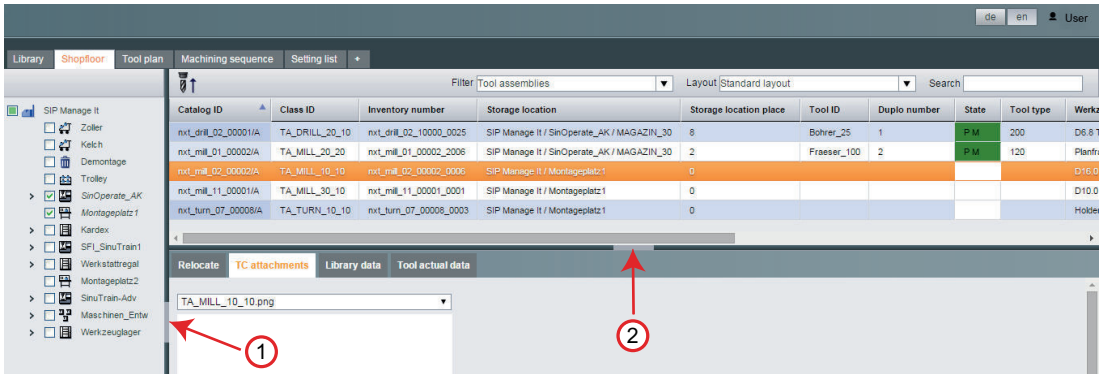
## 5.2.6 Horizontal and vertical area selector

The user interface includes a vertical and a horizontal area selector.
The area selectors separate the three window areas.

### Structure

Using the area selectors, you can change the view and the size of the three window areas. The distribution of the setting is variable.

- Shifting the area selectors:
  - Move the mouse over the dark gray area next to the area selector.
    The mouse pointer is displayed in the form of a double-headed arrow ( ⇔ ).
  - Now shift the area selector to the selected location with the mouse key kept pressed.
- Showing/hiding the left window area:
  - Click the light-colored section of the vertical area selector.
- Showing/hiding the lower window area:
  - Click the light-colored section of the horizontal area selector.




① Vertical area selector
② Horizontal area selector

## 5.2.7 System and error messages

Shop Floor Integrate responds with a message depending on your particular interaction.

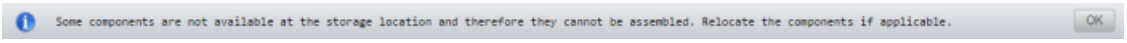
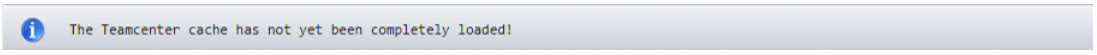
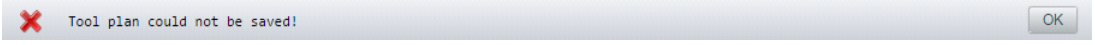
There are three different types of feedback messages:

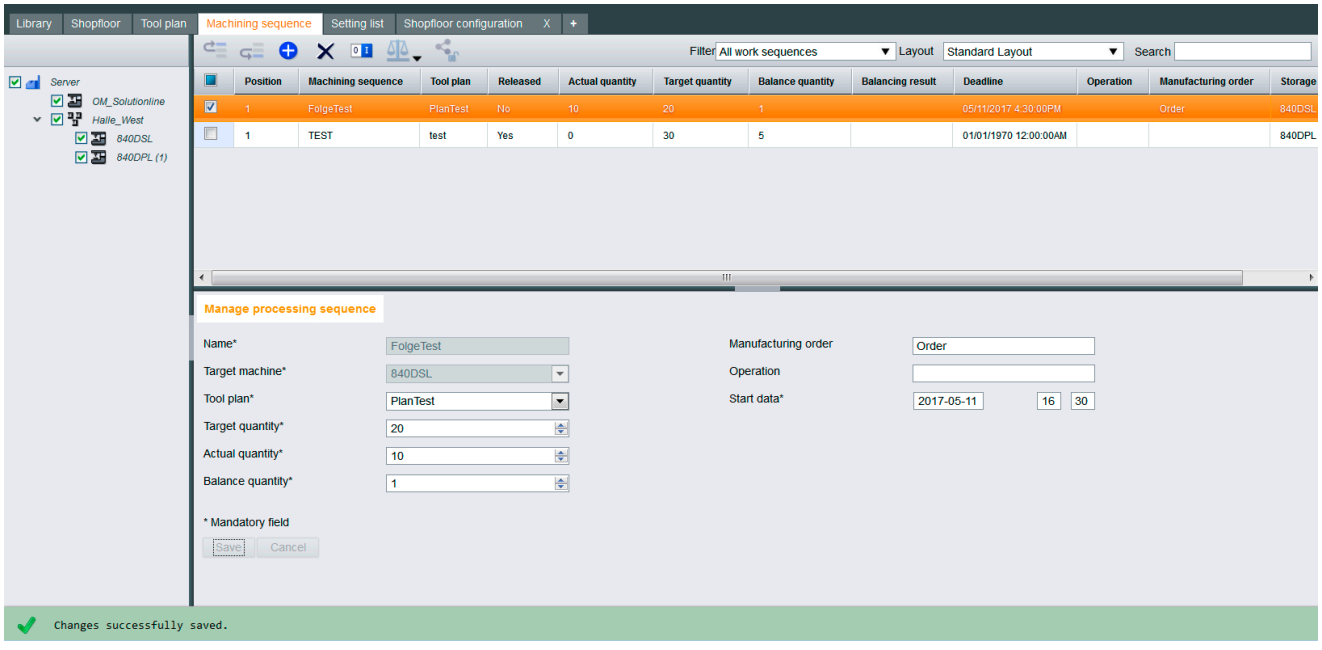
- Information
- Confirmation
- Error

### Structure

The message is displayed in a status bar, which is displayed at the lower edge of the user interface.

Depending on the status message, the message is displayed with or without confirmation with "OK".

| Message | Explanation | |
|---|---|---|
| Information | Information | • Message with "OK" button:<br>This message is only hidden if it is acknowledged by the user.<br>• Message without "OK" button:<br>The message is automatically hidden after a few seconds. |
| Example:<br>  <br>  | | |
| Confirmation | Positive feedback message:<br>User interaction was successfully executed. | The message is automatically hidden after a few seconds. |
| Example:<br>  | | |
| Error | Negative feedback message<br>User interaction error | This message is hidden only if it is acknowledged by the user with "OK". |
| Example:<br>  | | |



# Operating 6

## 6.1 Start Shop Floor Integrate

### 6.1.1 Start via web browser

Start Shop Floor Integrate by entering the URL address of the SFI server into your web browser.

#### Structure of the URL of the SFI server

The URL of the SFI server is structured as follows:

https://<IP:Port>/app/login/login.html or https://<Hostname:Port>/app/login/login.html

The server name is defined when installing Shop Floor Integrate.

Entering a port is optional. As default, that port is used that has been defined in the "appserver.ini" configuration file.

---

**Note**

**Information about the configuration file**

More detailed information on the "appserver.ini" configuration file can be found in the following reference:

- SINUMERIK Integrate, Shop Floor Integrate Installation Manual, in Section "Server settings"

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**URL example with standard port**

https://sfi_server/app/login/login.html

#### Procedure

1. Start your web browser.
2. Enter the URL of the SFI server into the address line.

---

**Note**

**Information on the screen modes**

- Full screen mode
  Use the full screen mode in your browser. Activate and deactivate this mode in the active browser window using function key F11.
- Minimum resolution
  Shop Floor Integrate supports screen resolutions starting at 1280x720 pixels.

---

## 6.1.2 Start on the server

You can start Shop Floor Integrate directly on the server.

### Requirements

Shop Floor Integrate is installed.

### Procedure

1. Start Shop Floor Integrate via the Windows menu "Start" > "Shop Floor Integrate".
   - OR -
2. Start Shop Floor Integrate via the desktop link by double-clicking the following symbol:

## 6.2 Logging in to Shop Floor Integrate

The start page for Shop Floor Integrate includes a login dialog.

After the installation, the following standard users are available for login to SFI:

- ADMIN
- USER
- INFO

To login, the same access data is used as in SINUMERIK Integrate for the MMP and MMT applications.

### Requirement

The SFI server has successfully started, and can be accessed via the network.

### Procedure

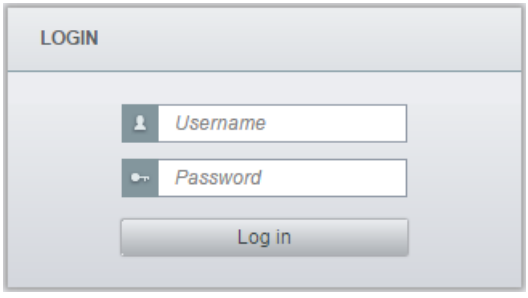
1. Enter the user name.

   **Note**

   **User name / password**

   - More detailed information can be found in Section User administration tab (Page 97).
   - The input of user name / password is case-sensitive.

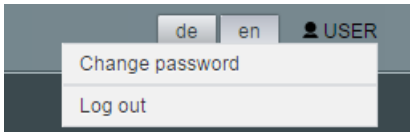
2. Enter the password.
3. Click "Log in".
   Shop Floor Integrate opens.
   The user name is displayed in the title bar.



## 6.3 Logging out of Shop Floor Integrate

### Procedure

1. Click the icon or the user name at the right-hand side of the title bar.
   A window opens:
2. Select the "Log out" option.



# 6.4 Basic functions

## 6.4.1 Filter

### 6.4.1.1 Creating filters

You can define which data sets are to be displayed using filters.

The filters limit the data sets of the table based on predefined rules. In the table, only those data sets are listed, whose attributes match those values defined in the filter.

#### Requirement

You require the appropriate access rights to create global and group-specific filters.

Access rights are specified, see Section General rights (Page 116).

#### Parameters of a filter

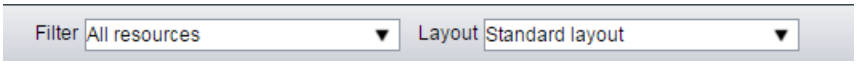
| Parameters | Description |
|---|---|
| Name | Filter name.<br>The name must be globally unique. |
| Scope | Drop-down list to select users that can use these filters:<br>• Global: Every user<br>• Group: Every user of the same user group<br>• User: Only the current user |
| Associated layout | Layout in which the filtered data sets are displayed.<br>The displayed columns are defined in the layout. |
| Attribute | Property of the object that is used as a comparative basis for the filter. |
| Operator | Numerical values can be filtered using mathematical comparison operators. For status properties or truth values, the operator field is hidden (the operator corresponds to "="). |
| Value | Specifies the numerical value, the state or the truth value that is used as comparison. |

#### Standard filter

The following standard filters are included in the scope of supply.

| Filter | Description | Use in the tab |
|---|---|---|
| Not released assemblies | Filters all data sets according to tools that have not been released | Library<br>Shopfloor |
| Components that have not been assembled | Filters all data sets according to components that have not been assembled | Shopfloor |

| Filter | Description | Use in the tab |
|---|---|---|
| Partially assembled assemblies | Filters all data sets according to partially assembled assemblies | Shopfloor<br>Setting list |
| All resources | Lists all resources<br>(components and assemblies) | Shopfloor |
| Assembled components | Filters all data sets according to assembled components | Shopfloor |
| Assemblies | Filters all data sets according to assemblies | Shopfloor<br>Inventory |
| All master data | Lists all available data sets (without any restrictions) | Library |
| All tool plans | Lists all tool plans | Tool plan |
| All machining sequences | Lists all machining sequences | Machining sequences |
| For assembly | Filters all tools according to the tools to be assembled | Setting list |
| To be measured | Filters all tools according to the tools to be measured | Setting list |
| All tools | Lists all assemblies | Setting list |




### 6.4.1.2 Editing a filter

You have the following options for editing a filter:

- Changing a filter
- Creating a new filter
- Editing filters
- Deleting a filter

#### Changing a filter

1. Open the drop-down list "Filter".
2. Select the required filter by clicking on it.
   The data in the table are updated.

#### Creating a new filter

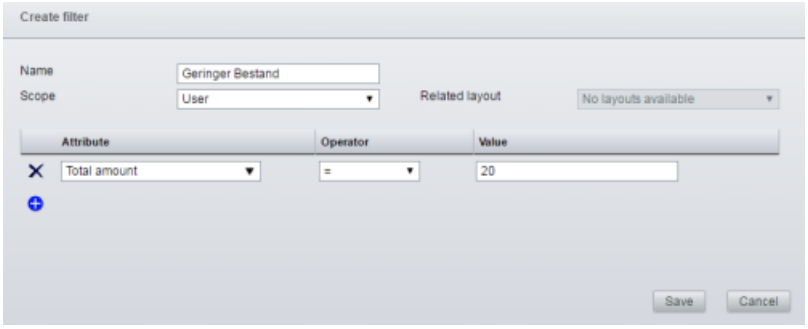
1. Open the drop-down list "Filter".
2. Select the list entry "Add filter".
   The "Create Filter" window opens.
3. Enter a name for the filter.
4. Select the required validity range.

5. Select the required layout.
   Only layouts are listed, which were created for the selected validity range.
6. Define the filter conditions:
   – Select the attribute and operator from the drop-down lists.
   – Enter the comparison value.

**Note**
**Filter criteria**

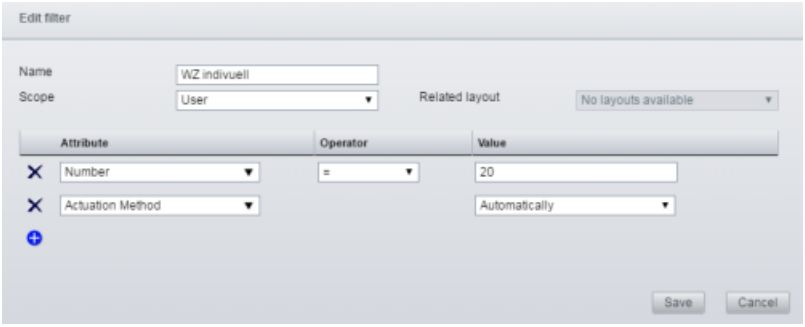
All defined filter conditions are internally logically ANDed.

7. To add filter conditions, click the ⊕ icon.
8. To delete filter conditions, click the ✕ icon.
9. Click the "Save" button.



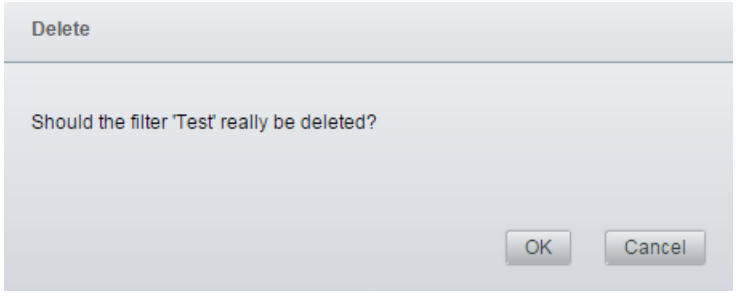

## Editing filters

1. Open the drop-down list "Filter".
2. Click the "Edit" icon
   next to the filter to be edited.
   The "Edit Filter" window opens.
3. If required, enter a new name.
4. If required, change the scope.
5. If required, change the required layout.
   Only layouts are listed, which were created for the selected validity range.
6. Changing the filter conditions:
   – Select the attribute and operator from the drop-down lists.
   – Enter the comparison value.
7. To add filter conditions, click the ⊕ icon.
8. To delete filter conditions, click the ✕ icon.
9. Click the "Save" button.




### Deleting a filter

1. Open the drop-down list "Filter".
2. Click the ✕ icon next to the filter to be deleted.
   A confirmation prompt opens.
3. Click "OK".




## 6.4.2 Layouts

### 6.4.2.1 Create layouts

The table in the upper window area is subdivided into several columns.

Using the Layout function, you define which columns are displayed. This means that you can display information depending on the particular task.

### Requirement

You require the appropriate access rights to create, edit or delete global and group-specific filters, see Section General rights (Page 116).

### Parameters of a layout

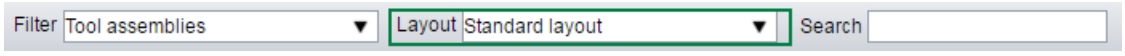
| Parameters | Description |
|---|---|
| Name | Name for the layout<br>The name must be globally unique. |
| Scope | Drop-down list to select users that can use this layout:<br>• Global: every user<br>• Group: every user of the same user group<br>• User: only the current user |
| Available columns | List of all available columns.<br>Columns from the following data sources are available:<br>• Data with reference to handling shortfalls<br>• Library data<br>• Shopfloor data<br>(Example: Tool data, magazine data, cutting edge data ...)<br>• Configured stock attributes |
| Layout columns | Columns, that are displayed when using this layout. |

**Note**

**Data sources**

You can obtain information about the source of the data from the tool tip. To call the tool tip, move the mouse to the particular column in the "Create layout" or "Edit layout" window. The source of the column involved is displayed.

The various data sources are color coded.




## 6.4.2.2 Editing layouts

You have the following options for editing layouts:

- Switching a layout
- Creating a new layout
- Change layout
- Deleting a layout

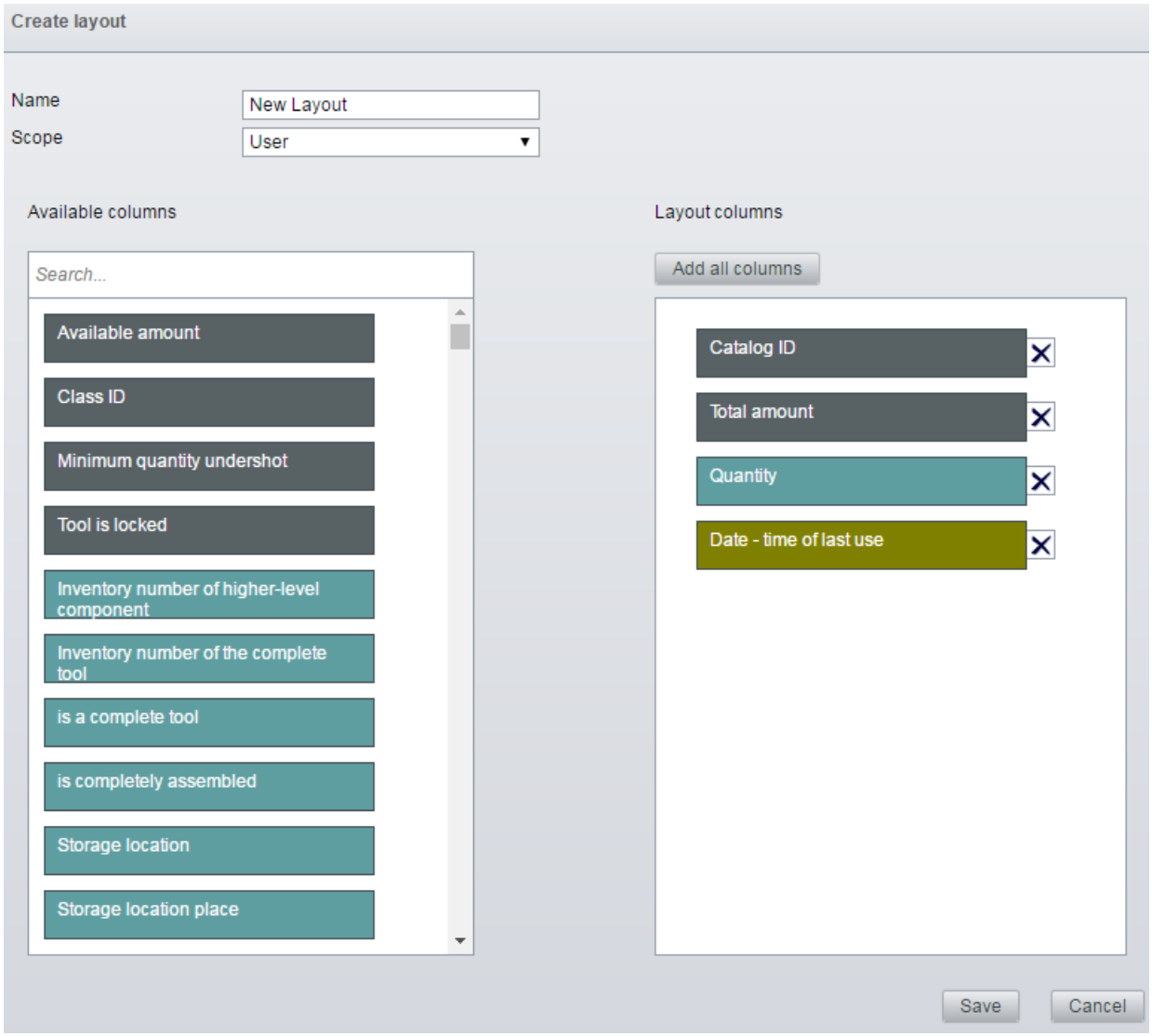
## Switching a layout

There are two standard layouts "Standard layout" for the "Library" and "Shopfloor" tabs included in the scope of supply. These reduce the number of columns to the essential information for most of the applications encountered.

1. Open the drop-down list "Layout".
2. Select the required layout by clicking on it.
   The display of the table is updated.

## Creating a new layout

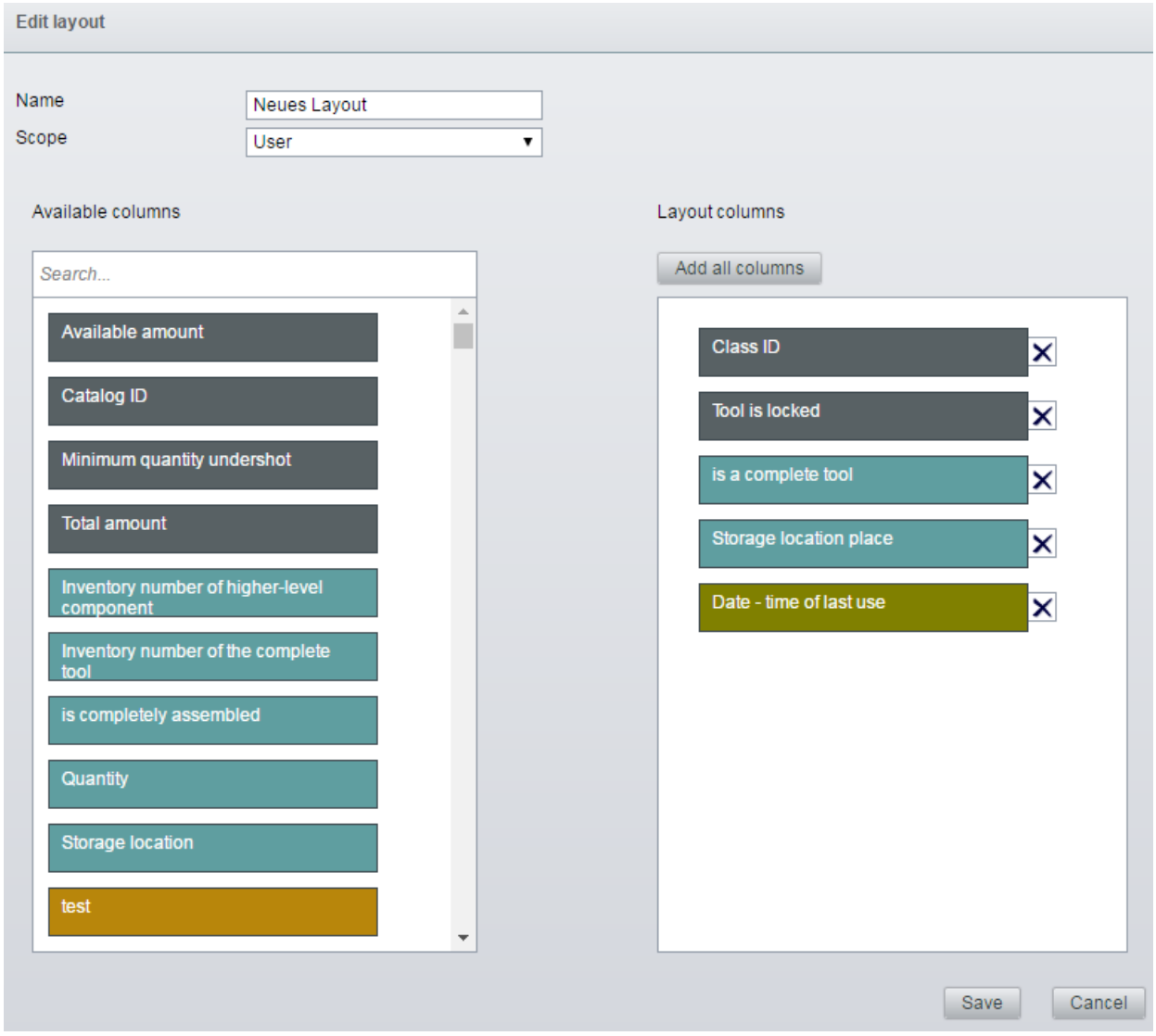
1. Open the drop-down list "Layout".
2. Select the list entry "Add new layout".
   The "Create Layout" window opens.
3. Enter a name for the layout.
4. Select the required validity range.
5. Drag the required columns from the "Available columns" list to the "Layout columns" list.
   - You can restrict the "Available columns" list by entering a character string in the "Search" line. Shop Floor Integrate only displays those columns that contain this character string.
   - If you wish to add all of the available columns to the layout, click the "Add all columns" button.
     This button is deactivated if a search term has been entered in the search field.
6. If you wish to remove columns from the layout, click the cross next to the column.
7. If you wish to change the sequence of the columns, move the columns by dragging & dropping them.
8. Click the "Save" button to save the new layout.




## Change layout

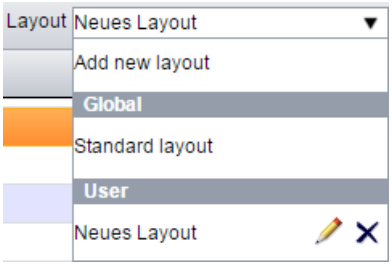
1. Open the drop-down list "Layout".
2. Click the icon next to the layout to be edited.
   The "Edit Layout" window opens.
3. If required, change the name and scope of the layout.
4. If you wish to display additional columns, drag these columns from the "Available columns" list into the "Layout columns" list.
   - You can restrict the "Available columns" list by entering a character string in the "Search" line. Shop Floor Integrate only displays those columns that contain this character string.
   - If you wish to add all of the available columns to the layout, click the "Add all columns" button.
     This button is deactivated if a search term has been entered in the search field.

5. If you wish to remove columns from the layout, click the cross next to the column.
6. If you wish to change the sequence of the columns, move the columns by dragging & dropping them.
7. Click the "Save" button to save the layout.



### Deleting a layout

1. Open the drop-down list "Layout".
2. Click the ✕ icon next to the layout to be deleted.
   A confirmation prompt opens.
3. Click the "OK" button to delete the layout.




## 6.4.3 Arranging columns

The table in the upper window area is subdivided into several columns.

The display depends on the selected layout.

You can change the order of the columns for user-defined layouts, see Section Editing layouts (Page 39).

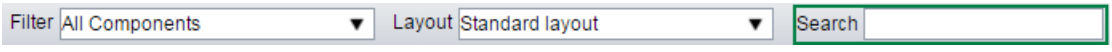
The order of the columns is defined in the default layout "Standard Layout" and cannot be changed by the user.

## 6.4.4 Search function

You can search through the data sets in the upper window area for specific text using the "Search" function.

Shop Floor Integrate only displays those entries that contain this search term.

It take into account the influence of the layout on the search result. When making the search, only the visible data from the columns of the current layout are actually taken into account.



# 6.5 The "Library" tab

All generic data of the resources available in Teamcenter (TC), such as assemblies and components, are displayed in the "Library" tab.

The data is read directly from the TC Cache.

The components that make up an assembly are defined in the library, along with the location of these components.

In the "Library" tab you can:

- Displaying complete tool information (Page 45)
- Displaying component information (Page 48)
- Assembling tool assemblies (Page 46)
- Placing components into storage (Page 49)

**Note**

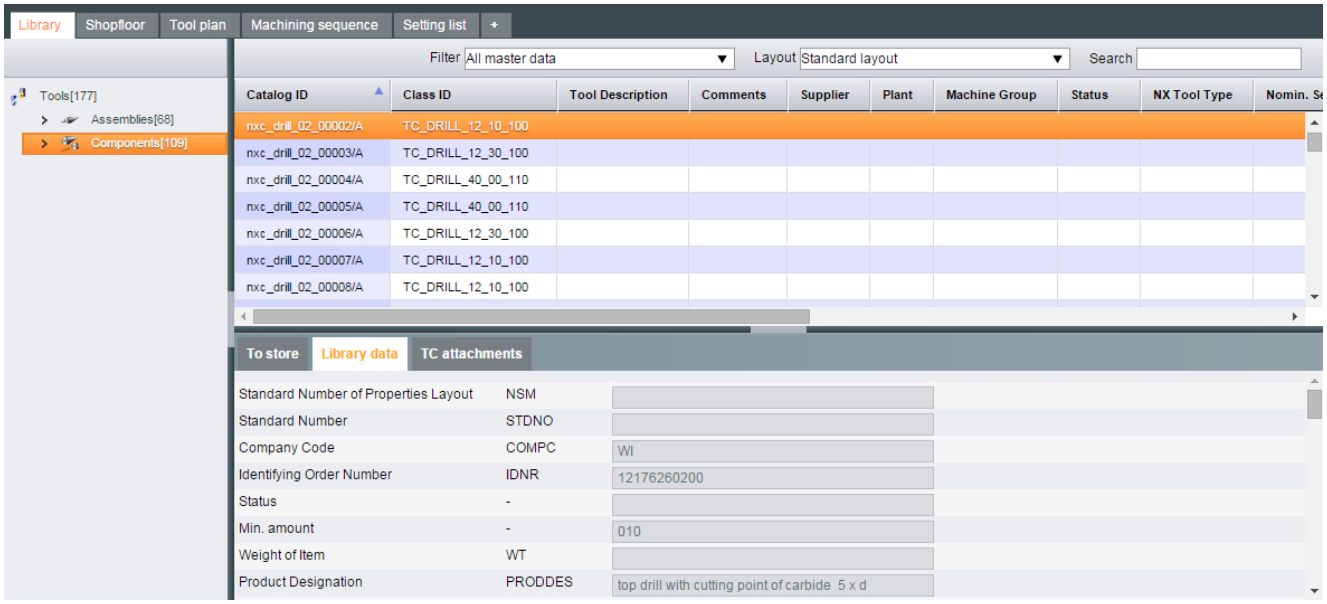
**User-defined filters**

You cannot use any user-defined filters on the highest node in the "Library" tab. A filtering according to Teamcenter attributes is possible only starting at the second level.

## Requirement

To assemble and store assemblies and components, you require the appropriate access rights, see Section Stock administration - Rights (Page 126).

## Structure



## 6.5.1 Displaying complete tool information

Information about assemblies can be found in the lower window area in the tabs.

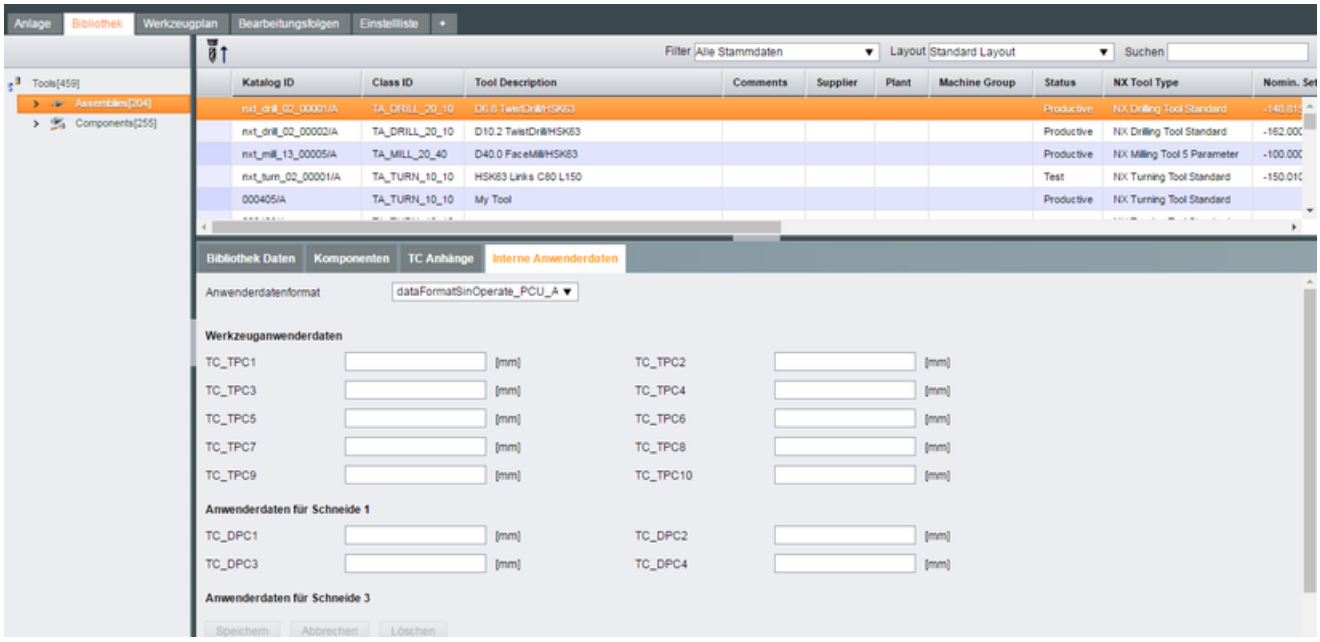
- Library data
- TC attachments
- Components
- Internal user data

Information includes, for example:

- Key parameters
- Geometries
- Technical drawings
- Display the contained components with regard to the required number and their availability in the storage.
  If too few components are available in the storage, assembly is not possible.

### Procedure

1. Click the "Library" tab.
2. Navigate in the left-hand window area to "Assemblies".
3. Click the required assembly in the table in the upper window area.
   The lower window area opens or is refreshed.
4. To fetch the information, click the appropriate tab.



## 6.5.2 Assembling tool assemblies

Assemblies comprise various components. The number of the associated components required for the assembly and how many of the associated components are in stock is shown for "Components", see Section: Displaying complete tool information (Page 45)

In the overview, check whether adequate components are available for the assembly.

**Exception**:

Assembly is not possible in the following cases:

- It involves phased out assemblies, as indicated with the icon.
- There are insufficient components available in stock.

In such cases, the "Assemble" icon cannot be selected. Moving the cursor over the icon displays the associated information.

### Requirement

To assemble an assembly from individual components, the following precondition must be fulfilled:

- The number of required components available in storage, see "Components" tab.
  If there is not a sufficient number of components in the storage system, then you can enter the corresponding number into the storage system before assembly:
  - See Section: Placing components into storage (Page 49)
    - OR -
  - See Section: Additively store components (Page 60)

**Note**

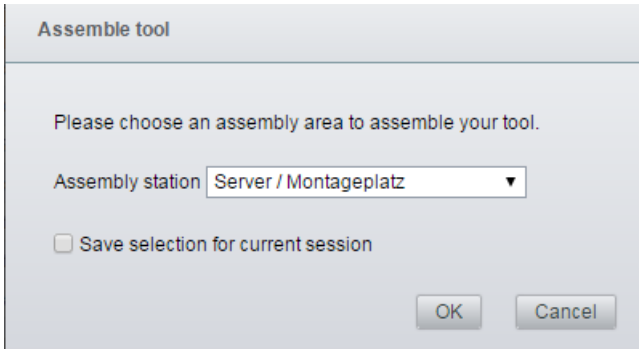
**Minimum amounts**

The specified minimum amounts of components may not be undershot, see Section: Determining minimum quantities (Page 63).

### Procedure

1. Click the "Library" tab.
2. Click "Assemblies" in the left-hand window area.
3. Click the required assembly in the table in the upper window area.

4. In the toolbar, click the "Assemble" icon .
   The "Assemble Tool" window opens.




   – Select the assembly station in the drop-down list.
   – If you want to save the assembly station for this session, activate the checkbox.
   – Click "Cancel" to cancel the operation.
   – Click "OK" to specify the assembly station.

   The assembly does not currently have an inventory number.

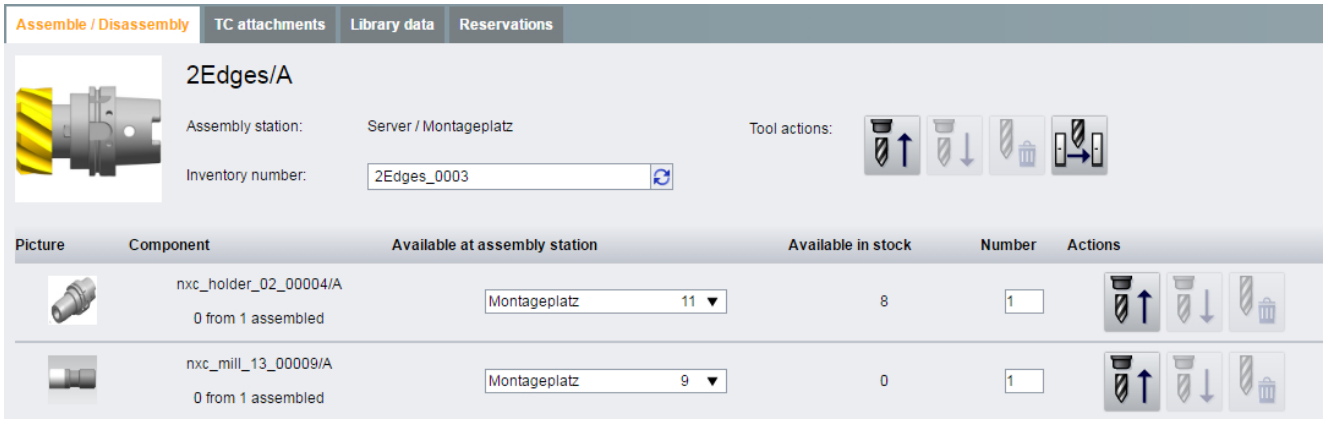
**Note**

**Inventory number**

The inventory number is generated automatically and can be changed when required in the "Assemble/Disassembly" tab.

   SFI navigates automatically to the "Shopfloor" tab.

5. To enter further data, follow the description in the "Shopfloor" tab, Section: Completing the assembling of assemblies (Page 58).



### Activate "Assemble" function

If the "Assemble" icon cannot be selected, the "Components" information in the lower window area shows the following:

- What components constitute the tool
- How many associated components are required
- How many components are already available in stock

#### Procedure

1. Open the "Components" tab in the lower window area.
2. Select "Components" on the left-hand area.
3. Enter the required component in the search and select it.
4. Open the "To store" tab in the lower window area.
5. Store the desired number.
6. Once all required components have been stored, select the assembly again.
   The "Assemble" function is active and can be selected.

## 6.5.3 Displaying component information

You can find information about the components in the lower window area in the appropriate tabs, such as:

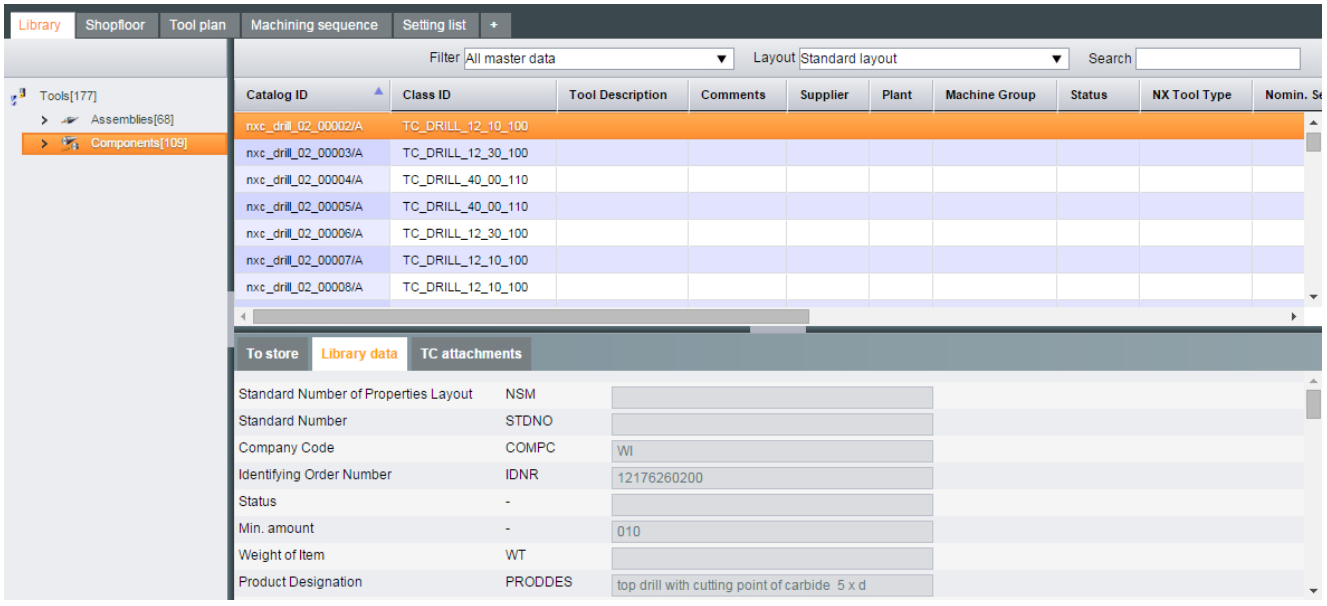
- Library data
- TC attachments

Information includes, for example:

- Tool-specific parameters
- Data
- Geometries
- Draft drawings

### Procedure

1. Select the "Library" tab.
2. In the left-hand window area, navigate to the required type of component.
3. Select the component in the table.
   The lower window area opens or is refreshed.
4. To call up the information, click the "Library data" and "TC attachments" tabs.




## 6.5.4 Placing components into storage

Using the "To store" function the "Library" tab:

- Placing new components into storage:
  - Select the storage location
- Increasing existing inventories
  - Select an inventory number at a storage location (additive storage)

Further, under the "Shopfloor" tab, you have the possibility of additively storing components at the previous target storage location, see Chapter: Additively store components (Page 60).

**Note**

**Minimum quantities**

The specified minimum quantity of components may not be fallen below, see Chapter: Determining minimum quantities (Page 63).

### Procedure

1. Click the "Library" tab.
2. Select the required type of component in the left-hand window area.
3. Click on the component in the table in the upper window area.

4. In the lower window area, click on the "To store" tab.
   Enter the following data:
   - Number
   - Target storage location
     Click on the drop-down list.
     Select the inventory number of the component or the required storage location

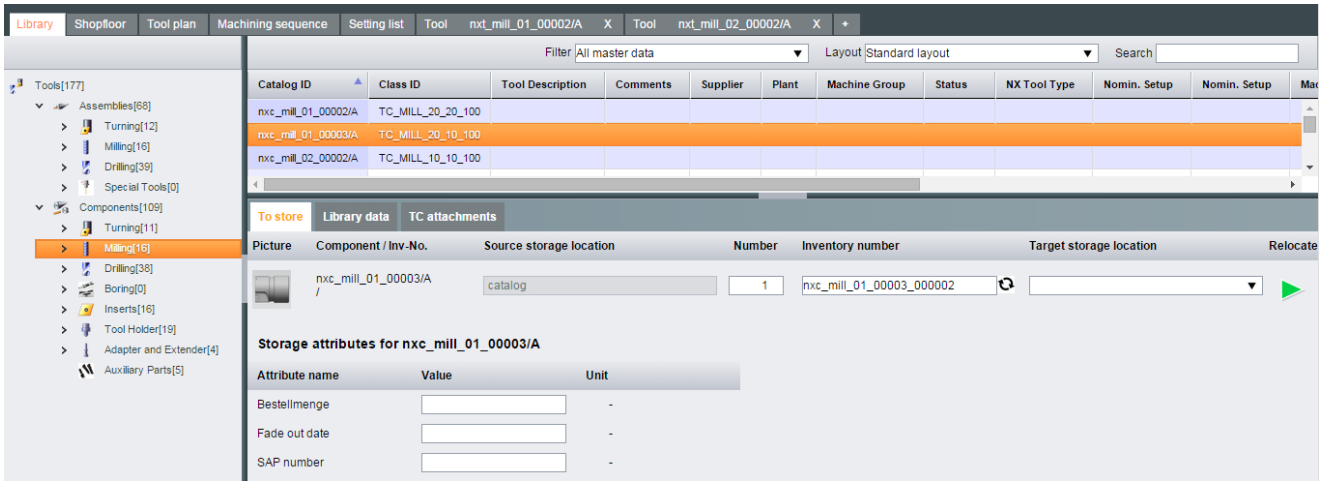
     **Note**

     **Inventory number**

     Shop Floor Integrate automatically assigns an inventory number.

     Alternatively, you can manually assign an inventory number.

   - Enter the missing data in the "Stock attributes" window.
     The input fields marked with red are mandatory fields. Enter the required data.
     Input fields that are not color-coded are optional fields.
5. Click on symbol ▶ , to store/relocate the component.



# 6.6 The "Shopfloor" tab

The "Shopfloor" tab provides an overview of:

- The locations of existing assemblies and components
- Data relating to existing assemblies and components

In the "Shopfloor" tab you can:

- Displaying reservations (Page 54)
- Relocating assemblies (Page 55)
- Relocating assemblies that have not been set (Page 56)
- Completing the assembling of assemblies (Page 58)
- Disassembling complete tools (Page 59)
- Additively store components (Page 60)
- Relocating components (Page 61)
- Removing components from storage (Page 62)
- Determining minimum quantities (Page 63)

## Requirement

For the operations Store, Relocate, Retrieve and Disassemble additives, you require the appropriate access rights, see Section Stock administration - Rights (Page 126)

## Structure

The shopfloor structure is shown in the left-hand window area. From here, assemblies and components are accessed.

You have access to the standard containers of Shop Floor Integrate and the containers of Manage MyTools.

Standard containers in Shop Floor Integrate are:

- Assembly station
- Shopfloor cabinets with shelf boards and shelves
- Automated component cabinets with shelf boards and shelves
- Groups

Containers for MMT are:

- Disassembly magazine
- Group
- Machines with magazines
- SQL magazine
- Setting container

The tables in the right-hand window area contain all of the assemblies and components, which are at the selected locations. The number of entries that are displayed can be reduced using the filter:

- Assemblies
- All resources
- Assembled components
- Components that have not been assembled
- Partially completed tools

Data and information about the components and assemblies is provided in the following tabs:

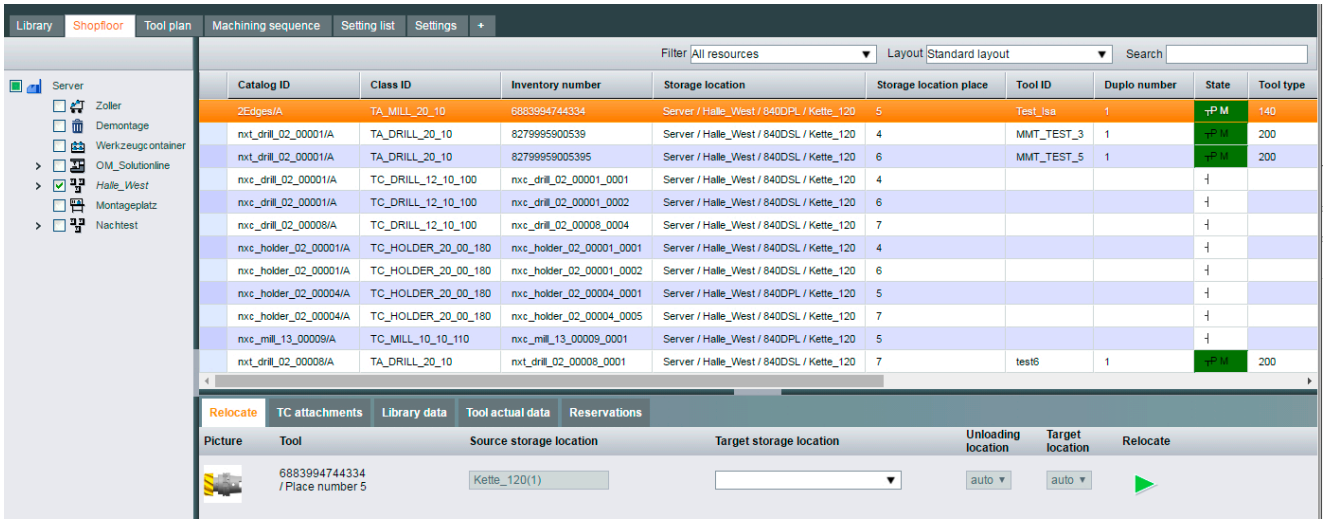
- TC attachments
- Library data
- Tool actual data
  - Tool-related data
  - Tool-related and cutting-edge-related user data
  - General data
  - Monitoring data
- Reservations

Information about components includes, for example:

- Tool-specific parameters
- Data
- Geometries
- Draft drawings

Information about assemblies includes, for example:

- Key parameters
- Geometries
- Technical drawings




## 6.6.1 Displaying details from the library

From the "Shopfloor" tab, you can access information about assemblies and components, which are also stored in the "Library" tab.

You can find information in the tabs:

- Library data
- TC attachments

### Procedure

1. Select the "Shopfloor" tab.
2. In the left-hand window area, navigate to the required location (machine, assembly station or storage location/component cabinet).
3. If required, select a filter in order to restrict the number of data sets that are displayed.
4. Select the desired entry in the table.
5. In the lower window area, click the "Library data" or "TC attachments" tab.
   The corresponding tab opens. The information on the selected assembly or the selected component is displayed.

## 6.6.2 Displaying reservations

You can find information on the reserved assemblies and the reserved components for assemblies in the "Reservations" tab.

| Parameters | Description |
|---|---|
| Number | • Number of reservations for components for one or more assemblies<br>• Number of reservations for an assembly |
| Scheduled supply date | Specification of the date for use on the target machine |
| Associated assembly | Name of the assembly |
| Target machine | Name of the machine on which the components/ assembly are to be used. |
| Target magazine | Specification of the target magazine on which the components/assembly are to be used. |
| Machining sequences | Name of the machining sequence |

**Note**

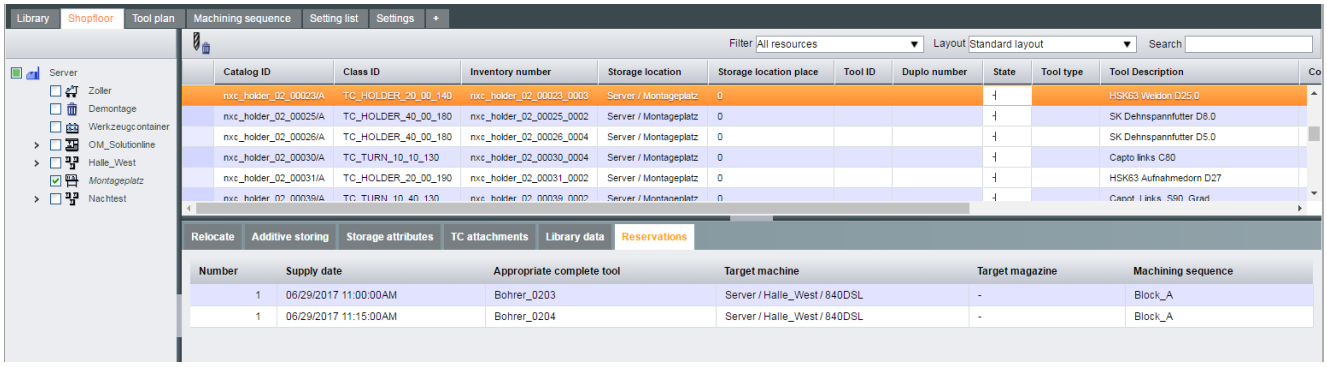
**Display of the reservations**

Depending on the available number of a component, this component can be reserved for one or more assemblies. As a result, the display in the "Reservations" tab encompasses one of more entries.

The reservation of an assembly is one entry.

### Procedure

1. Select the "Shopfloor" tab.
2. In the left-hand window area, navigate to the required location (machine, assembly station, storage location / component cabinet).
   Multiple selection is also possible.
3. If required, select a filter in order to restrict the number of data sets that are displayed.
4. Select the desired entry in the table in the upper window area.
5. In the lower window area, select the "Reservations" tab.
   The information is displayed.




## 6.6.3 Relocating assemblies

With the "Relocate" tab, you can relocate the inventories of assemblies within the shopfloor structure.

The relocation is performed on:

- Machines
- Storage locations for assemblies

### Parameters

| Parameters | Description |
|---|---|
| Picture | Picture of the assembly<br>Permanent default setting |
| Tool | Specification of the catalog ID and of the inventory number<br>Permanent default setting |
| Source storage location | Current storage location of the assembly in Shop Floor Integrate<br>Permanent default setting |
| Target storage location | Display of possible target storage locations within Shop Floor Integrate<br>The data-oriented selection of containers and machines for the relocation takes place here.<br>A target storage location can have several target locations.<br>Mandatory field |
| Loading/unloading location | Designates the loading or unloading location of the assembly directly on the machine.<br>Optional input field |
| Target location | The target location always refers to the selected target storage location.<br>Designates the location number of the magazine direct on the machine.<br>Optional input field |
| Relocate | Button for relocating |

### Procedure

1. Click the "Shopfloor" tab.
2. Select the "Assemblies" filter
3. In the left-hand window area, navigate to the current storage location of the assemblies.
4. Select the required assembly in the table.
5. In the lower window area, select the "Relocate" tab.
6. Select the target storage location via the drop-down list.

**Note**

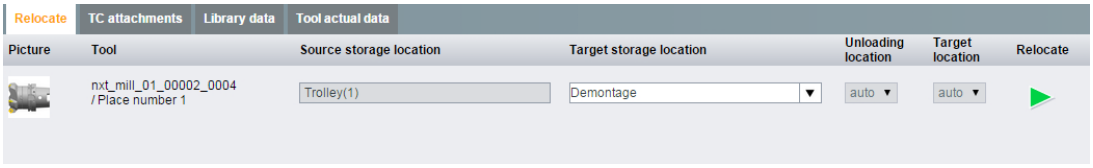
**Phased out assemblies**

Phased out assemblies that are already set, and so possibly also in a machine, may continue to be used (freely relocate).

7. Selection of the unloading location and target location:
   - If "auto" is the default specification in both fields, the selection of the next free location is automatically done by Shop Floor Integrate.

   - OR -

   - If "auto" is not specified by default in the two fields, you can select the desired locations via the drop-down list.
8. Click the ▶ icon.




## 6.6.4 Relocating assemblies that have not been set

This section describes the relocation of an assembly that has not been set from the assembly station to a setting magazine.

The tool setting is then made in this setting magazine. More detailed information on the tool setting can be found in Section Setting an assembly (Page 80).

### Parameters

| Parameters | Description |
|---|---|
| Picture | Picture of the assembly<br>Permanent default setting |
| Component / inv. no. | Specification of the catalog ID and of the inventory number<br>Permanent default setting |
| Source storage location | Current storage location of the assembly in Shop Floor Integrate<br>Permanent default setting |

| Parameters | Description |
|---|---|
| Target storage location | Display of possible target storage locations within Shop Floor Integrate<br>The data-oriented selection of containers and machines for the relocation takes place here.<br>A target storage location can have several target locations.<br>Mandatory field |
| Setting data: | |
| Tool identifier | Tool name of the assembly as used in the NC program<br>Mandatory field |
| Duplo number | The value 0 corresponds to an assignment of the duplo number on the machine.<br>Mandatory field |
| Machine | Machine on which the assembly is to be used after setting.<br>The target machine is selected via the drop-down list.<br>Note:<br>If "None" is selected, the assembly is not assigned to any machine and can be loaded to an arbitrary machine from the tool cabinet. |
| With measurement | Checkbox activated means:<br>The assembly must be measured and is then set with the geometry data measured on the presetting station.<br>Checkbox not activated means:<br>The assembly is not measured on the presetting station, but rather set with the geometry data from the library.<br>Mandatory field |

## Requirement

You are in the "Shopfloor" tab.

The desired assembly is:

- Assembled
- Not set yet
- Selected in the table in the upper window area

## Procedure

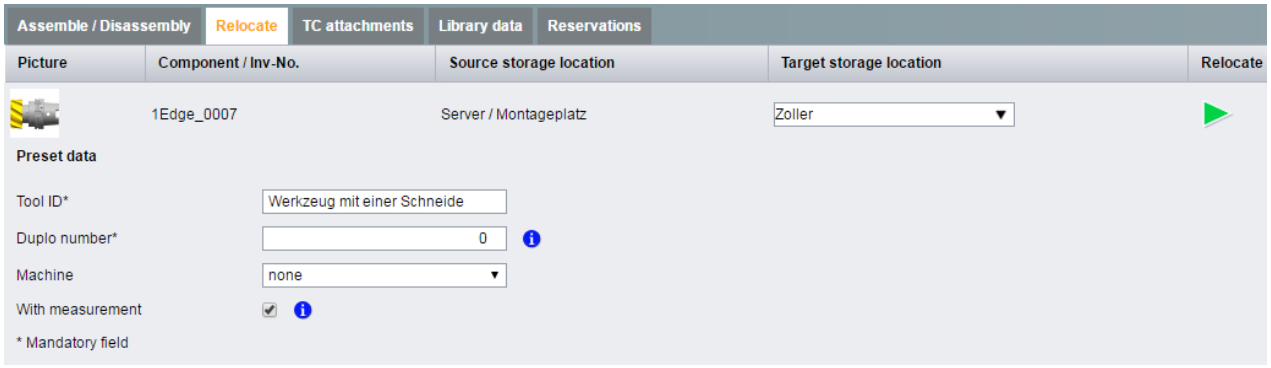
1. In the lower window area, select the "Relocate" tab.
2. Select a target container for the assembly at "Target storage location".
   Use the drop-down list for this purpose.

3. Enter the setting data.
4. Click the ▶ icon.
   Depending on the "With measurement" selection, the assembly is either sent to the tool presetting station or relocated to the selected target container.

**Note**

**With measurement**

The assembly is displayed with the "To be measured" status in the setting list after being sent to the tool presetting station.




## 6.6.5 Completing the assembling of assemblies

You have started the "Assemble tool" function in the "Library" tab, see Section: Assembling tool assemblies (Page 46).

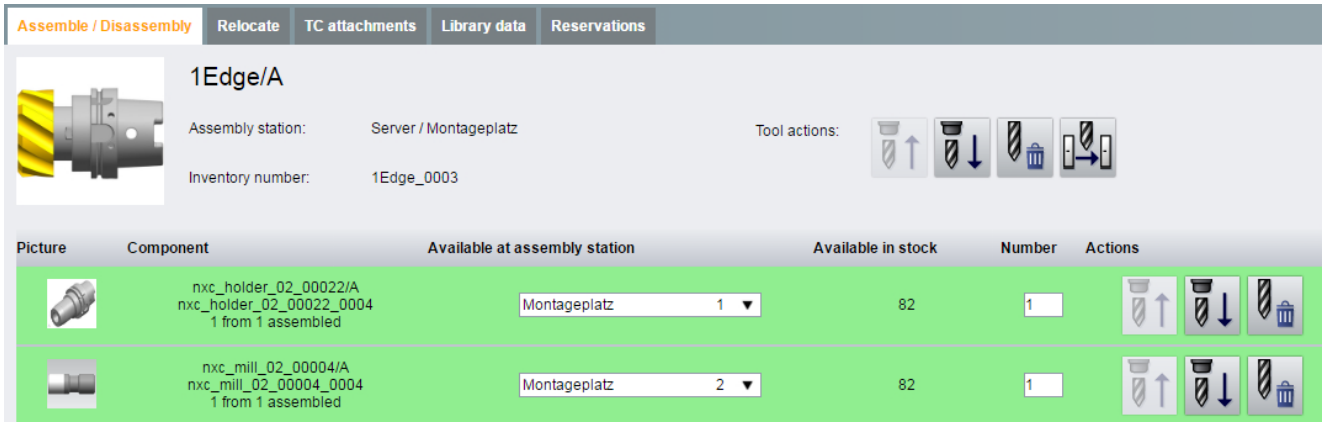
### Parameters

- Assembly station
- Inventory number: generate new inventory number
- Tool actions
  - Add All
  - Remove All
  - Scrap All
  - Relocate
  - Remove
  - Scrap

### Procedure

1. The "Shopfloor" tab is open.
2. The assembly is selected.

3. The "Assemble/Disassemble" tab opens in the lower window area and shows the details of the components.
4. Click the "Add" icon for actions.
5. Check the availability of components in the storage.
   If components are missing, relocate them from the assembly window, see Section: Placing components into storage (Page 49).
6. In order to provide the assembly for the tool setting or for machine tools, it must be relocated to a setting magazine:
   Click the "Relocate" tab and follow the instructions in Section Relocating assemblies that have not been set (Page 56).




## 6.6.6 Disassembling complete tools

The disassembly allows an assembly to be broken down into components from a data-related perspective.

The disassembly is done exclusively at the assembly station.

After the disassembly, you can do the following with the components:

- Remove All
- Scrap All
- Relocate to the target storage location

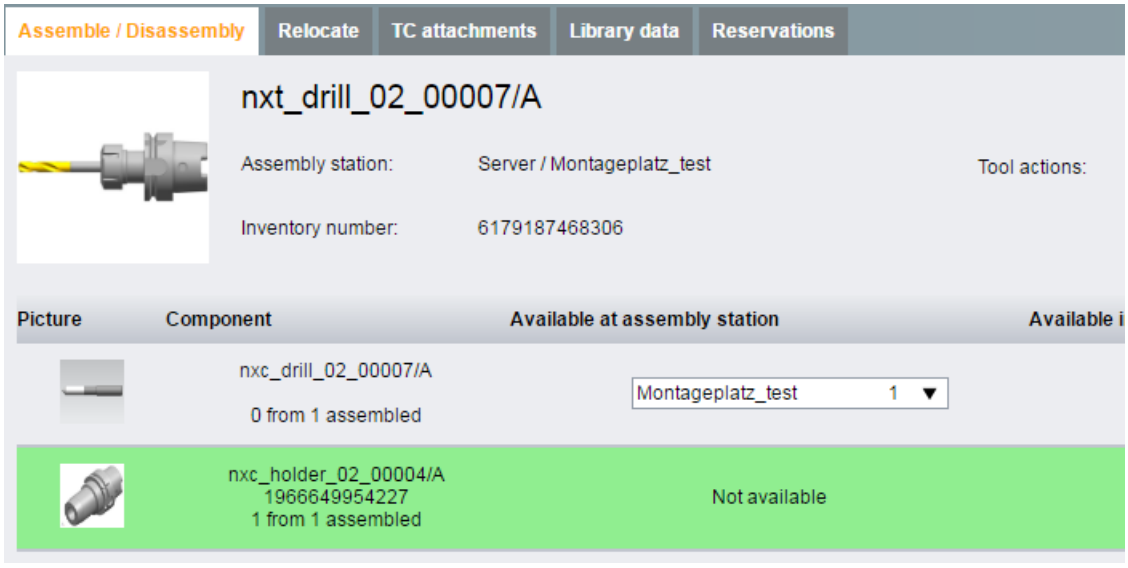
### Requirement

- To disassemble assemblies, you require group- and user-specific access rights, see following Section:
  - Rights (Page 124)
- The assembly is at the assembly station from a data-related perspective.
- Assemblies in the disassembly magazine must be relocated to the assembly station, see Section: Relocating assemblies that have not been set (Page 56).

### Procedure

1. Click the "Shopfloor" tab
2. In the left-hand window area, click "Assembly station".
3. In the table in the upper window area, select the assembly for disassembly.
4. In the lower window area, select the component in the "Assemble/Disassemble" tab.
5. Click the "Remove" icon or the "Scrap" icon.
   - In the "Tool actions" area in order to simultaneously remove or scrap all components.
     - OR -
   - After each component to individually remove or scrap components.

   The assembly has been disassembled. "0 of x assembled" is displayed in the "Component" column.
   Removed components are available at the assembly station.
   Scrapped components are deleted from Shop Floor Integrate.




## 6.6.7 Additively store components

The "Store additive" function in the "Shopfloor" tab performs:

- The ordered/supplied components are added to the existing inventory at the previous storage location.
- All components of this order/delivery are stored under the same inventory number.

**Note**

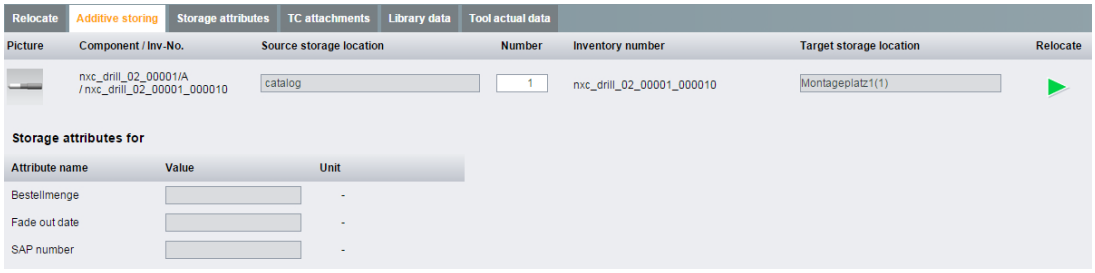
**Additively storing**

You can only additively store "Non-assembled components".

Further, the "Library" tab allows you to store components at the previous target storage location, see Section: Placing components into storage (Page 49).

### Procedure

1. Click the "Shopfloor" tab.
2. In the left-hand window area, click the permissible storage location/standard container in Shop Floor Integrate, see Section: The "Shopfloor" tab (Page 51).
   Select the required shelf board or shelf.
3. In the upper window area, click the component whose inventory you wish to increase.
4. In the lower window area, click the "Additive storing" tab.
5. Enter the "Number" of components that you wish to place into storage.
   The "Target storage location" is permanently saved.
6. Click the ▶ icon.
   The components are placed into storage under the same inventory number. The inventory was increased by the appropriate number (count).




## 6.6.8 Relocating components

Using the "Relocate" function, stocks of components, within the shopfloor structure can be:

- Relocate
- Additively stored by selecting the inventory number.

Permissible storage locations can be selected based on the inventory number or the standard container within Shop Floor Integrate, see Section: The "Shopfloor" tab (Page 51).

**Note**

**Minimum amounts**

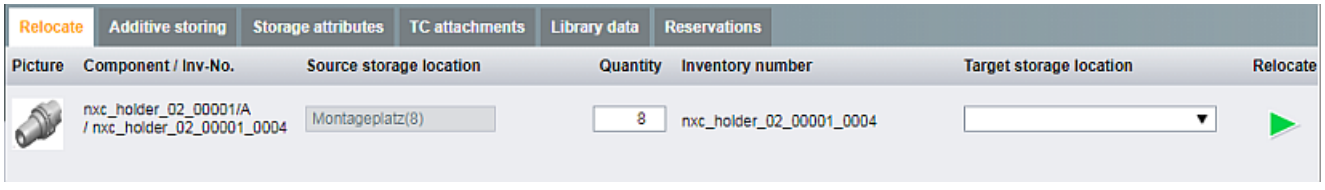
The specified minimum amounts of components may not be undershot, see Section: Determining minimum quantities (Page 63).

### Parameters

| Parameters | Description |
|---|---|
| Picture | Picture of the component<br>Permanent default setting |
| Component / inv. no. | Specification of the catalog ID and of the inventory number<br>Permanent default setting |
| Source storage location | Current storage location of the component in Shop Floor Integrate<br>Permanent default setting |
| Quantity | Number of components that are to be relocated |
| Inventory number | Inventory number of the component |
| Target storage location | Display of possible target storage locations within Shop Floor Integrate<br>The data-oriented selection of containers and machines for the relocation takes place here.<br>A target storage location can have several target locations.<br>Mandatory field |
| Relocate | Button for relocating |

### Procedure

1. Click the "Shopfloor" tab.
2. In the left-hand window area, navigate to the actual storage location of the components.
3. Select the desired entry in the table.
4. In the lower window area, select the "Relocate" tab.
5. Enter the following data:
   - Enter the number of components that you wish to relocate/additively store.
     The inventory number is kept if you move the complete quantity.
     If you move a subset, and this subset is allocated a new inventory number. The remaining inventory still has the previous inventory number.
   - Target storage location
     Click on the drop-down list to select the target storage location/inventory number.
6. Click the ▶ icon.

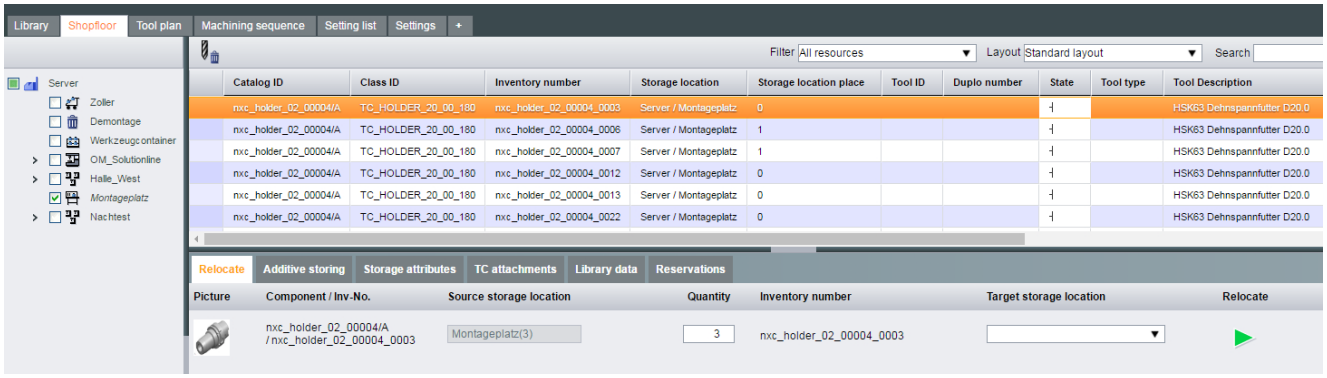



## 6.6.9 Removing components from storage

Using the "Remove" function, you can completely delete component inventories.

### Procedure

1. Click the "Shopfloor" tab.
2. In the left-hand window area, click the storage location of the component that you wish to remove out of storage.
3. In the table in the upper window area select the component.
4. In the toolbar, click the icon.
5. Click "OK" to completely remove the components from the storage location.




## 6.6.10 Determining minimum quantities

Using the "Minimum amount" data, you can define the minimum component inventory in the storage system. This "Minimum amount" must not be undershot.

### Requirement

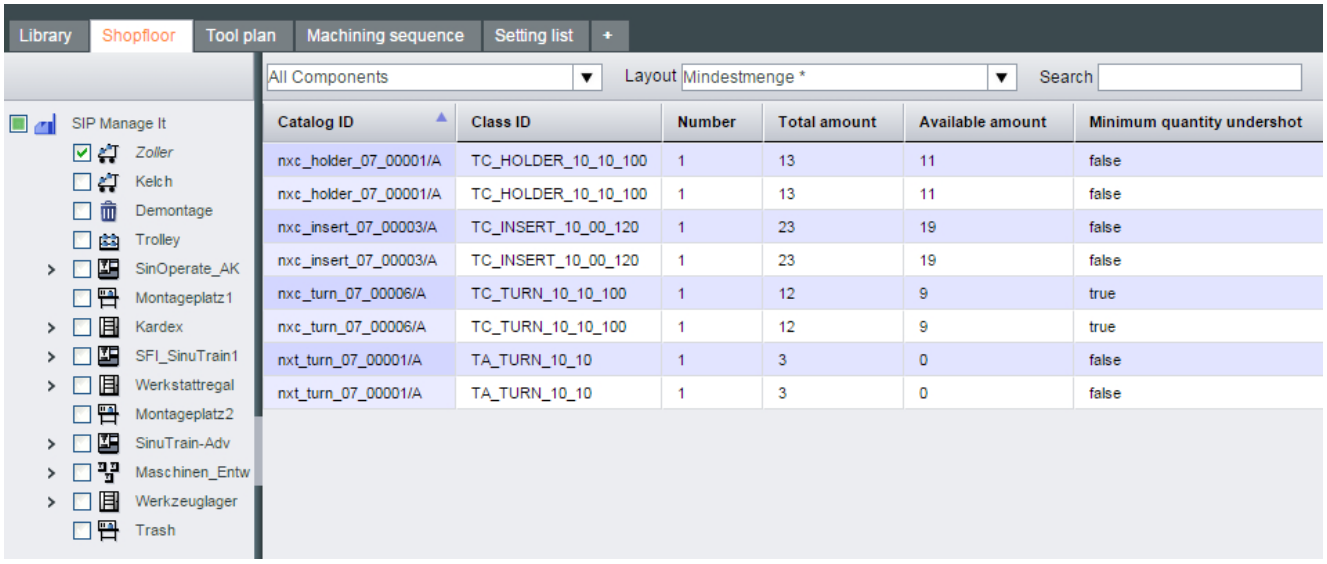
The following has been defined in Teamcenter:

- The "Minimum amount" attribute
- The minimum amount for the individual components has been entered

### Structure

You must increase the inventory before you fall below the minimum amount through relocation.

Using the filter function, you can select components, whose minimum amount is either undershot - or has not been undershot, see Section: Creating filters (Page 35).




| Catalog ID | Class ID | Number | Total amount | Available amount | Minimum quantity undershot |
|---|---|---|---|---|---|
| nxc_holder_07_00001/A | TC_HOLDER_10_10_100 | 1 | 13 | 11 | false |
| nxc_holder_07_00001/A | TC_HOLDER_10_10_100 | 1 | 13 | 11 | false |
| nxc_insert_07_00003/A | TC_INSERT_10_00_120 | 1 | 23 | 19 | false |
| nxc_insert_07_00003/A | TC_INSERT_10_00_120 | 1 | 23 | 19 | false |
| nxc_turn_07_00006/A | TC_TURN_10_10_100 | 1 | 12 | 9 | true |
| nxc_turn_07_00006/A | TC_TURN_10_10_100 | 1 | 12 | 9 | true |
| nxt_turn_07_00001/A | TA_TURN_10_10 | 1 | 3 | 0 | false |
| nxt_turn_07_00001/A | TA_TURN_10_10 | 1 | 3 | 0 | false |

# 6.7 The Processing sequences tab

You require the "Machining sequences" tab for the balancing of machining sequences.

Only considered machining sequences can be balanced.

The shopfloor with its machines is displayed in the left-hand window area. The table in the upper window area contains the machining sequences of the selected target machine. The "Manage machining sequence" in the lower window area saves the data of the respective machining sequence.

**Note**

**Machining sequences with phased out assemblies**

Phased out assemblies are available only inactive in Shop Floor Integrate. Consequently, machining sequences with phased out assemblies cannot be used on the target machine.

Each machining sequence is assigned to a tool plan. Based on this information, Shop Floor Integrate determines the tools required for the next machining operations. A machining sequence is repeated until the target quantity has been reached.

In the "Machining sequences" tab you can:

- Creating a processing sequence (Page 66)
- Changing the processing sequence (Page 67)
- Balancing a processing sequence step-by-step (Page 68)
- Sorting processing sequences (Page 73)
- Deleting a processing sequence (Page 73)

## Requirement

You require the appropriate access rights to create, edit, delete or balance machining sequences, see Section Rights (Page 124).

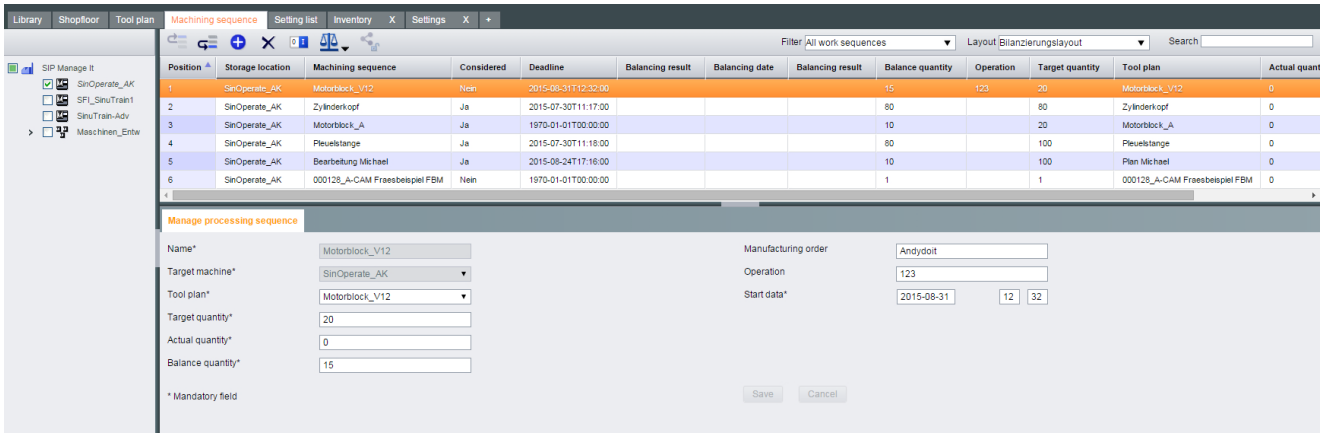
## Structure

Adapt the user interface according to your requirements. You can display selected datasets, show or hide columns, and conduct text searches.

Use the following for this purpose:

- Filter
- Layouts
- Search function

Further information can be found in Section: Basic functions (Page 35).




## 6.7.1 Creating a processing sequence

You can create new machining sequences.

### Parameters

| Parameters | Description |
|---|---|
| Name | Name for the manufacturing process.<br>Mandatory field |
| Target machine | Drop-down list for selecting the target machine.<br>Mandatory field |
| Tool plan | Drop-down list for selecting the tool plan.<br>The drop-down list contains only tool plans for the selected target machine.<br>Mandatory field |
| Target quantity | Specification of the number of workpieces that are to be manufactured in total.<br>Mandatory field |
| Actual quantity | Number of finished workpieces.<br>The unit counter is increased by 1 after each finished NC program cycle.<br>Mandatory field |
| Balance quantity | Number of workpieces via which the balancing should be done.<br>The maximum possible number results from the difference between the target quantity and the actual quantity.<br>Used for processing sub-quantities within an order.<br>Mandatory field |
| Manufacturing order | Assignment of the machining sequence to a manufacturing order.<br>Used for coordinating with the commercial system (e.g. to specify the SAP number, order number, or cost center number). |

| Parameters | Description |
|---|---|
| Operation | Name for the operation. |
| Start data | Start date of the order in the format YYYY-MM-DD<br>HH:MM<br>The user must specify the start date with the date selector.<br>Mandatory field |

## Procedure

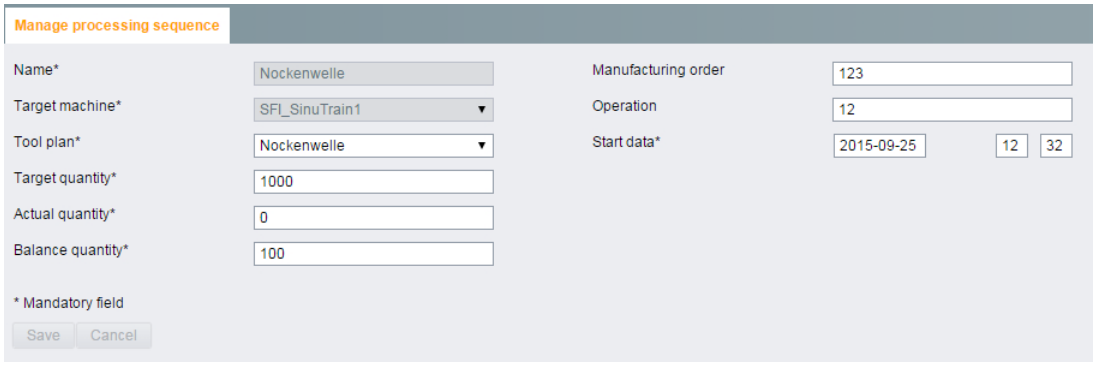
1. Open the "Machining sequences" tab.
2. In the left-hand window area select the required target machine.
3. In the toolbar, click the "Add" icon.
   Mandatory fields and optional input fields are displayed in the "Manage machining sequence" tab.

   **Note**

   **Mandatory fields**

   The input fields marked in red are mandatory fields. The new machining sequence can only be saved after all mandatory fields have been filled in.

4. Enter the data.
5. Click "Save" to accept the data that you have entered.
   In the lower area of the window, a system message signals whether the machining sequence could be successfully created.
   Successfully created machining sequences are displayed in the table in the upper area of the window.




## 6.7.2 Changing the processing sequence

You can change the parameters of created machining sequences.

Exceptions are:

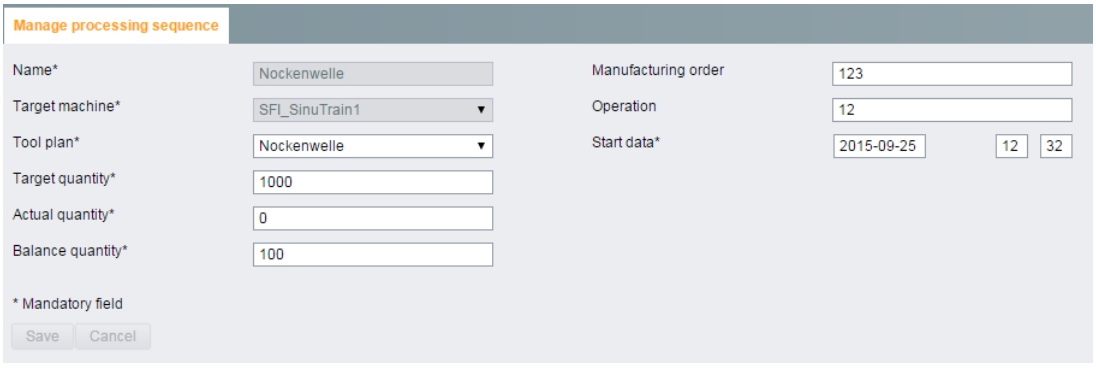
- Name
- Target machine

These two parameters cannot be changed.

You can find information about the parameters in the appropriate table in Section Creating a processing sequence (Page 66).

### Procedure

1. Open the "Machining sequences" tab.
2. In the left-hand window area, navigate to the required target machine.
   The created machining sequences of this target machine are displayed in the table in the upper window area.
3. Select the required machining sequence.
   The input fields are shown in the lower window area.
4. Change the data.
5. Click "Save" to accept the changed data.
   In the lower area of the window, a system message signals whether the machining sequence could be changed.




## 6.7.3 Balancing a processing sequence step-by-step

The balancing of processing sequences is done in several work steps.

Proceed as follows to do so:

- Considering the processing sequence (Page 69)
- Entering balancing data (Page 69)
- Balancing a processing sequence (Page 70)
- Releasing the balancing result of a processing sequence (Page 72)

**Note**

**Display of the balancing results of Shop Floor Integrate - Manage MyTools**

The balancing result of Shop Floor Integrate is only displayed in the "Setting list" tab of Shop Floor Integrate.

The balancing result of Manage MyTools is only displayed in Manage MyTools and does not influence the balance result of Shop Floor Integrate.

This means that: Both balancing processes function separately and independently of one another.

### 6.7.3.1 Considering the processing sequence

For the balancing, you must first take a processing sequence into consideration.

Processing sequences that are not taken into consideration cannot be balanced.

#### Procedure

1. Open the tab "Processing sequences".
2. In the left-hand window area, navigate to the required target machine.
   The created processing sequences of this target machine are displayed in the table in the upper window area.
3. Select the required processing sequence.

   **Note**

   **Multiple selection of processing sequences**

   You can consider several processing sequences simultaneously by means of a targeted multiple selection.

   Use the combination: <Ctrl> key and left mouse button.

4. In the toolbar, click the  icon.
   In the lower area of the window, a system message signals whether the processing sequence is considered for the balancing.
5. Balance the processing sequence, see Section: Balancing a processing sequence (Page 70).

### 6.7.3.2 Entering balancing data

Prior to balancing a machining sequence, you have the option of entering or changing the following data:

- Container selection
- Balancing options

### Parameters

| Parameters | Description |
|---|---|
| Container selection | Display of the containers in which the tools for the selected target machine can be found. |
| Limit the time needed to ... [h] | Limits the number of assemblies to be provided based on their time of operation. |
| Limit tool number to | Limits the number of tools to be provided per tool type. |
| Mix machining | This specification is necessary for the balancing if machining sequences are to be alternately executed.<br>If you do not select this field, the machining sequences are processed in order. |

### Container selection procedure

1. In the toolbar, click the icon.
   The following window opens:

2. Choose "Container selection".
   The window with the container overview opens.
3. Select the required container(s).
4. Click the "Save" button.
   In the lower area of the window, a system message informs whether the settings were saved successfully.

### Procedure for entering or changing balancing options

1. In the toolbar, click the icon.
   The following menu opens.

2. Select "Balancing options".
3. Enter the data.
4. Click the "Save" button.
   In the lower area of the window, a system message informs whether the settings were saved successfully.

## 6.7.3.3 Balancing a processing sequence

You can balance machining sequences, regardless of whether you have entered or changed balancing data beforehand. More information on the topic of entering balancing data can be found in Section: Entering balancing data (Page 69).

## Requirement

- The "Machining sequences" tab is open.
- The machining sequence to be balanced is:
  - Considered for the balancing
  - Selected

**Note**

**Multiple selection of machining sequences**

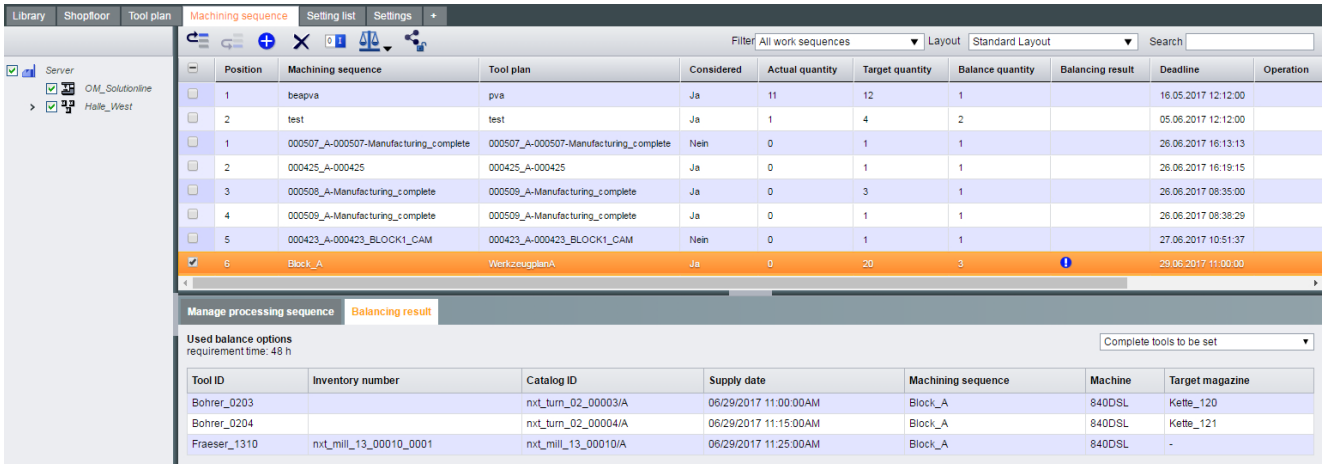
You can balance several machining sequences simultaneously by means of a specific multiple selection.

## Parameters

| Parameters | Description |
|---|---|
| Missing components | List of the missing components |
| Assemblies to be set | List of the assemblies to be set |
| Assemblies to be loaded | These assemblies are stored in the containers and must be loaded to the target machine. |
| Assemblies to be unloaded | These assemblies are no longer needed in the target machine and can be stored in the containers again. |
| Error messages | Overview of errors that can occur during balancing<br>Examples:<br>• Phased out assemblies are included<br>• Missing components<br>• Missing data<br>• ... |

## Procedure

1. In the toolbar, click the icon.
   The balancing is carried out.
   In the lower area of the window, a system message signals whether the balancing has been completed.
2. Check the balancing result:
   - Go to the "Balancing result" column of the table to check the success of the balancing.
     Balancing successful: .
     Balancing not successful: .
   - Click the "Balancing result" tab to view detailed balancing results.
     In the drop-down list, select the individual entries to get corresponding information.
3. Carry out the release for the machining sequence, see Section Releasing the balancing result of a processing sequence (Page 72)




### 6.7.3.4 Releasing the balancing result of a processing sequence

To successfully complete the balancing, you must release the balancing result.

**Note**

**Release of processing sequences with phased out assemblies**

The release of the balancing result is possible despite faulty balancing.

Phased out assemblies, however, are available only inactive in Shop Floor Integrated. Consequently, machining sequences with phased out assemblies cannot be used on the target machine.

### Requirement

- The "Processing sequences" tab is open.
- The relevant processing sequence is:
  - Considered for the balancing
  - Balanced
  - Marked

### Procedure

- In the toolbar, click the icon.
  In the lower area of the window, a system message signals whether the balancing result has been successfully released.
  The balancing process has completed.

## 6.7.4 Sorting processing sequences

Processing sequences can be arranged according to a user-defined order. The topmost processing sequence corresponds to the highest priority.

The order of the processing sequences thus determines the priority of the workpieces to be processed (jobs).

### Procedure

1. Select the desired processing sequence in the table.
2. To define the priorities, select the following icons in the toolbar:
   - In the toolbar, click on the icon to move the processing sequence upward by one position.
     - OR -
   - In the toolbar, click on the icon to move the processing sequence downward by one position.
3. Repeat these steps until the processing sequences are listed in the desired order.

## 6.7.5 Deleting a processing sequence

### Procedure

1. Open the "Machining sequences" tab.
2. In the left-hand window area, navigate to the required target machine.
   The created machining sequences of this target machine are displayed in the table in the upper window area.

3. Select the machining sequence that you want to delete.

   **Note**
   **Multiple selection of machining sequences**

   You can delete several machining sequences simultaneously by means of a specific multiple selection.

4. In the toolbar, click the ✕ icon.
   The machining sequence is deleted without an additional confirmation prompt.
   In the lower area of the window, a system message signals whether the machining sequence has been successfully deleted.

# 6.8 The Setting list tab

The "Setting list" tab contains the components and assemblies of one or several successfully balanced and released machining sequences.

These now reserved components and assemblies are displayed in a parts list.

In the "Setting list" tab you can:

- Displaying components/assemblies (Page 76)
- Storing missing components (Page 77)
- Printing a parts list (Page 78)
- Assembling assemblies (Page 79)
- Setting an assembly (Page 80)

## Structure

You will find information about open tasks and the current status of these reserved components and assemblies.

Open tasks are:

- For assembly
- To be completed
- Components to be ordered
- To be set
- To be measured

**Note**

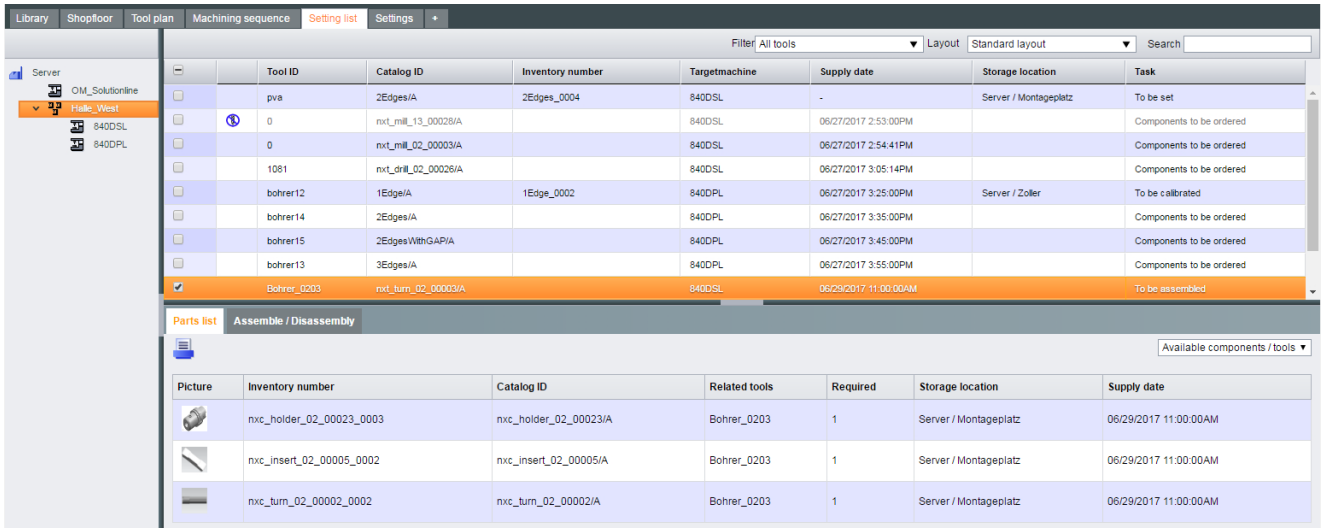
**Phased out assemblies**

The machining of phased out assemblies is not possible.

Such assemblies are identified with the icon in the table in the upper window area.

The "Setting list" tab contains:

- The machine overview in the left-hand window area
- The table with the reserved assemblies of the associated target machine in the upper window area:
  These assemblies have successfully gone through the balancing process and have been released.
- The "Parts list" tab in the lower window area
  The parts list contains the reserved components and assemblies.
- The "Assembly/disassembly" tab in the lower window area
  Permits the assembly and disassembly of assemblies.
- The "Relocate" tab in the lower window area:
  Permits the setting of the components.




## 6.8.1 Displaying components/assemblies

The parts list shows:

- Existing and missing components of one or more tools
- Partially completed tools
- Assemblies to be measured

### Requirement

- Successfully carried out balancing
- Successful release

### Parameters

| Parameters | Description |
|---|---|
| All components/tools | The parts list contains the existing and missing components of the selected tool, partially completed tools, and assemblies to be measured. |
| Available components/tools | The parts list contains the existing components of the selected tool, partially completed assemblies, and assemblies to be measured. |
| Missing components | The parts list contains the missing components of the selected tool.<br>The data of the inventory number and storage location are missing for these components. |

### Procedure

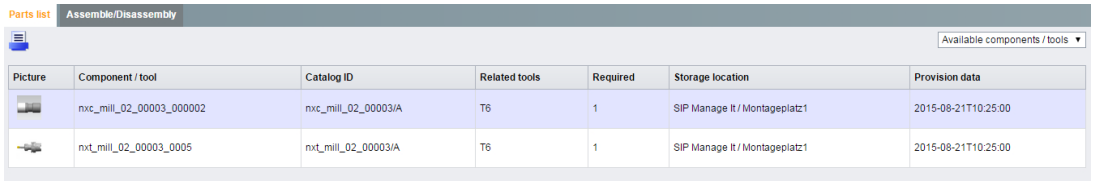
1. In the left-hand window area select the required machine.
   The corresponding tools of this machine are displayed in the table in the upper window area.
2. Select a tool.

   **Note**
   **Multiple selection of tools**

   You can select several tools in the table by means of a multiple selection.

   The parts list then contains the components of all of the selected tools.

3. Click the "Parts list" tab.
4. Select the desired entry in the drop-down list.
   The information is shown in the parts list.




## 6.8.2 Storing missing components

You can store the missing components in the "Parts list" tab.

The missing components are displayed in the parts list without an inventory number and without specifying a storage location.

### Requirement

- Successfully carried out balancing
- Successful release
- The missing components of one or more tools are listed in the "Parts list" tab.

**Note**
**Multiple selection of tools**

You can select several tools in the table by means of a multiple selection.

Use the combination of the <Ctrl> key and the left mouse button.

The parts list then contains the components of all of the selected tools.

### Procedure

1. Navigate to the missing component.
2. Click the displayed catalog ID in the "Catalog ID" column.
   Shop Floor Integrate automatically jumps to the "To store" tab in the "Library" tab.
3. Store the missing components; see Section Placing components into storage (Page 49).
4. Rebalance the associated processing sequence:
   - Open the "Setting list" tab.
     You can find the designation of the relevant processing sequence of the table in the upper area of the window, in the "Processing sequence" column.
   - Open the "Processing sequences" tab.
   - Balance the relevant processing sequence, see Section Balancing a processing sequence (Page 70).
5. Carry out the release for the relevant processing sequence, see Section Releasing the balancing result of a processing sequence (Page 72).
6. Check in the "Settings list" to see if the missing component has been successfully stored.
   This component is now listed in the parts list as available component.
7. If you want to store additional missing components, repeat the steps.


## 6.8.3 Printing a parts list

You can print the parts list displayed by Shop Floor Integrate.

### Requirement

- Successfully carried out balancing
- Successful release

- One or more tools are selected in the table.

**Note**

**Multiple selection of tools**

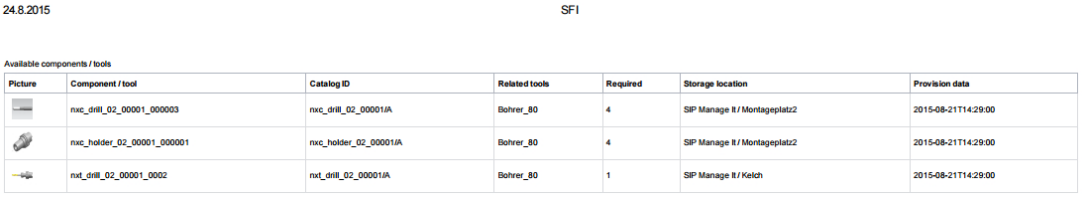
You can select several tools in the table by means of a multiple selection.

The parts list then contains the components of all of the selected tools.

- The "Parts list" tab is open.
  Depending on the filter, the parts list displays the available and/or missing components.

## Procedure

1. Click the  icon above the parts list.
   The "Print" window opens.
2. Select the print settings.
3. Click the "Print" button.



24.8.2015 SFI

Available components / tools

| Picture | Component / tool | Catalog ID | Related tools | Required | Storage location | Provision data |
|---|---|---|---|---|---|---|
| | nxc_drill_02_00001_000003 | nxc_drill_02_00001/A | Bohrer_80 | 4 | SIP Manage It / Montageplatz2 | 2015-08-21T14:29:00 |
| | nxc_holder_02_00001_000001 | nxc_holder_02_00001/A | Bohrer_80 | 4 | SIP Manage It / Montageplatz2 | 2015-08-21T14:29:00 |
| | nxt_drill_02_00001_0002 | nxt_drill_02_00001/A | Bohrer_80 | 1 | SIP Manage It / Kelch | 2015-08-21T14:29:00 |

## 6.8.4 Assembling assemblies

You can assemble assemblies in the "Setting list" tab.

**Note**

**Display of assembled assemblies of the library**

The Setting list" tab also lists assemblies that were assembled with the "To be measured" suffix in the library.

If no machine is selected for this process, this assembly can be found in the Setting list via the "Server" display.

- Click "Server" in the left-hand window area in the "Setting list" tab. The assembly is displayed with the "To be measured" status in the table in the upper window area.

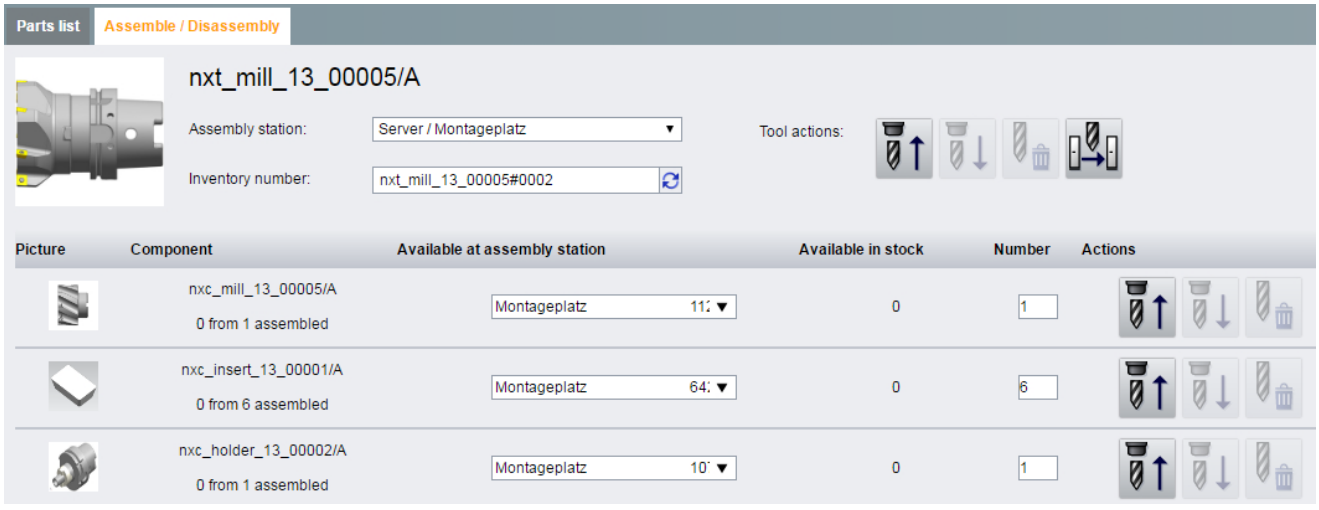
**Note**

**Phased out assemblies**

The assembly of phased out assemblies is not possible.

### Procedure

1. In the dialog bar, select the "Setting list" tab.
2. In the left-hand window area, select the required machine or server.
   The associated assemblies of this machine or al assemblies of the server are displayed in the table in the upper window area.
3. Select an assembly with the task "To be assembled" or "To be completed".
4. Select the "Assembly/disassembly" tab in the lower window area.
   In the "Tool actions" area, click "Add All" to completely assemble the assembly
   - OR -
   For selected components, click "Add" to assemble individual components.
   The assembly is assigned the "To be set" task in the upper window area.




## 6.8.5 Setting an assembly

You can configure an assembly in the "Setting list" tab.

### Parameter

| Parameter | Description |
|---|---|
| Tool identifier* | * Mandatory field<br>Possibly pre-assigned |
| Duplo number* | * Mandatory field<br>For further information, click . |
| Machine | Possibly pre-assigned<br>If not, select a machine / no machine via the entries in the drop-down list. |

| Parameter | Description |
|---|---|
| Machining sequences | It must be pre-assigned to make it visible. |
| With measurement | Activate the checkbox to measure the assembly in the tool setting station.<br>To use the geometry data of the assembly from the library, the checkbox remains inactive.<br>For further information, click . |

## Procedure

1. Click the "Setting list" tab.
2. In the left-hand window area, select the required machine or server. The associated assemblies of this machine or al assemblies of the server are displayed in the table in the upper window area.
3. Select an assembly with the task "To be assembled".
4. Open the "Relocate" tab.
   - Select the setting container in the "Target storage location" column via the drop-down list, here designated with "Presetting".
     If the assembly was successfully balanced and released, the selected input fields are already pre-defined. Such input fields have a gray background.
     Enter the missing setting data.
   - Click the "Relocate" ▶ icon.
     If you have selected "With measurement" in advance, the assembly in the "Setting list" tab has been assigned the task "To be measured".
     If you use the geometry data from the "Library" tab, the assembly with the associated data is contained in the Setting container in the "Shopfloor" tab.

# 6.9 The Tool plan tab

A tool plan must be saved for each machining. Together with the machining sequence, the tool plan forms the basis for balancing.

The tool plan is also an important precondition for executing machining sequences.

You can assign assemblies to NC programs using the tool plan. Every tool plan is executed precisely on one target machine.

## Requirement

You require the appropriate access rights to create, edit or delete tool plans, see Section Rights (Page 124).

## Structure

The tool plan contains information about:

- Tools used
- Version
- Used
- Date of the last change
- Storage location

The lower window area contains the tool plan details:

- Tool plan
- Machine details
- NC program
- Date of change and editor
- Version
- Channel number
- Total run time
- Non-productive time

List of tools used:

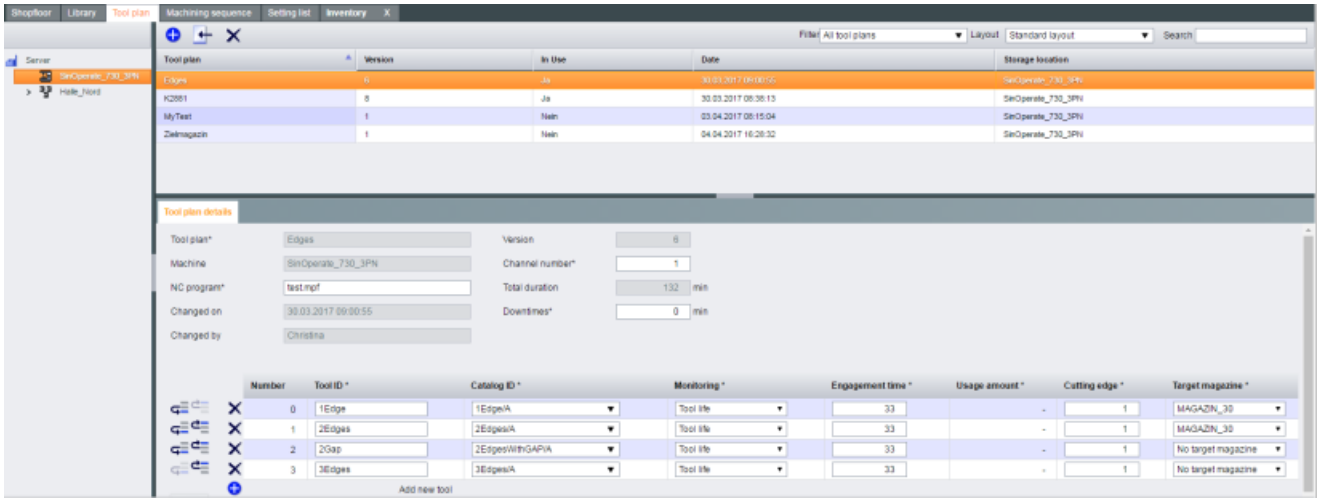
- Consecutive number
- Tool identifier
- Catalog ID
- Monitoring
- Cutting time
- Usage amount
- Cutting edge
- Target magazine

You can either access tool plans already available in Teamcenter, or you can create new tool plans according to your particular requirements.

**Note**

**Phased out assemblies**

If the tool plan should contain assemblies phased out from the Teamcenter, a warning message is issued during the import.




## 6.9.1 Importing a tool plan

You can import already created tool plans from Teamcenter (TC).

**Note**

**Assignment of the target magazine**

With the import of a tool plan from the TC, the target magazine is set to "No target magazine set" by SFI. In order to take target magazines into account for a balance calculation, the target magazine must be set manually.

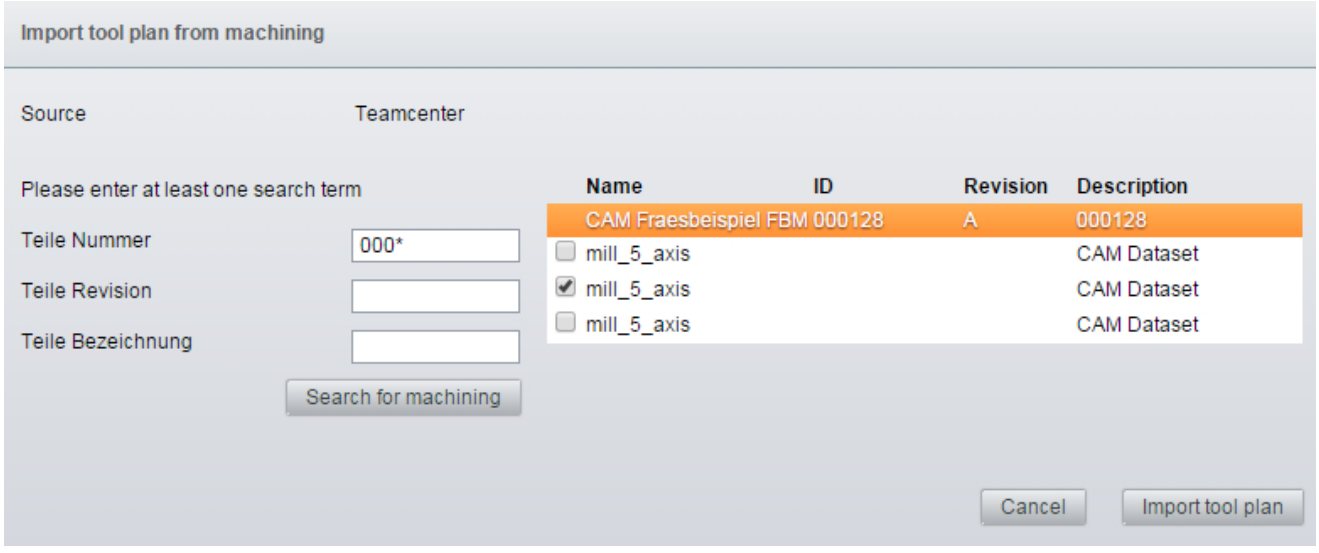
The specifications for the assignment of "Machine SFI" -"Teamcenter" can be found in the "Settings" tab in the Master data set management (Page 127) area.

### Requirement

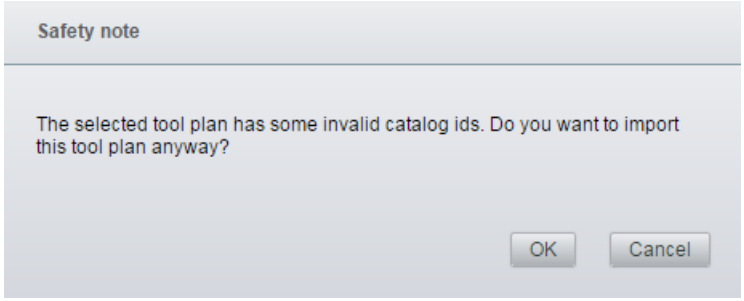
You can import tool plans from Teamcenter only when the machine is linked with a machine identification from Teamcenter, see Section: Connected to reference data tab (Page 93).

## Procedure

1. Click the "Tool plan" tab.
2. In the left-hand window area select the required machine or group.
3. In the toolbar, click the icon.
4. In at least one input field, enter the following:
   - Search term, comprising at least three characters
     - OR -
   - At least three characters in conjunction with a place holder (e.g.: 000*)
5. Click the "Search for machining" button.
6. Select the required tool plan from the search result displayed.
7. Click "Cancel" to abort the operation.
8. Click "Import tool plan " to import the tool plan.




9. If the tool plan contains phased out assemblies from Teamcenter, a confirmation prompt is issued during the import.
   Click "OK" to still import the tool plan.
   - OR -
   Click "Cancel" to not import the tool plan with invalid catalog IDs.



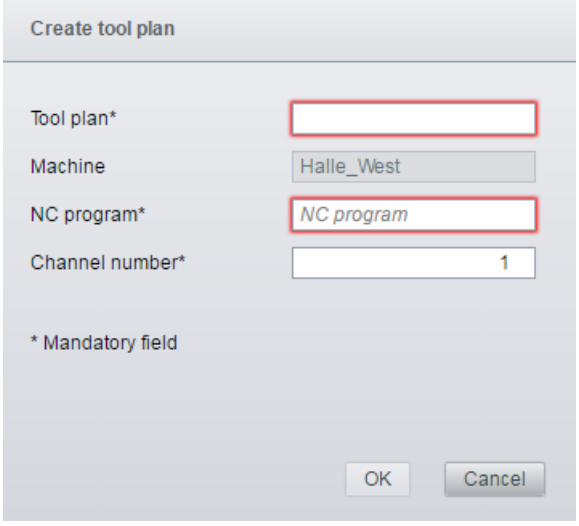
## 6.9.2 Creating a tool plan

You can create tool plans for:

- NC machine
- Group

### Procedure

1. Click the "Tool plan" tab.
2. In the left-hand window area select the required machine or group.
3. In the upper window area, in the tool list, click icon .
4. The "Create Tool Plan" window opens.
5. Enter the required data:
   - Name or identifier for the tool plan
   - NC program in which the assemblies of the NC program are used
   - Channel number (1 to 10), in which the NC program is executed
6. Click "OK" to create the tool plan.




## 6.9.3 Change tool plan

In the lower window area, you can change the tool plan of a machine.

#### Phased out assemblies in tool plans

You must change tool plans with phased out assemblies. Replace the tools with valid catalog IDs.

Phased out assemblies are identified by:

- Icon:
- Catalog ID shown red

## Parameters

You can select current assemblies via the drop-down list. If the tool plan contains only active assemblies, you can make the desired changes.

- Changing tool plan details:
  - Channel number
  - Non-productive time
- Changing or specifying the following parameters:

| Parameters | Description |
|---|---|
| Number | Sequence of the tool calls for the machining step in the NC program. |
| Tool identifier | Enter the tool identifier for the assembly used in the NC program. |
| Catalog ID | Selection for identification of the assembly in the higher-level library, e.g. MRL for Teamcenter. |
| Monitoring | Balancing is performed with the monitoring mode selected here.<br>The following selection options are available:<br>• No monitoring<br>• Tool life<br>• Quantity<br>The following fields will be displayed depending on the selected monitoring method:<br>• "Cutting time" = for tool life monitoring<br>• "Usage quantity" = for unit count monitoring |
| Cutting time | The time in minutes for which the tool is cutting. |
| Usage amount | The usage amount (cut count) to be subtracted from the planned cut count of the assembly per machining step.<br>**Note:**<br>The usage quantity must match the actual unit quantity (setpiece) in the NC program. |
| Cutting edge | Specification of the cutting edge number |
| Target magazine | **Selection:**<br>• No magazine<br>• Any physical magazine of the machine<br>**Operating principle:**<br>When a target magazine is specified, the requirement for this magazine is determined explicitly by balancing.<br>**Result:**<br>The result of the balancing is the new requirement for the specified target magazine or the reservation of an existing assembly for the target magazine. |

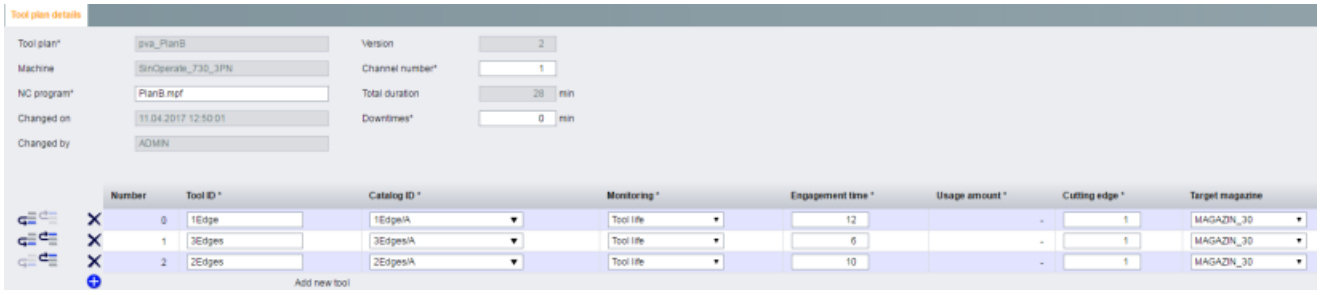
### Machining using icons

The following icons are available for editing the tool plan:

- Add tools with the icon:
- Remove integrated tools with the icon:
- Changing the tool sequence:
  - Move up with the icon:
  - Move down with the icon:

## Procedure

1. Click the "Tool plan" tab.
2. Click the required machine or group.
3. In the upper window area, select the required tool plan.
4. Make your changes in the lower "Tool Plan Details" window area.
5. Click the "Save" button to save the tool plan.
   The tool plan is updated, and can now be linked with the machining sequence.

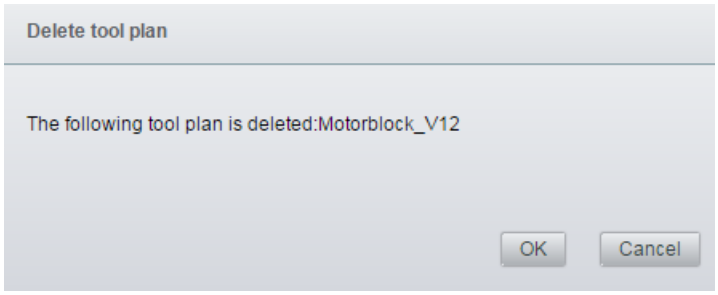



## 6.9.4 Delete tool plan

You can delete a tool plan.

## Procedure

1. Click the "Tool plan" tab.
2. In the left-hand window area select the required machine or group.
3. In the upper window area, select the required tool plan.
4. In the toolbar, click the icon.
   The "Confirmation Prompt" window opens.
5. Click "OK" to delete the tool plan.
   - OR -
   Click "Cancel" to cancel the operation.


Delete tool plan
The following tool plan is deleted:Motorblock_V12
OK
Cancel

# 6.10 The Shopfloor configuration tab

The "Shopfloor configuration" tab allows you to manage and expand the shopfloor.

In the shopfloor configuration, you can hierarchically arrange the shopfloor elements in the left-hand part of the window.

The following options are available:

- Creating a new shopfloor element. (Page 90)
- Editing a shopfloor element (Page 91)

You can find detailed information about every element and the configuration in the lower window area:

- Configuring a shopfloor element (Page 92)

## Requirement

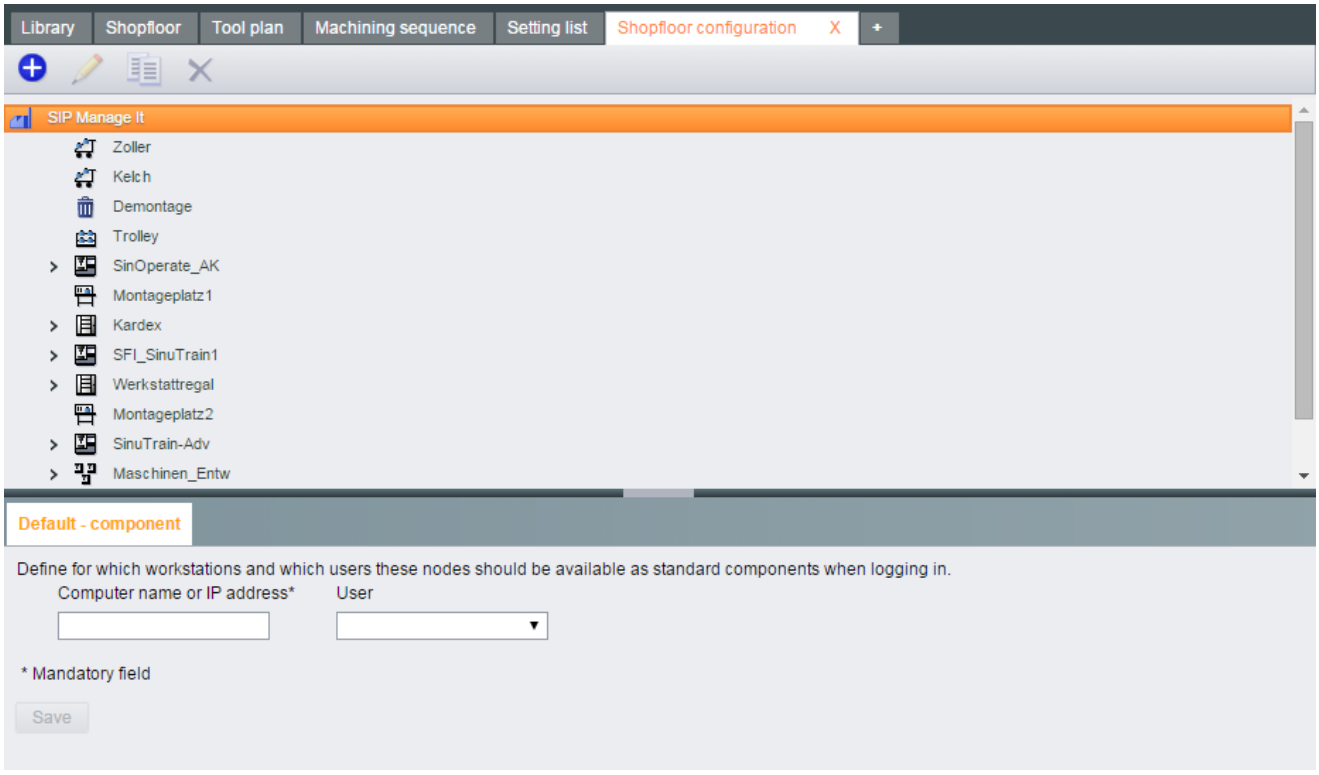
You require the appropriate access rights to edit the shopfloor configuration, see Section General rights (Page 116).

## Structure

**Note**

**Special features**

- Character strings cannot be selected and pasted into the input fields in the "Shopfloor configuration" tab.
- You can only edit elements that were created by Shop Floor Integrate.




## 6.10.1 Creating a new shopfloor element.

You can create the following elements depending on the selected shopfloor element:

- Group
- Component cabinet
- Shelf board
- Shelf
- Assembly station

Inadmissible shopfloor elements are deactivated in the shortcut menu of the selected shopfloor element. You cannot add these elements to the current position.

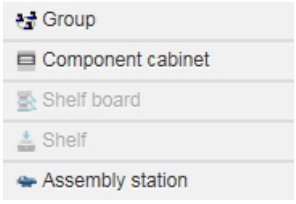
Table 6-1 Shopfloor element hierarchy

| Lower-level shopfloor element | Selected shopfloor element | | | | | |
|---|---|---|---|---|---|---|
| | Main nodes | Group | Component cabinet | Assembly station | Shelf board | Shelf |
| Main nodes | - | - | - | - | - | - |
| Group | x | x | - | - | - | - |
| Component cabinet | x | x | - | - | - | - |
| Assembly station | x | x | - | - | - | - |

| Lower-level shopfloor element | Selected shopfloor element | | | | | |
|---|---|---|---|---|---|---|
| | Main nodes | Group | Component cabinet | Assembly station | Shelf board | Shelf |
| Shelf board | - | - | x | - | - | - |
| Shelf | - | - | - | - | x | - |

### Procedure

1. In the lower window area, select the shopfloor element under which you wish to add the element.
2. Click the icon.
   The following context menu opens:




3. Select the element type.
4. Select an "Identifier".
   - OR -
   Confirm the suggested name.

## 6.10.2 Editing a shopfloor element

**Note**

**Editing elements**

You can only edit elements that were created by Shop Floor Integrate.

### Renaming a shopfloor element

1. In the toolbar, click the icon.
   - OR -
   Double-click the shopfloor element.
2. Changing the name.
3. Confirm the new name using the enter key.

### Duplicating a shopfloor element

- In the toolbar, click the icon.
  The shopfloor element and all lower level elements are copied together with their attributes, and are inserted again at the same level.

### Deleting a shopfloor element

- In the toolbar, click the ✕ icon.
  The shopfloor element and all lower level elements are deleted.

### Shifting a shopfloor element

- Shifting a shopfloor element by dragging & dropping.
  While shifting, a symbol at the mouse pointer indicates whether the new location of the shopfloor element is permissible.

## 6.10.3 Configuring a shopfloor element

You can configure the shopfloor elements in the lower window area.

The following tabs are available depending on the selected shopfloor element:

- Information
- Standard components tab (Page 92)
- Connected to reference data tab (Page 93)
- Configuration tab (Page 94)
- Configuration Wizard tab (Page 95)
- Coordinates tab (Page 96)

### 6.10.3.1 Standard components tab

Using the "Standard component" tab, you define for which workstations and users the selected shopfloor element should be available as start node.

When Shop Floor Integrate is opened in a browser, whose host has the entered IP address, then the defined user name is automatically entered into the login window and the "Automatic login" button is displayed. Using this button, users can log in without having to enter a password.

**Note**

**Selection of default component**

Select only one shopfloor node as default component per computer name or IP address.

If you have selected several shopfloor nodes, the shopfloor node with the highest hierarchy is specified as default component.

#### Validity

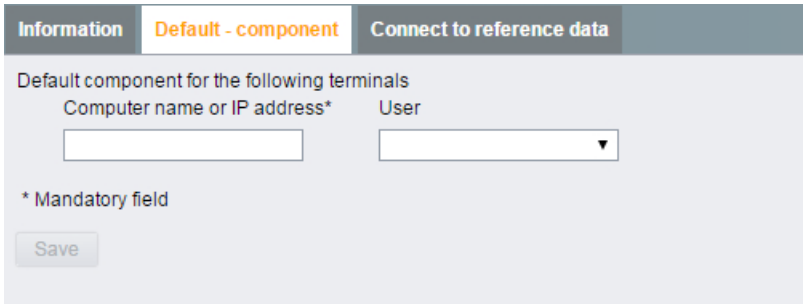
The "Default component" tab is available for the following shopfloor elements:

- Shopfloor (main node)
- Group

- Machine
- Assembly station

### Procedure

1. Select the required shopfloor element.
2. Enter the following data:
   – Computer name or IP address
   – User
3. Click the "Save" button.




## 6.10.3.2 Connected to reference data tab

You can select a machine identifier from Teamcenter for every machine.

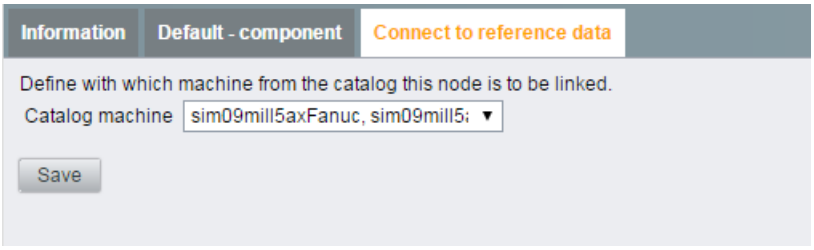
### Validity

The "Identification in Teamcenter" tab is available for the following shopfloor elements:

- Machine

### Procedure

1. In the upper window area, select a shopfloor element, type "Machine".
2. Click the "Connect to reference data" tab.
3. Click on the drop-down list "Catalog machine".
4. Select the machine in Teamcenter with which you wish to link the machine.
5. Click the "Save" button.




### 6.10.3.3 Configuration tab

Using the "Configuration" tab, you configure the parameters for the "Component cabinet" shopfloor element.

Here, you save the parameters for automatic positioning.

## Validity

The "Configuration" tab is available for the following shopfloor elements:

- Component cabinet

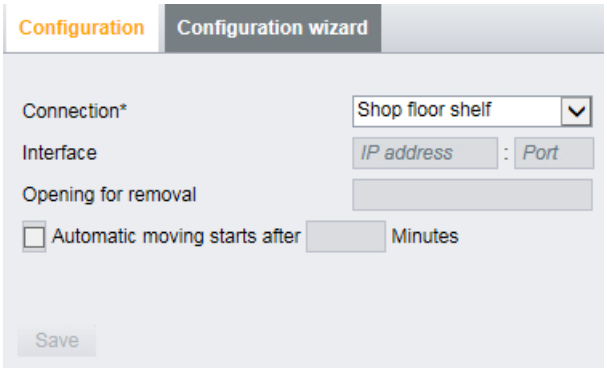
## Procedure

1. In the upper window area, select a shopfloor element, type "Component cabinet".
2. In the lower window area, click on the "Configuration" tab.
3. Enter the required parameters.
   Connection types KARDEX and HAENEL require the following parameters:
   - Interface (IP, port)
   - Opening for removal
   - Automatic moving

   **Note**

   **"Shop floor shelf" connection type**

   The "Shop floor shelf" connection type does not offer any parameters for automatic positioning.
4. Click the "Save" button.




### 6.10.3.4 Configuration Wizard tab

You can automatically create shelf boards and shelves in the component cabinet using the "Configuration wizard" tab.

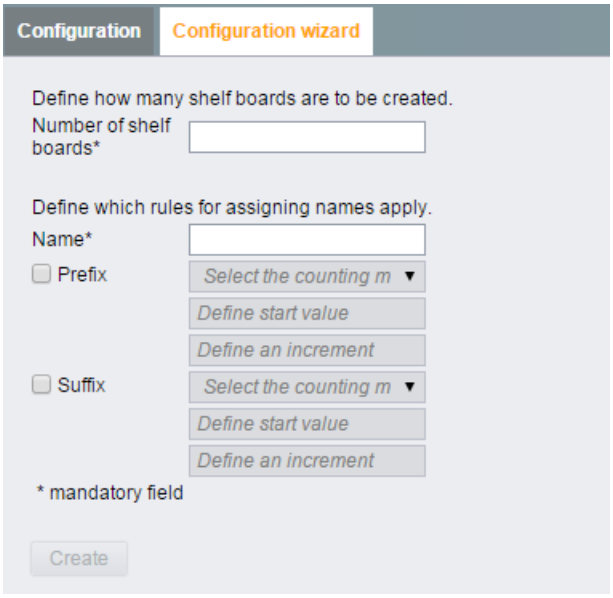
#### Validity

The "Configuration wizard " tab is available for the following shopfloor elements:

- Component cabinet
- Shelf board

#### Procedure

1. In the upper window area, select a shopfloor element, type "Component cabinet" or "Shelf board".
2. In the lower window area, click on the "Configuration wizard " tab.
3. Enter the following parameters:
   - Number of shelf boards or shelves
   - Name
     Prefix (optional), (numbering, start value, increment)
     Suffix (optional), (numbering, start value, increment)
4. Click "Create".




### 6.10.3.5 Coordinates tab

Using the "Coordinates" tab, you can allocate shelves of a component cabinet a precise position (x,y) on a shelf board.

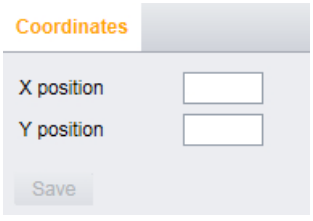
#### Validity

The "Coordinates" tab is available for the following shopfloor elements:

- Shelf

#### Procedure

1. In the upper window area, navigate to the required shelf of a component cabinet.
2. Enter the following data:
   - X position
   - Y position
3. Click "Save" to save the coordinates.



# 6.11 User administration tab

## 6.11.1 User administration tab

The user administration offers an overview of all users in the system, and allows members of the "ADMIN" group to manage these users.

The access data for Shop Floor Integrate are defined in the user administration. The individual users can be allocated to previously created user groups.

The following options are available:

- Creating a new user (Page 98)
- Change user data (Page 99)
- Delete user data (Page 100)
- Changing the personal password (Page 101)

### Requirement

You require the appropriate access rights to edit the user administration, see Section General rights (Page 116).

Members of the ADMIN user group can grant additional access rights to other users / user groups, see Section The Settings tab (Page 112).

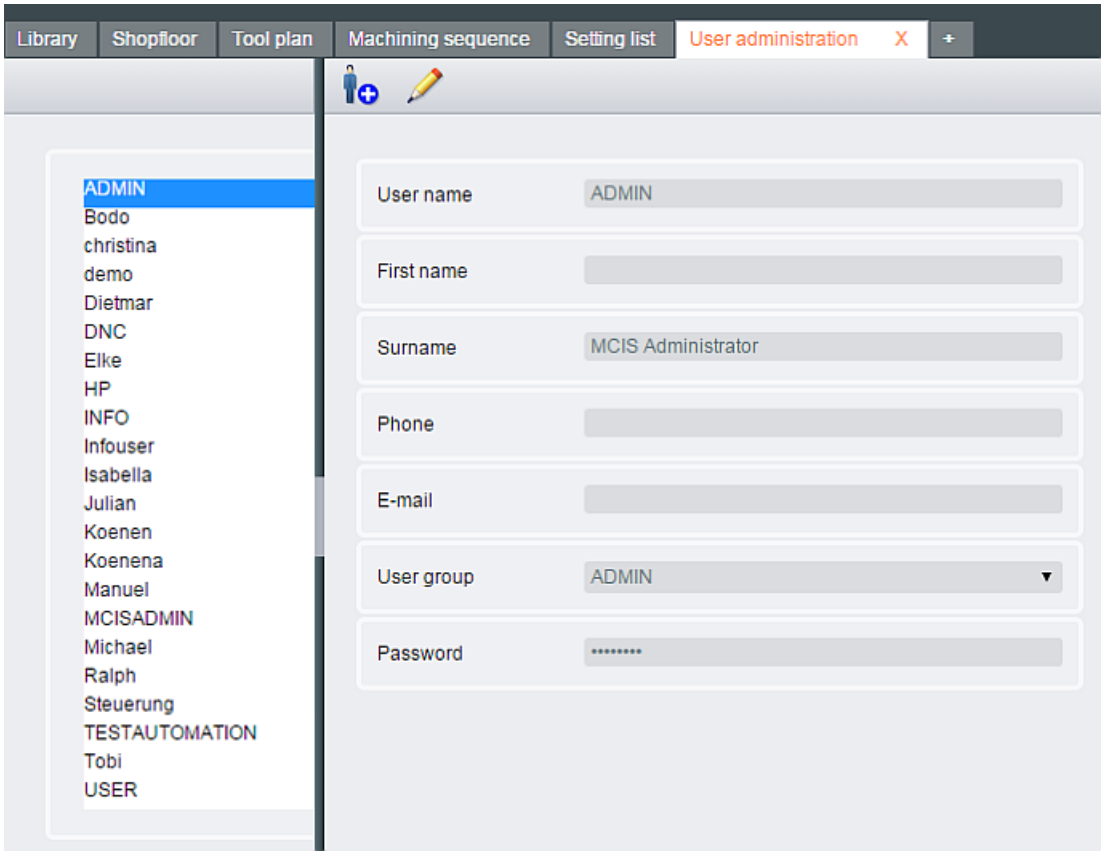
### Parameters

| Parameters | Description |
|---|---|
| User name | Login name.<br>Mandatory field that cannot be subsequently modified |
| First name | First name of the user |
| Last name | Last name of the user |
| Phone | Telephone number |
| E mail | E-mail address |
| User group | Drop-down list to select the user group |
| Password | User password to login<br>Password characters are displayed with "●". |

### Structure

All users are listed in the left-hand window area.

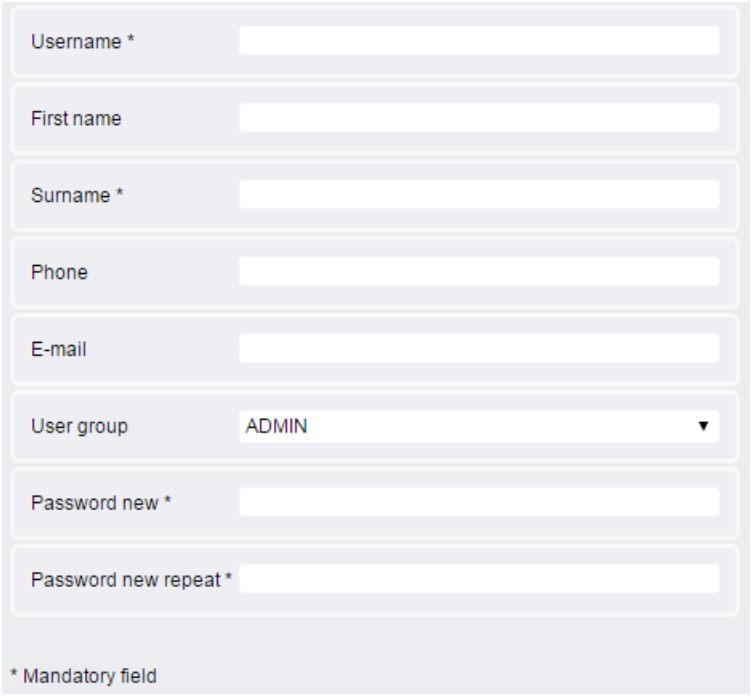
The parameters of the selected user are displayed in the right-hand window area.




## 6.11.2 Creating a new user

### Procedure

1. Open the "User administration" tab
2. Click the icon.
   A new user with empty input fields is created.
3. Enter your personal data.
4. Select the required user group from the drop-down list.
5. Enter the password.
6. Repeat the password in order to rule out any typing errors.
7. Click icon to save the changes.




## 6.11.3 Change user data

Using this function, you can change the personal data of a user.

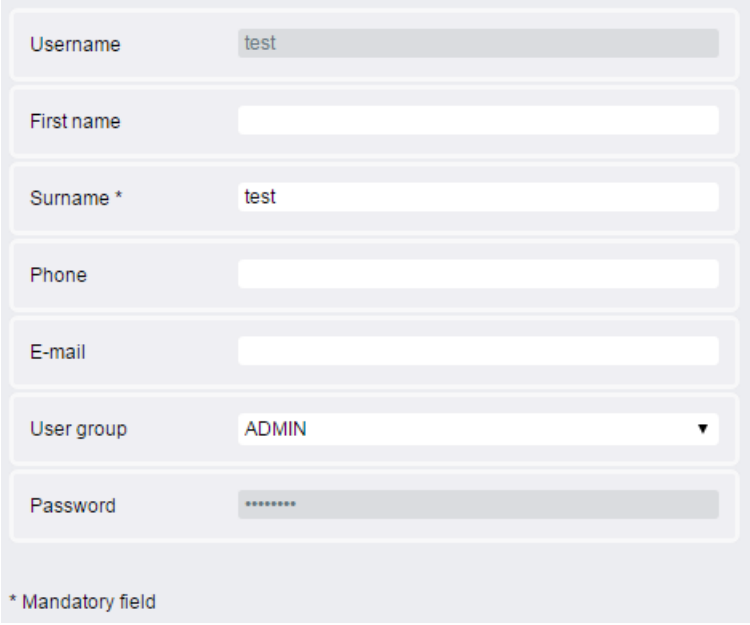
**Note**

**Login data**

Using the "Change user data" function, you can change neither the user name nor the password. You must create a new user to change the user name, see Section: Creating a new user (Page 98).

### Procedure

1. Open the "User administration" tab
2. Select the required user in the list.
3. Click the icon.
   The data of the user to be changed are loaded to the detailed area.
4. Make the desired changes.
5. Select the required user group from the drop-down list.
6. Click icon to save the changes.

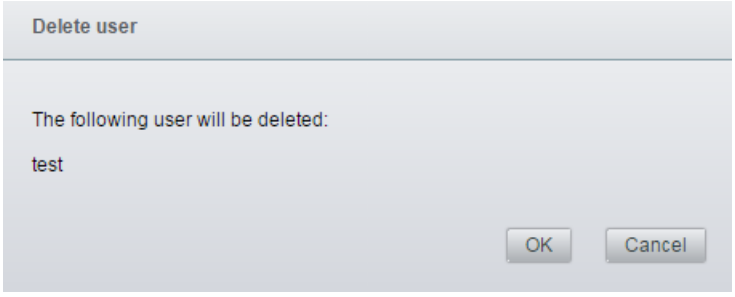



## 6.11.4 Delete user data

Using this function you can delete a user from Shop Floor Integrate.

### Procedure

1. Open the "User administration" tab
2. Select the required user in the list.
3. Click the ✕ icon.
   A confirmation prompt opens.
4. Click "OK" to delete the user.
   - OR -
   Click "Cancel" to cancel the operation.



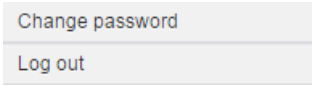
## 6.11.5 Changing the personal password

You can only change your personal password SFI.

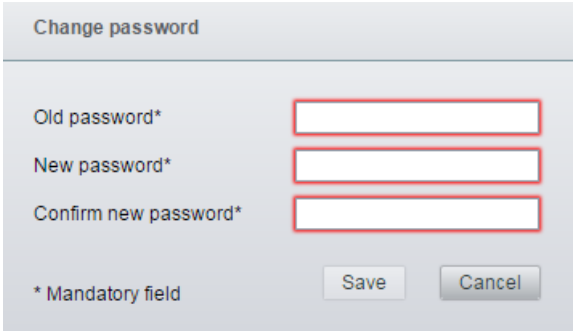
You have no access right to the passwords of other users.

### Procedure

1. Click your user name in the title bar of the SFI user interface.
   The following window opens.




2. Select the "Change password" option.
   The window for changing the password opens.




3. Enter your old and new password data in the appropriate mandatory fields.
4. Click "Save" to save the new password.
   - OR -
   Click "Cancel" to cancel the operation.

# 6.12 Group administration tab

## 6.12.1 Group administration tab

The group administration offers an overview of all groups in the system, and allows members of the "ADMIN" group to manage these users.

User groups are defined for Shop Floor Integrate to combine users with the same tasks or attributes into logical groups (clusters). This simplifies administering the rights of individual users.

The user group is assigned to the user under the "User administration" tab.

The following options are available:

- Setting up a new group (Page 103)
- Change group data (Page 104)
- Delete user group (Page 105)

### Requirement

You require the appropriate access rights to edit the group administration, see Section General rights (Page 116).

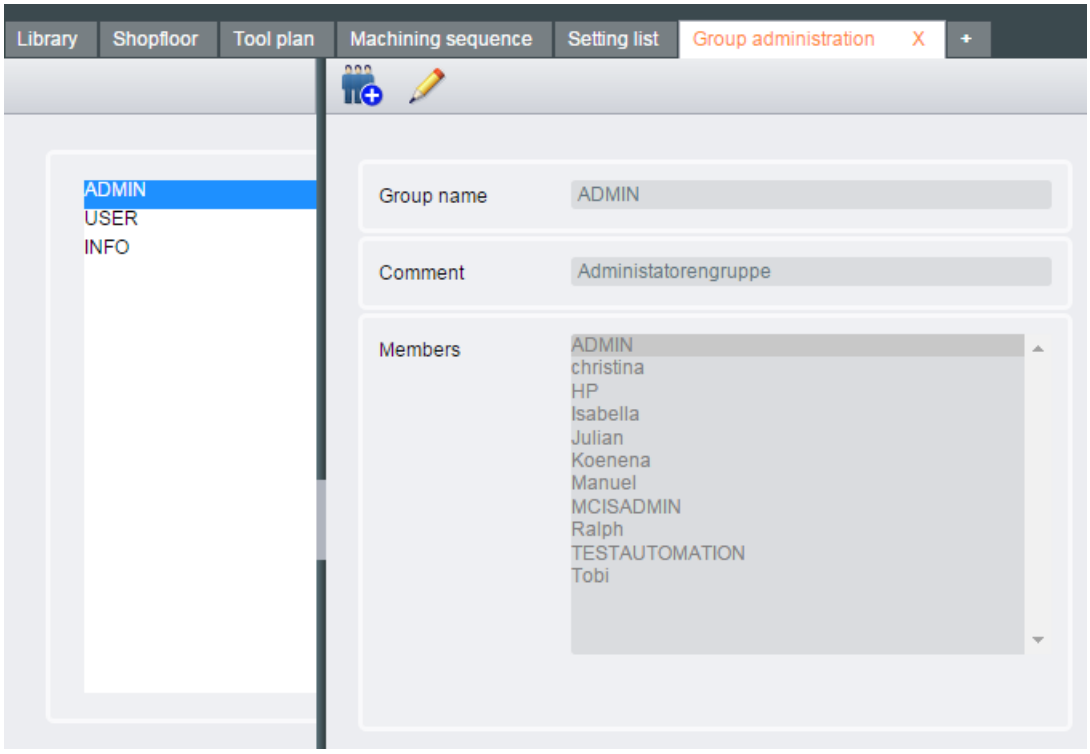
### Parameters

| Parameters | Description |
|---|---|
| Group name | Name of the group<br>Mandatory field |
| Comment | Description of the group or attributes of all members |
| Members | List of all users that were assigned to this group |

### Structure

All groups are listed in the left-hand window area.

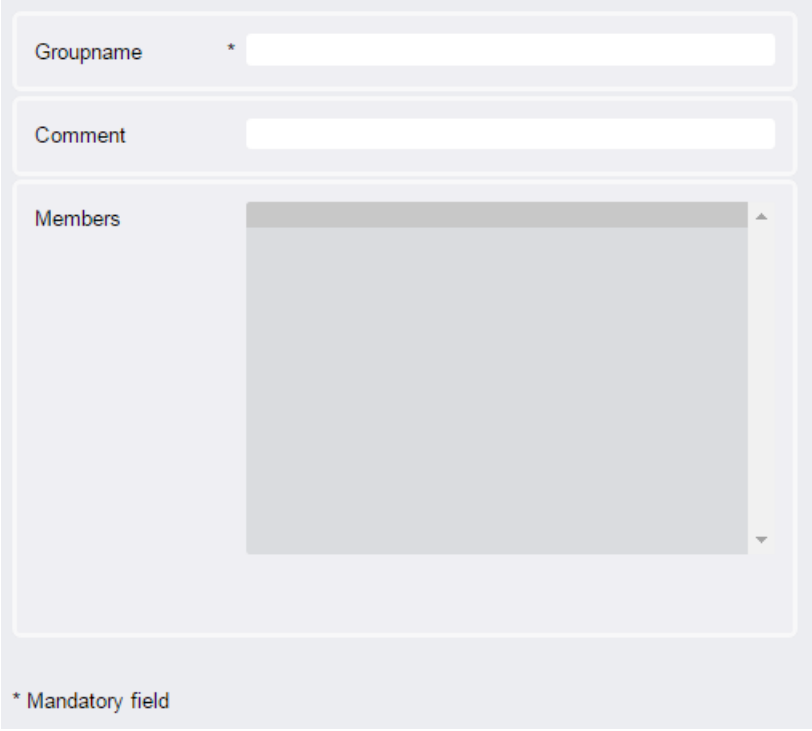
The parameters of the selected user group are in the right-hand window area.




## 6.12.2 Setting up a new group

### Procedure

1. Open the "Group administration" tab.
2. Click the icon.
   A new group with empty input fields is created.
3. Enter the group name and possibly a comment.
4. Click icon to save the changes.




## 6.12.3 Change group data

Using this function, you can change the name and the description of a group.

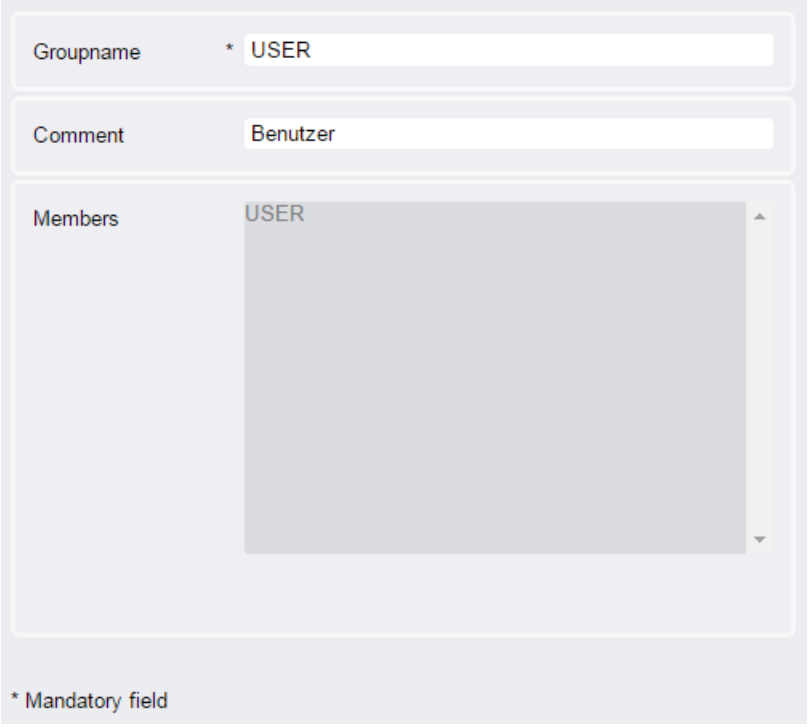
**Note**

**Group members**

Using the "Change group data" function you cannot edit the members of the group. To do this, open the user data of the member involved and assign him to the required group, see Section: Change user data (Page 99).

### Procedure

1. Open the "Group administration" tab.
2. Select the required group in the list.
3. Click the icon.
   The data of the group to be changed are loaded to the detailed area.
4. Make the desired changes.
5. Click icon to save the changes.




## 6.12.4 Delete user group

Using this function you can delete a user group without members from Shop Floor Integrate.

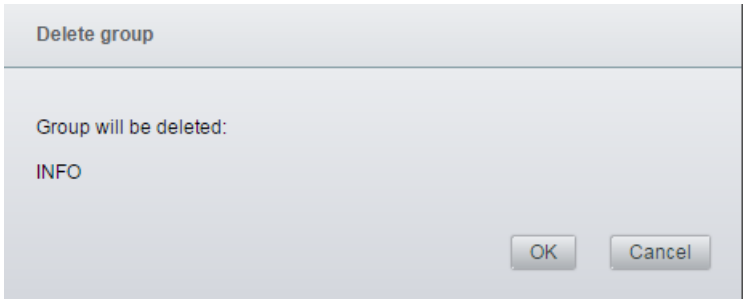
**Note**

**Removing group members**

Using the "Delete group" function, you can only delete empty groups. If the group still has members, open the user data of the member involved, and assign him a new group, see Section: Change user data (Page 99).

### Procedure

1. Open the "Group administration" tab.
2. Select the required group in the list.
3. Click the ✕ icon.
   A confirmation prompt opens.
4. Click "OK".


Delete group
Group will be deleted:
INFO
OK
Cancel

# 6.13 The Stock attributes tab

User-specific attributes are defined below the "Stock attributes" tab, which Shop Floor Integrate manages for storage and removal functions.

The following options are available:

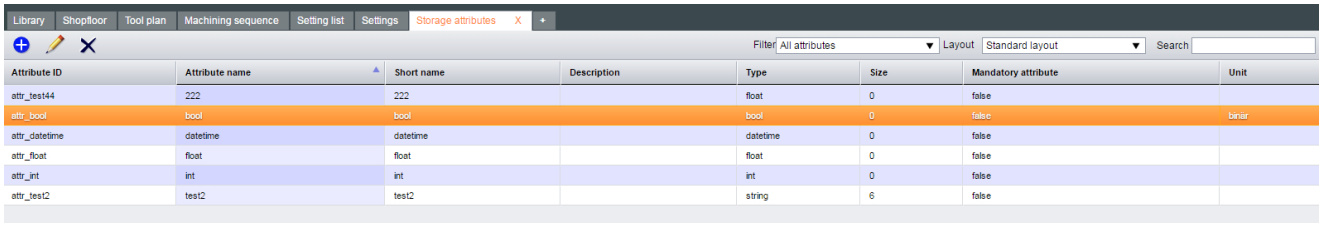
- Creating a new stock attribute (Page 108)
- Changing stock attributes (Page 108)
- Deleting a stock attribute (Page 109)

## Parameters

| Parameters | Description |
|---|---|
| Attribute ID | Stock attribute identifier.<br>Only lowercase letters, underscore "_" and a maximum of 27 characters are permissible. |
| Type/length | Drop-down list with the following type and length selection:<br>• string<br>– Additional data must be entered: 6 characters and unsigned "Integer" version.<br>• bool<br>• int<br>• float<br>• datetime |
| Used for | Permanent default setting on component<br>(cannot be changed) |
| Name | Identifier of the stock attribute |
| Short name | Additional description of the stock attribute. |
| Description | Optional description of the stock attribute. |
| Mandatory attribute | Checkbox to control whether the stock attribute is managed as mandatory field or as optional field, see Section: Placing components into storage (Page 49). |
| Unit | Optional input of length and weight. A maximum of 32 characters is possible. |

## Structure

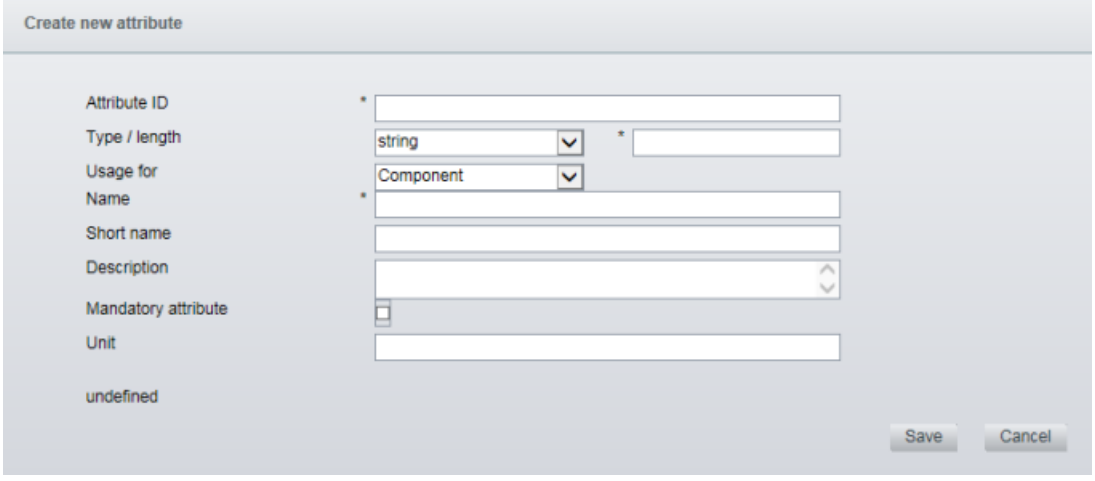
All stock attributes are listed as a table.



## 6.13.1 Creating a new stock attribute

### Procedure

1. Open the "Stock attributes" tab
2. Click on symbol
   The "Create new attribute" window opens.
3. Enter the desired parameters.
4. Click "Save" to accept the data that you have entered.
   - OR -
   Click "Cancel" to reject the data that you have entered.

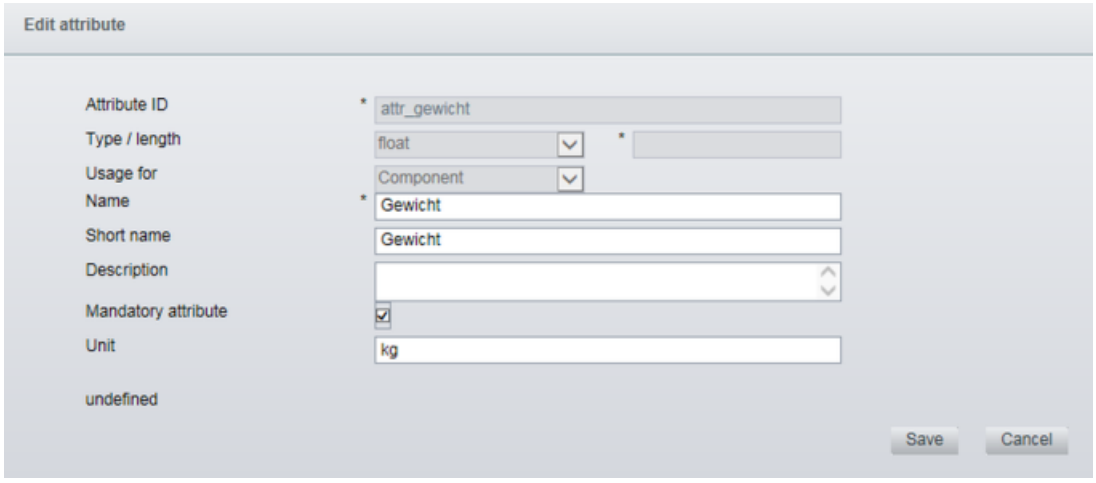



## 6.13.2 Changing stock attributes

### Procedure

1. Select the stock attribute from the overview.
2. Click the icon .
   The "Edit attribute" window opens.

3. You can edit the following parameters:
   - Name
   - Short name
   - Description
   - Unit
   - "Mandatory attribute" option checkbox.
4. Click on "Save" to save changes.
   -OR-
   Click on "Cancel" to reject changes.




## 6.13.3 Deleting a stock attribute

### Procedure

1. Select the stock attribute from the overview.
2. Click on symbol ✕ .
3. A confirmation prompt appears.
4. Click on "Save" to delete the attribute.
   -OR-
   Click on "Cancel" to cancel the delete operation.

# 6.14 The Inventory tab

In MMT, assemblies can be created without entering a valid catalog ID or inventory number. To manage these assemblies in Shop Floor Integrate, they must be placed in an inventory.

All assemblies are listed below the "Inventory" tab for which there is no valid catalog ID or inventory number saved in Shop Floor Integrate.

The following options are available:

- Generate/change the catalog ID and inventory number (Page 110)

## Requirement

Tools require a catalog ID and an inventory number.

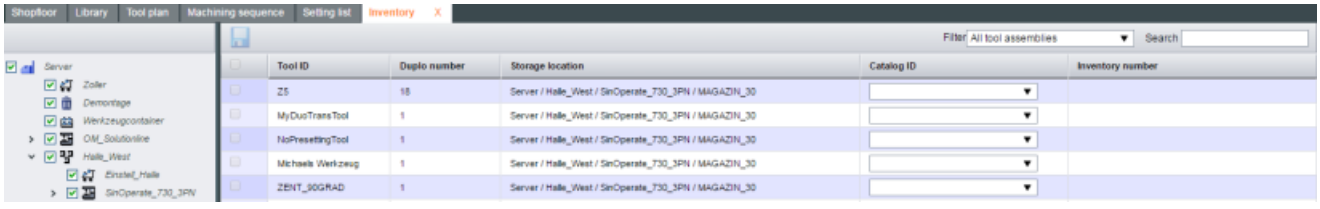
If certain data is not entered for some tools, then it is not taken into account for the automatic inventory and must be entered manually.

## Parameters

| Parameters | Description |
|---|---|
| Catalog ID | Identification of the assembly in Teamcenter (TC)<br>The catalog IDs of all assemblies from the library are listed in the drop-down list. |
| Inventory number | Inventory number of the assemblies at the Shop Floor Integrate level<br>Inventory numbers must be unique. It is not permissible that they already exist in MMT. |

## Structure

All assemblies that are not part of the inventory are listed as table.

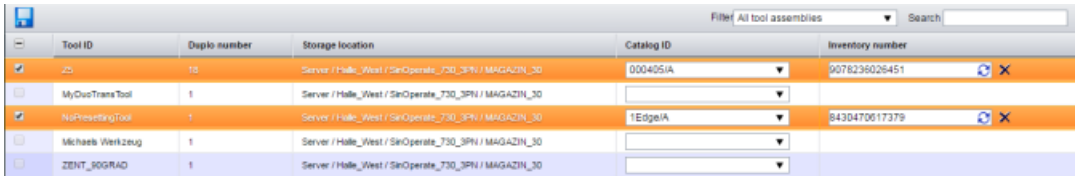



## 6.14.1 Generate/change the catalog ID and inventory number

In the tool management settings, you define how Shop Floor Integrate automatically generates the inventory numbers:

## Procedure

1. Select the "Inventory" tab.
2. In the left-hand window area, navigate to the required shopfloor element.
3. Select the required tool and open the drop-down list in the "Catalog ID" column.
4. Navigate to the required catalog ID in the tree topology.
   The tree topology corresponds to the structure in the "Library" tab.
   You can restrict the displayed catalog IDs by entering a character string in the "Search" line. Shop Floor Integrate only displays those catalog IDs that contain this character string.
5. An inventory number is also automatically generated with the catalog ID.
   If you want to change the inventory number, proceed as follows:
   - Delete the entered inventory number using icon .
   - Manually enter the number.
     - OR -
     Generate an automatic inventory number using icon .




6. If you enter an inventory number that already exists in Shop Floor Integrate, a confirmation prompt opens. You are requested to change the double entry.
   - If you still want to use the inventory number for this complete tool, then click "OK".
     The storage location of this complete tool is adapted to the storage location of the inventory number that has been entered.
     **Note:**
     It must involve the same type (the same catalog ID), otherwise it is not the same tool, and an error message is output.
7. Click the "Inventory" icon to save the result.
   You receive a brief success message.
   The table is updated and the shopfloor element is no longer displayed in the list.

# 6.15 The Settings tab

In the "Settings" tab you can:

- Make selected settings in SFI
- Allocate access rights for users / user groups
- Use information of the master data set management

The access rights depend on your tasks within SFI or thereafter, whether you are only permitted to obtain information.

Access rights are allocated in the "Settings" tab for the following areas:

- General
- Tool management
- Stock administration

The following selection options apply:

- Settings for users
- Settings for user groups
- Global settings

**Note**

**Colors**

The settings are displayed in different colors.

Black color indicates the original settings. The green font color indicates setting changes.

## Access rights

You require access rights for the use of SFI

The following user groups are predefined when SFI is installed:

| | |
|---|---|
| ADMIN | Members have complete, unrestricted access rights.<br>Only members of this group can allocate additional access rights to the users of the USER and INFO groups. |
| USER | Members have restricted access rights.<br>Access rights depend on the task. |
| INFO | Members have minimal access rights.<br>Access rights are only for the receipt of information.<br>Members of this group have no editing rights. |

**Note**

**Allocation of ADMIN rights**

ADMIN rights are allocated by:

- Commissioning engineers during the installation of SFI
- Members of the ADMIN user group
  - For new users:
    Through assignment to the ADMIN user group; see Section User administration tab (Page 97).
  - For already registered users of the USER and INFO user groups:
    Through additional allocation of the "Manage settings" access right; see General rights (Page 116).

## Procedure

**Note**

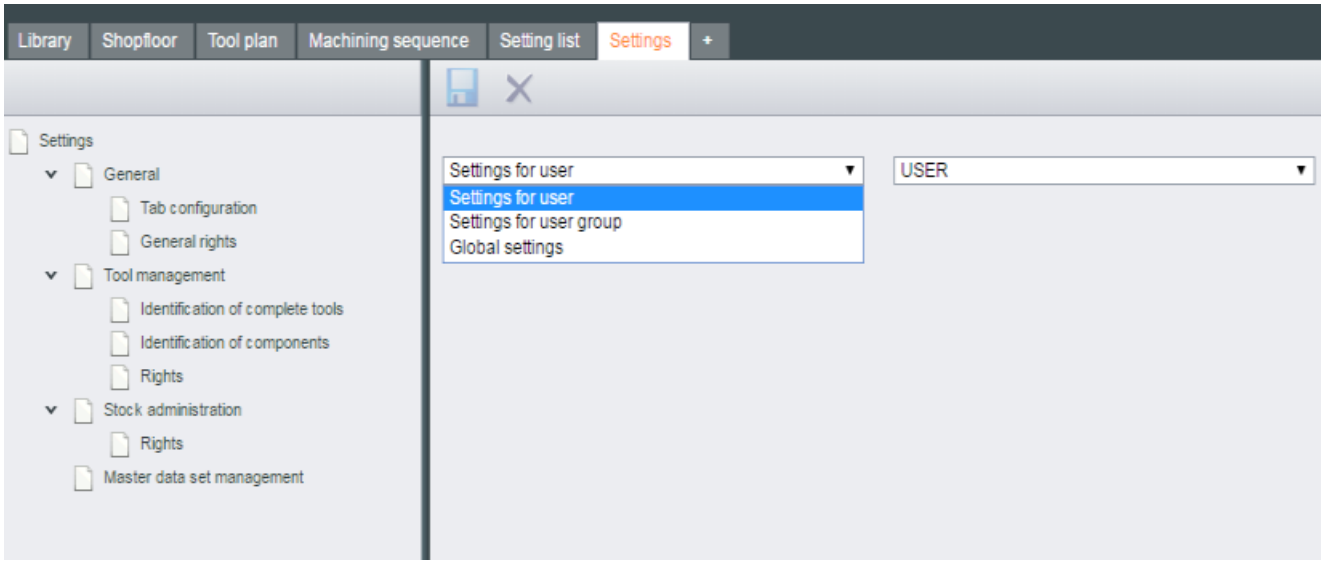
**Display of the "Settings" tab in the dialog bar**

- If the tab is defined as a static tab, it is implemented visibly in the dialog bar.
- If the tab is defined as a dynamic tab, it is not visible in the dialog bar and can be added and then deleted again.

Information can be found in Section Tab configuration (Page 114).

1. If the "Settings" tab is displayed in the dialog bar, click it.
   - OR
2. If the "Settings" tab is not displayed in the dialog bar, click the  icon.
   - A drop-down list opens with additional tabs.
   - Select the "Settings" tab.
     The "Settings" tab is displayed in the dialog bar and opened.
3. Define/specify the settings in the following areas:
   - General (Page 114)
   - Tool management (Page 119)
   - Stock administration - Rights (Page 126)
   - Master data set management (Page 127)
4. If you have added the "Settings" tab to the dialog bar as described above, you can remove it again.
   Click ✕ behind "Settings".

### Structure




## 6.15.1 General

The settings in the "General" area include:

- Tab configuration (Page 114)
- General rights (Page 116)

### 6.15.1.1 Tab configuration

With the tab configuration, various tabs are set globally in SFI, or released for individual users or user groups.

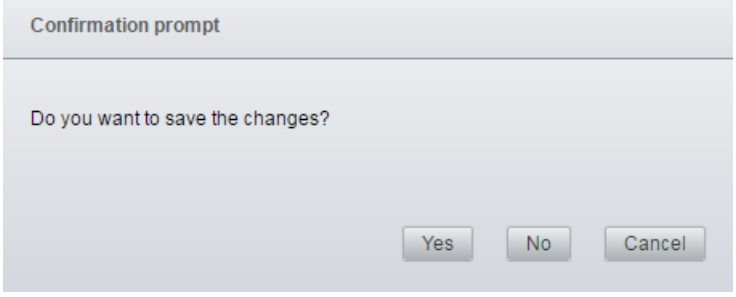
### Parameters

| Parameters | Description |
|---|---|
| Settings for users | Selecting an individual user |
| Settings for user group | Selecting a user group |
| Global settings | SFI-wide settings;<br>apply to all users / user groups. |
| Available tabs | Overview of all available tabs |
| Visible tabs:<br>Direct/indirect display of tabs in the dialog bar | |
| • Static tabs | Direct display in the dialog bar |
| • Dynamic tabs | Indirect display in the dialog bar<br>The appropriate tab is added after clicking + and selecting the tab in the drop-down list of the dialog bar. |

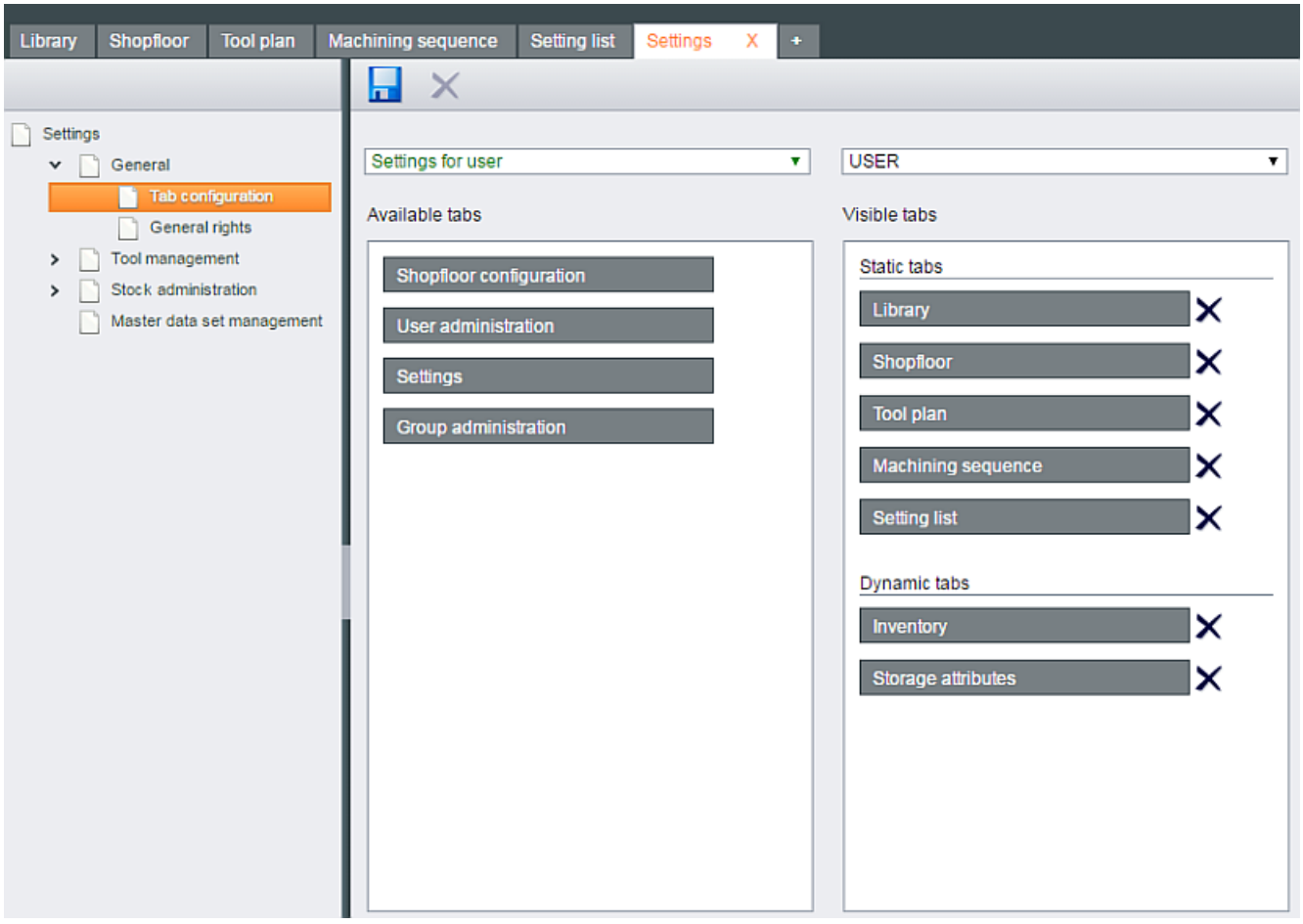
## Procedure

The "Settings" window is open.

1. In the left-hand window area, click the "Tab configuration" entry in the "General" area.
2. Select your settings via the two drop-down lists in the right-hand window area.
   - Left-hand drop-down list: Selection of the category
   - Right-hand drop-down list: Specification of the selected category
3. Drag the required tab using drag and drop from the "Available tabs" area to the "Static tabs" or "Dynamic tabs" area.
   Repeat the process as required for further tabs.
4. To remove a tab from the "Static tabs" or "Dynamic tabs" area, click ✕ behind the relevant tab.
   The removed tab is set in the "Available tabs" area again.
5. Save the settings by clicking .
   The following information appears: The changes only take effect when the application is restarted.
   If you exit the window without saving the settings, the following confirmation prompt opens:

   Click the desired button.
6. To delete all settings and reset them to the default settings, click ✕ in the toolbar.




### 6.15.1.2 General rights

General rights are special access rights. They can be assigned globally in SFI, or released for individual users or user groups.

## Parameters

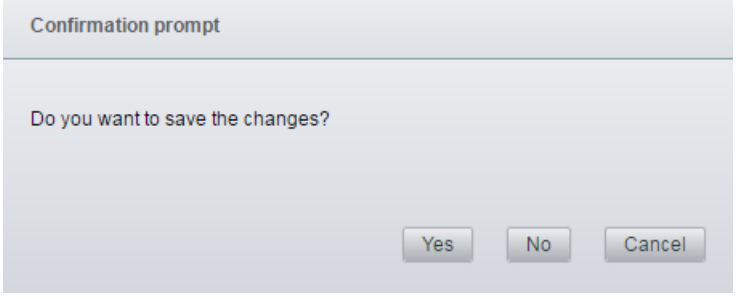
| Parameters | Description |
|---|---|
| Settings for users | Selecting an individual user |
| Settings for user group | Selecting a user group |
| Global settings | SFI-wide settings;<br>apply to all users / user groups. |
| Manage user settings<br>Reset passwords | Allocate/refuse access right for selected users / user groups |

| Parameters | Description |
|---|---|
| Manage settings | Allocate/refuse access right for selected users / user groups<br>The user has ADMIN rights with this right and can<br>• release himself/herself / other users / user groups for all further settings of this tab, or allocate the appropriate access rights,<br>• allocate other users / user groups the "Manage settings" access right. |
| Manage shopfloor hierarchy | Access right for changing the shopfloor configuration<br>Allocate/refuse access for selected users / user groups |
| Filter and layout administration | Allocate/refuse access right for selected users / user groups |

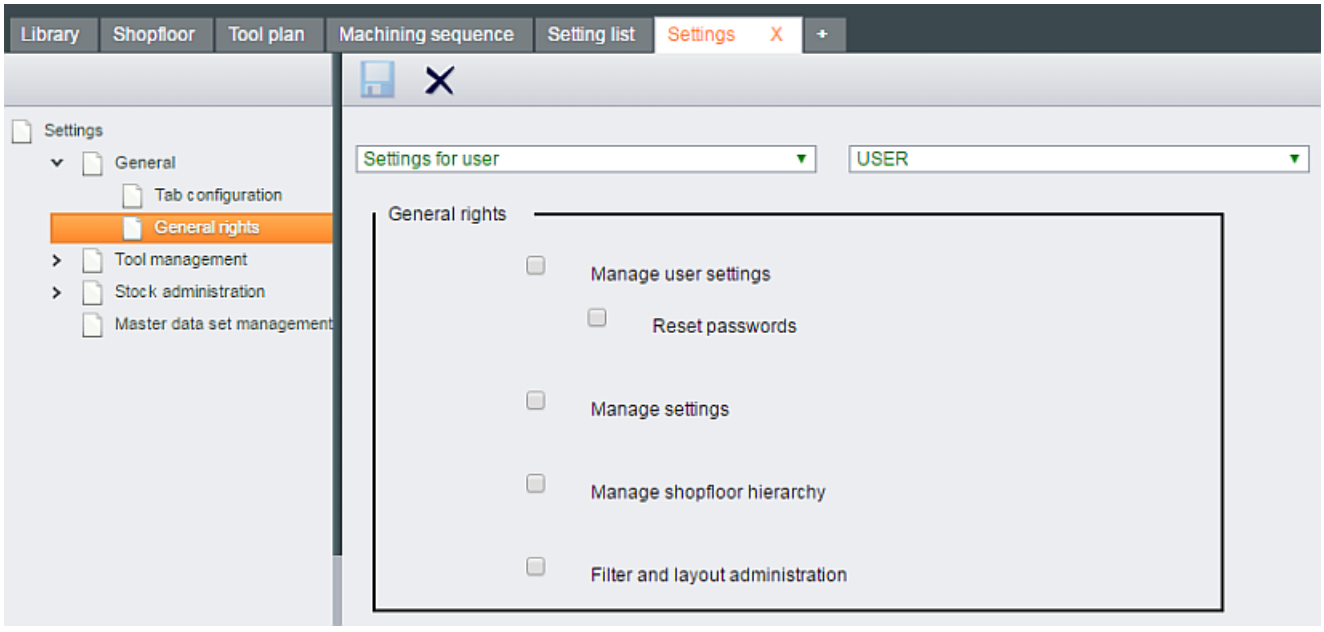
## Procedure: Allocate/refuse access rights

The "Settings" window is open.

1. In the left-hand window area, click the "General rights" entry in the "General" area.
2. Select your settings via the two drop-down lists in the right-hand window area.
   - Left-hand drop-down list: Selection of the category
   - Right-hand drop-down list: Specification of the selected category
3. Allocate/refuse the access rights by clicking the corresponding button.
   - Check mark means: Access right allocated.
   - No check mark: Access right refused.
4. Save the settings by clicking in the toolbar.
   The following information appears: The changes only take effect when the application is restarted.
   If you exit the window without saving the settings, the following confirmation prompt opens:




   Click the desired button.
5. To delete all settings, click in the toolbar and save with .




## Procedure: Withdraw access rights

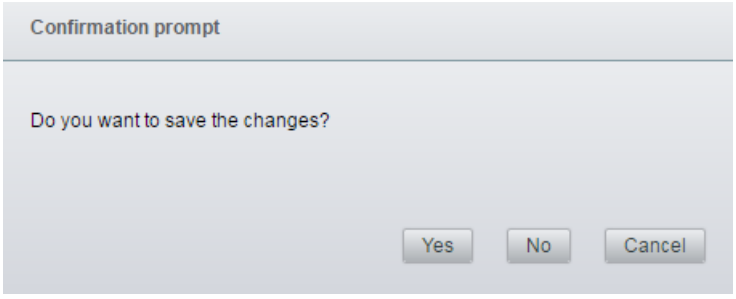
A user with ADMIN rights can withdraw already allocated access rights from a user / user group for the following areas:

- Manage user settings
- Manage settings
- Manage shopfloor hierarchy

Proceed as follows:

1. In the left-hand window area, click the "General rights" entry in the "General" area.
2. Select your settings via the two drop-down lists in the right-hand window area.
   - Left-hand drop-down list: Selection of the category
   - Right-hand drop-down list: Specification of the selected category
3. Withdraw the relevant right by removing the check mark at the corresponding button. Repeat the process as required for further access rights.

4. Save the settings by clicking in the toolbar.
   The following information appears: The changes only take effect when the application is restarted.
   If you exit the window without saving the settings, the following confirmation prompt opens:




   Click the desired button.
5. Navigate in the Tab configuration (Page 114) setting.
   In accordance with the entries made above, you must refuse the user / the user group access to the following tabs:
   - User administration
   - Group administration
   - Settings
   - Shopfloor configuration
6. Follow the instructions to select the relevant users / the relevant user groups.
7. Click ✕ behind the relevant tab in the "Visible tabs" area.
   This tab is moved to the "Available tabs" area. The user / the user group no longer has access to this tab.
8. Save the changes as described in Section Tab configuration (Page 114).

**Note**

**Access denied**

If a user opens a tab for which the user does not have access rights, SFI immediately logs out this user if attempted again.

The login window opens.

## 6.15.2 Tool management

The settings in the "Tool management" area include:

- Identification of complete tools (Page 120)
- Identification of components (Page 122)
- Rights (Page 124)

### 6.15.2.1 Identification of complete tools

The unique identification of assemblies is performed via the inventory number.

The general structure of the inventory number is specified in SFI with the following settings.

## Parameters

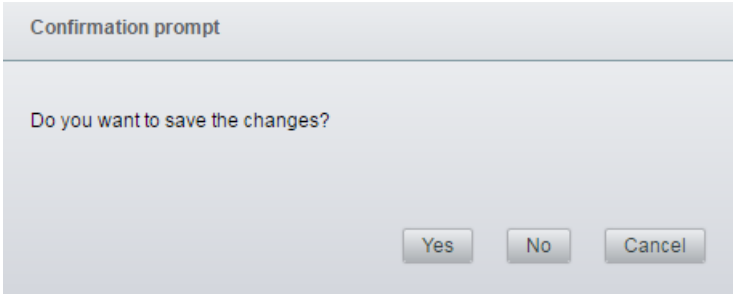
| Parameters | Description |
|---|---|
| **Global settings** | SFI-wide settings; |
| **Arbitrary number** | |
| • Number of characters | • Number field<br>• Permissible values: 7 to 32 |
| **Composite catalog ID and consecutive number** | |
| • Separator | • Type of separator, e.g. ".", "_" or similar. |
| • Number of characters consecutive number | • Number field<br>• Permissible values: 4 to 6<br>• A red border indicates an invalid entry. |
| • Consecutive number starting with | • Entry of the first number of the consecutive number |

## Procedure

The "Settings" window is open.

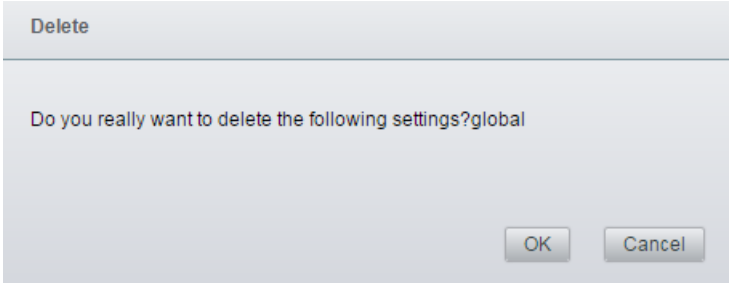
1. In the left-hand window area, click the "Identification of assemblies" entry in the "Tool management" area.
   The "Global settings" setting is permanently preset:
2. Select the desired structure of the inventory number in the drop-down list.
3. Enter the data.

4. If you want to save the settings, click .
   The following information appears: The changes only take effect when the application is restarted.
   If you exit the window without saving the settings, the following confirmation prompt opens:

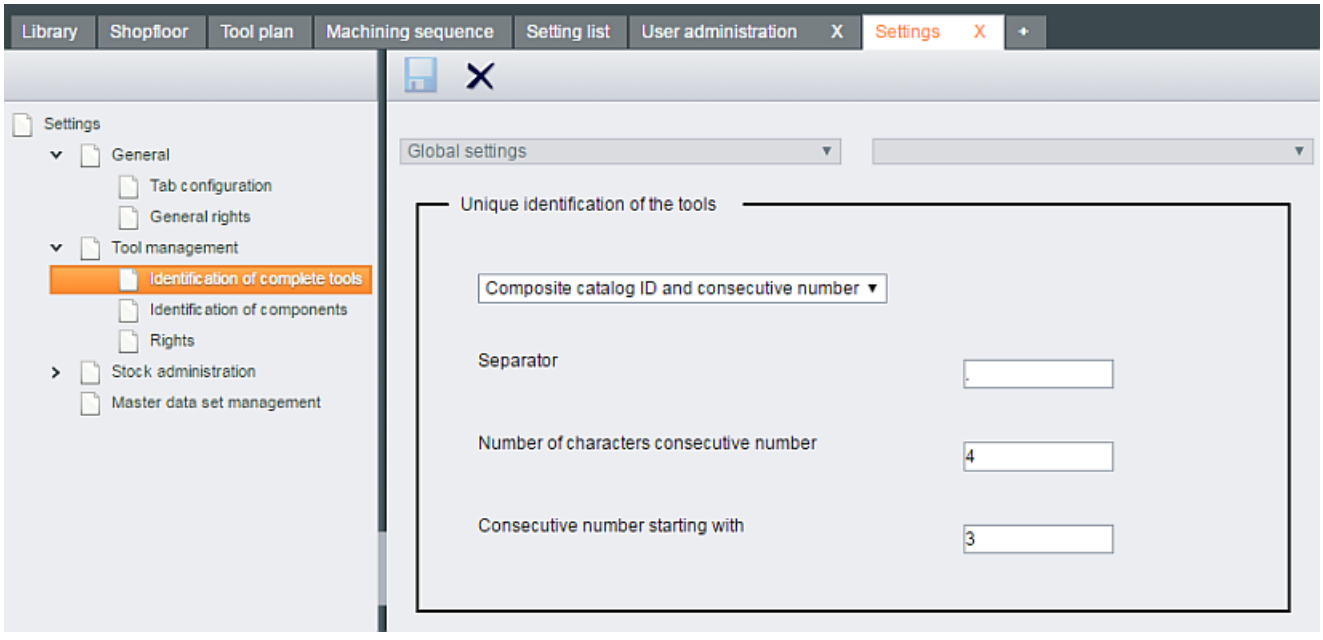



   Click the desired button.

5. If you want to delete the settings, click .
   The following confirmation prompt opens:




   Click the desired button.



### 6.15.2.2 Identification of components

The unique identification of components is performed via the inventory number.

The general structure of the inventory number is specified in SFI with the following settings.

## Parameters

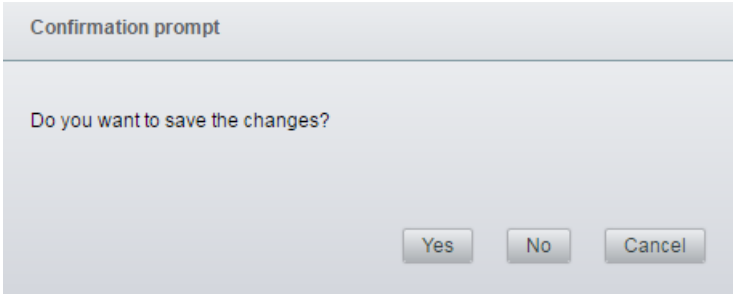
| Parameters | Description |
|---|---|
| **Global settings** | SFI-wide settings; |
| **Arbitrary number** | |
| • Number of characters | • Number field<br>• Permissible values: 7 to 32 |
| **Composite catalog ID and consecutive number** | |
| • Separator | • Type of separator, e.g. ".", "_" or similar. |
| • Number of characters consecutive number | • Number field<br>• Permissible values: 4 to 6<br>• A red border indicates an invalid entry. |
| **Composite catalog ID and random number** | |
| • Separator | • Type of separator, e.g. ".", "_" or similar. |
| • Number of characters random number | • Number field<br>• Permissible values: 4 to 6<br>• A red border indicates an invalid entry. |

## Procedure

The "Settings" window is open.

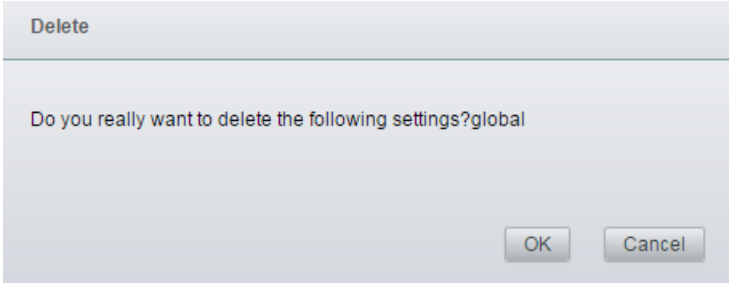
1. In the left-hand window area, click the "Identification of components" entry in the "Tool management" area.
   The "Global settings" setting is permanently preset:
2. Select the desired structure of the inventory number in the drop-down list.
   Enter the data.

3. If you want to save the settings, click .
   The following information appears: The changes only take effect when the application is restarted.
   If you exit the window without saving the settings, the following confirmation prompt opens:

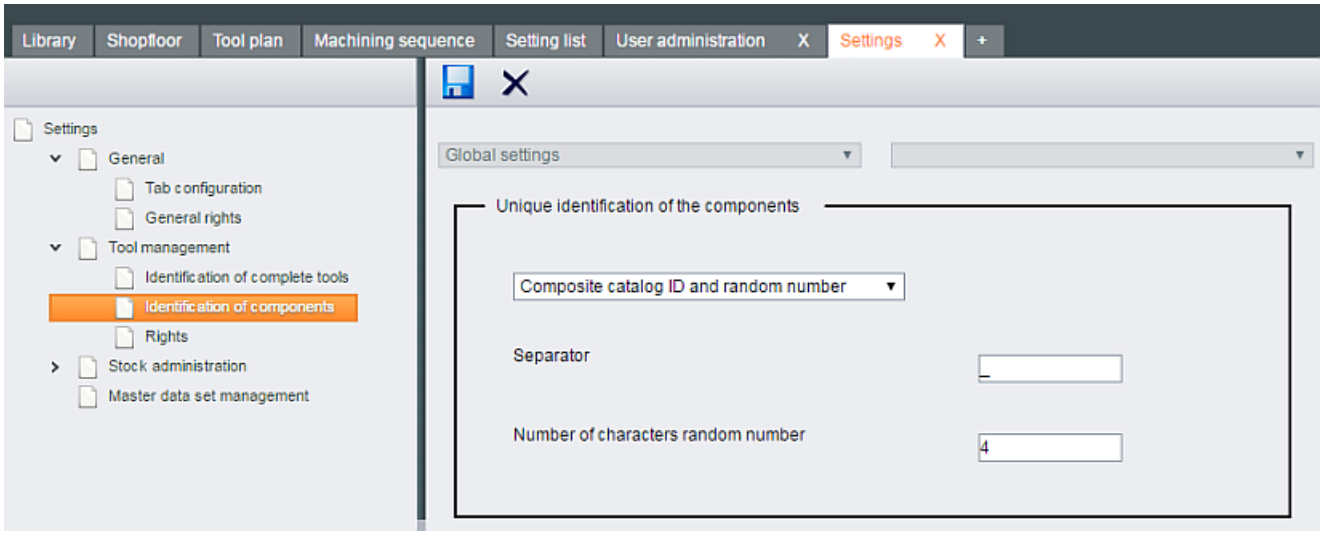



   Click the desired button.

4. If you want to delete the settings, click .
   The following confirmation prompt opens:




   Click the desired button.



### 6.15.2.3 Rights

These access rights refer to the tool management and can be assigned globally in SFI, or released for individual users or user groups.

The access rights refer to tasks in the tabs:

- Tool plan
- Machining sequences

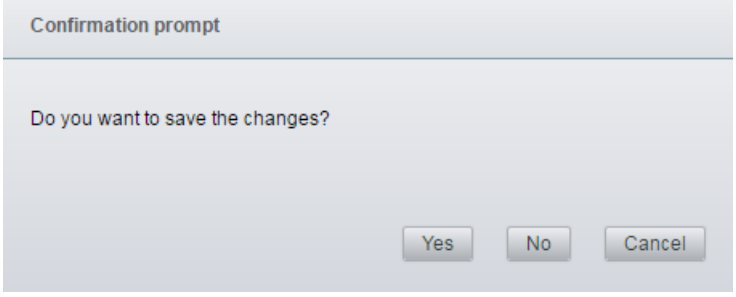
## Parameters

| Parameters | Description |
|---|---|
| Settings for users | Selecting an individual user |
| Settings for user group | Selecting a user group |
| Global settings | SFI-wide settings;<br>apply to all users / user groups. |
| Tool plan<br>• Administrate | Allocate/refuse access right for selected users / user groups for:<br>• Importing a tool plan (Page 83)<br>• Creating a tool plan (Page 85)<br>• Change tool plan (Page 85)<br>• Delete tool plan (Page 87) |
| Machining sequences: | |
| • Administrate | Allocate/refuse access right for selected users / user groups for:<br>• Creating a processing sequence (Page 66)<br>• Changing the processing sequence (Page 67)<br>• Sorting processing sequences (Page 73)<br>• Deleting a processing sequence (Page 73) |
| • Change consideration | Access right to release machining sequences for balancing |
| Planning<br>• Balance | Allocate/refuse access for selected users / user groups for:<br>• Considering the processing sequence (Page 69)<br>• Entering balancing data (Page 69)<br>• Balancing a processing sequence (Page 70)<br>• Releasing the balancing result of a processing sequence (Page 72)<br>• Container selection |

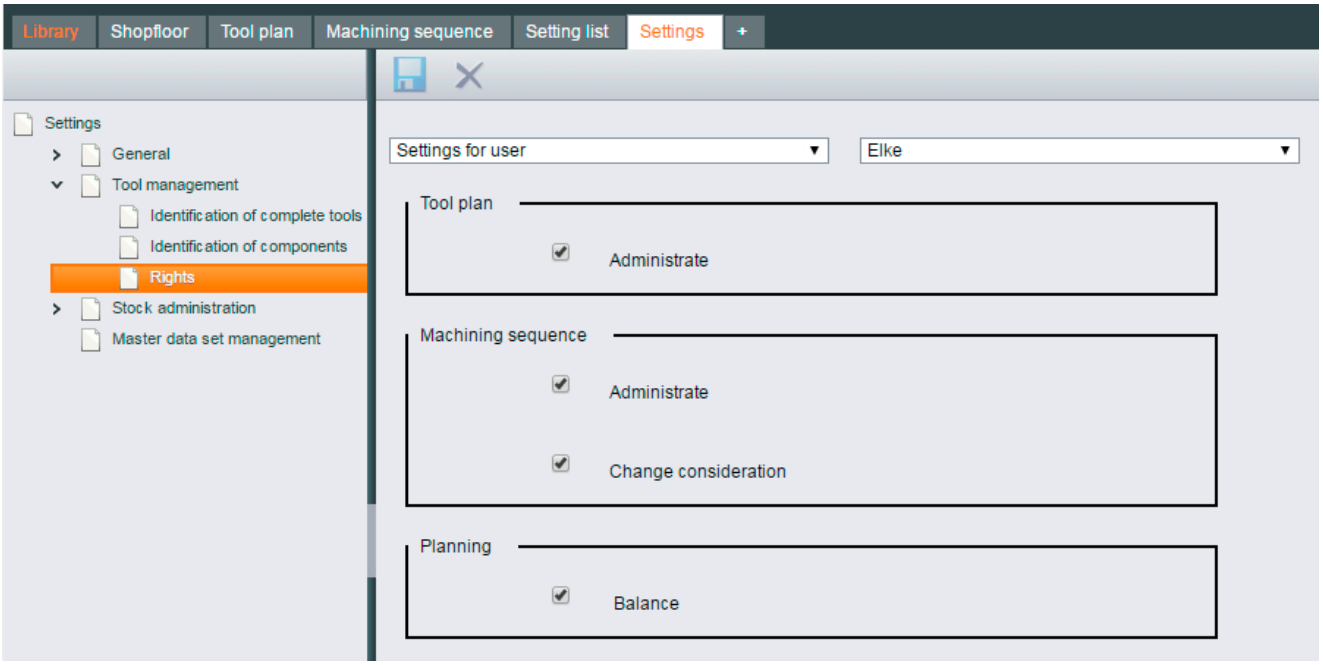
## Procedure

The "Settings" window is open.

1. In the left-hand window area, click the "Rights" entry in the "Tool management" area.
2. Select your settings via the two drop-down lists in the right-hand window area.
   - Left-hand drop-down list: Selection of the category
   - Right-hand drop-down list: Specification of the selected category
3. Allocate/refuse the access rights by clicking the corresponding button.
   - Check mark means: Access right allocated.
   - No check mark: Access right refused.
4. Save the settings by clicking in the toolbar.
   The following information appears: The changes only take effect when the application is restarted.
   If you exit the window without saving the settings, the following confirmation prompt opens:




   Click the desired button.
5. To delete all settings, click in the toolbar and save with .



## 6.15.3 Stock administration - Rights

Rights with regard to the tool management can be assigned globally in SFI, or released for individual users or user groups.

The rights refer to tasks in these tabs:

- Library
- Shopfloor
- Setting list

### Parameters

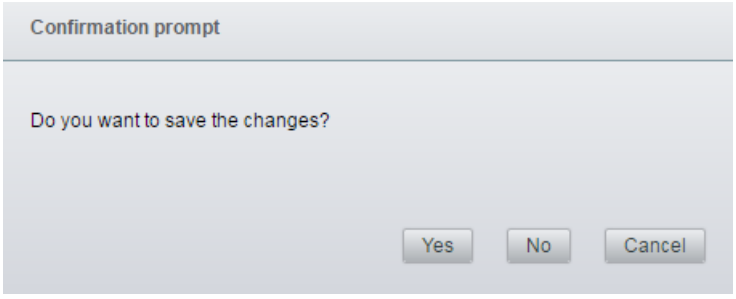
| Parameters | Description |
|---|---|
| Settings for users | Selecting an individual user |
| Settings for user group | Selecting a user group |
| Global settings | SFI-wide settings;<br>apply to all users / user groups. |
| Stock administration<br>• Assemble/Disassemble<br>• To store<br>• Additive storing<br>• Relocate<br>• Remove from stock | Allocate/refuse access for selected users / user groups for:<br>Library tab:<br>• Assembling tool assemblies (Page 46)<br>• Placing components into storage (Page 49)<br>Shopfloor tab:<br>• Completing the assembling of assemblies (Page 58)<br>• Disassembling complete tools (Page 59)<br>• Additively store components (Page 60)<br>• Relocating assemblies (Page 55)<br>• Relocating components (Page 61)<br>• Relocating assemblies that have not been set (Page 56)<br>• Removing components from storage (Page 62)<br>Setting list tab:<br>• Assembling assemblies (Page 79)<br>• Setting an assembly (Page 80) |

### Procedure

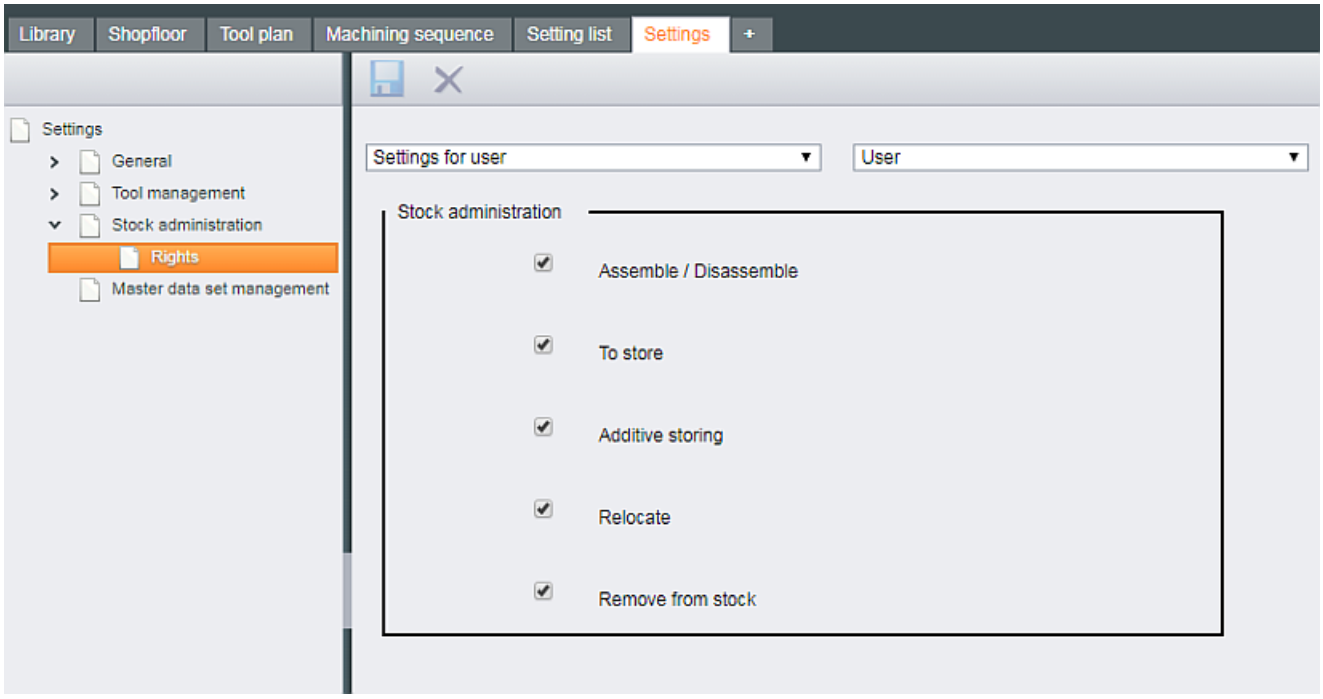
The "Settings" window is open.

1. In the left-hand window area, click the "Rights" entry in the "Stock administration" area.
2. Select your settings via the two drop-down lists in the right-hand window area.
   – Left-hand drop-down list: Assignment of the category
   – Right-hand drop-down list: Specification of the selected category

3. Allocate/refuse the access rights by clicking the corresponding button.
   - Check mark means: Access right allocated
   - No check mark: Access right refused
4. Save the settings by clicking in the toolbar.
   The following information appears: The changes only take effect when the application is restarted.
   If you exit the window without saving the settings, the following confirmation prompt opens:




   Click the desired button.
5. To delete all settings, click in the toolbar and save with .




## 6.15.4 Master data set management

The master data set management provides an overview of the machines from the Teamcenter that are used.

The following information is available:

- Teamcenter machine - SFI machine link
- Available Teamcenter machines

You have the option of changing the name of the machine from the Teamcenter.

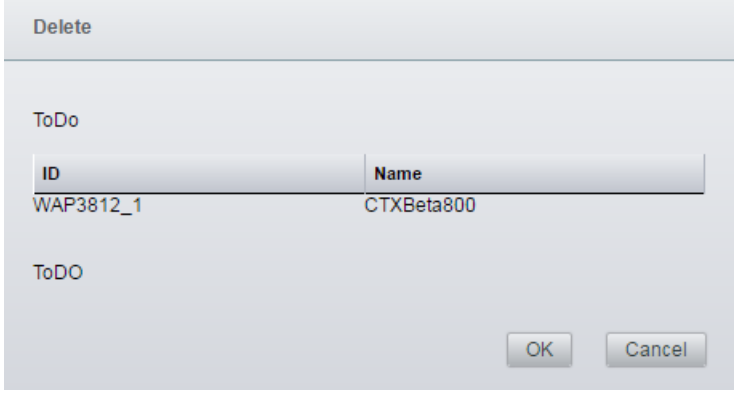
## Parameters

| Parameters | Description |
|---|---|
| **ID** | ID of the machine from the Teamcenter |
| **Name** | Name of the machine from the Teamcenter:<br>editable |
| **Status**<br>(Information on the linking of the machine, see Section Connected to reference data tab (Page 93)) | |
| • Available | • Machine from the Teamcenter is available and can be linked to a machine from SFI. |
| • Link to ... | • Machine from the Teamcenter is linked to a named machine from SFI. |

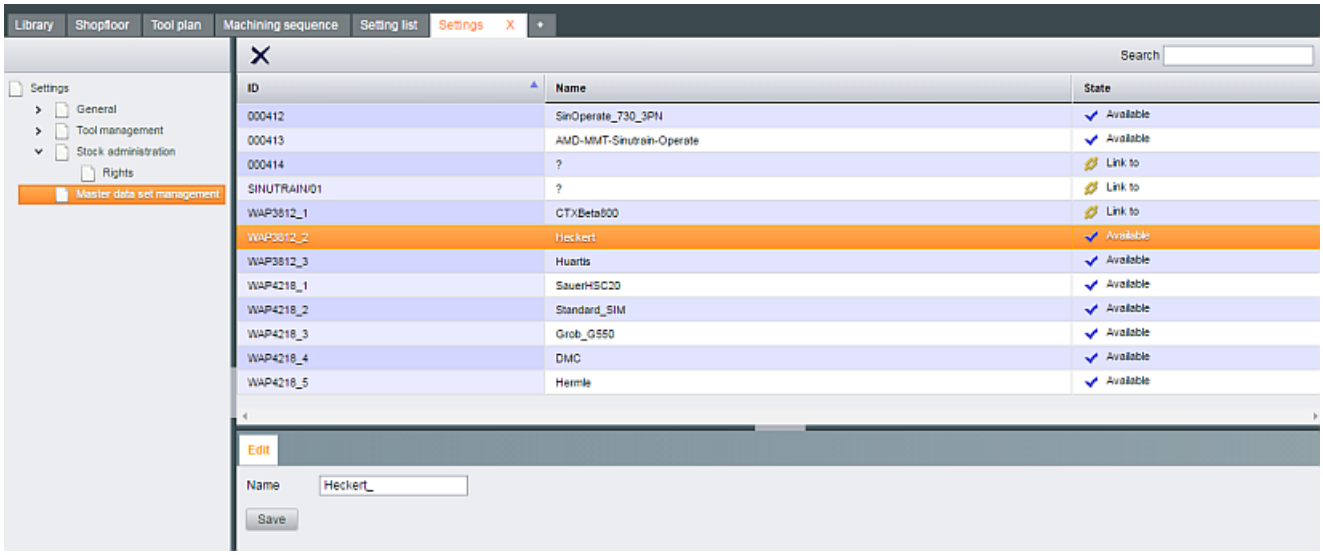
## Procedure

The "Settings" window is open.

1. In the left-hand window area, click the "Master data set management" area.
   The machines from the Teamcenter are listed on the right-hand side of the window.
2. Click ✕ to remove a machine (TC).
   The following confirmation prompt opens:




   Click the desired button.
3. To change the name of a machine (TC), click the entry in the list.
   A window opens in the lower window area:
   – Change the name in the input field.
   – Save the change by clicking the "Save" button.


Library
Shopfloor
Tool plan
Machining sequence
Setting list
Settings
Settings
General
Tool management
Stock administration
Rights
Master data set management
Search
ID
Name
State
000412 SinOperate_730_3PN Available
000413 AMD-MMT-Sinutrain-Operate Available
000414 ? Link to
SINUTRAIN01 ? Link to
WAP3812_1 CTXBeta800 Link to
WAP3812_2 Heckert Available
WAP3812_3 Huartis Available
WAP4218_1 SauerHSC20 Available
WAP4218_2 Standard_SIM Available
WAP4218_3 Grob_G550 Available
WAP4218_4 DMC Available
WAP4218_5 Hermle Available
Edit
Name
Heckert_
Save

# Appendix A

A

## A.1 List of abbreviations

| | |
|---|---|
| Admin | Administrator (user role) |
| AMC | Analyze MyCondition |
| AMD | Access MyData |
| AMM/E | Access MyMachine/Ethernet |
| AMP | Analyze MyPerformance |
| AMT | Access MyTool ID |
| API | Application programming interface: interface to the application programming |
| ASC | Access MyMachine/Ethernet Service Client |
| ASCII | American Standard Code for Information Interchange |
| ASP | Application Service Provider-Variante |
| BA | Operating instructions |
| CAM | Computer-Aided Manufacturing |
| CF card | CompactFlash Card: Memory card |
| CNC | Computerized Numerical Control: |
| CoL | Certificate of License |
| COM | Communication |
| COM | Component Object Protocol (programming model of Microsoft®) |
| CU | Control Unit |
| CP | Communication Processor |
| CPU | Central Processing Unit: |
| DB | Data Block (PLC) |
| DBB | Data Block Byte (PLC) |
| DBW | Data Block Word (PLC) |
| DCOM | Distributed Component Object Model |
| Dbxy | Data Block (e.g. B 59) |
| DHCP | Dynamic Host Configuration Protocol: Dynamic assignment of an IP address and other configuration parameters on a computer in a network |
| DNC | Direct Numeric Control |
| DIR | Directory: |
| DW | Data Word |
| FCC | File Client Cache |
| ET | Equability axis test |
| h | Hour |
| HMI | Human Machine Interface: SINUMERIK user interface |
| HD | Hard Disk: Hard disk |
| HTTP | Hypertext Transfer Protocol |
| HTTPS | HyperText Transfer Protocol Secure, |

| | |
|---|---|
| HW | Hardware |
| IAC | InterActive Client |
| IB | Commissioning engineer (user role) |
| IE | Internet Explorer |
| IFC | Interface Client |
| IH | Maintenance |
| IIS | Microsoft Internet Information Service |
| CT | Circularity Test |
| MB | Megabyte |
| MCIS | Motion Control Information System |
| MCIS MDA | MCIS Machine Data Aquisition: Machine data management |
| MCP | Machine Control Panel: |
| MD | Machine Data |
| MHComm | Machine Handler Communication |
| MCS | Machine Coordinate System |
| MLFB | Machine-Readable Product Code |
| MMP | Manage MyPrograms |
| MMP IFC | Manage MyPrograms InterFace Client |
| MMT | Manage MyTools |
| MO | Machine Operator: Machine operator (user role) |
| MPI | Multi Port Interface: Multiport Interface |
| MRL | Manufacturing Resource Library |
| MS | Microsoft |
| MSDE | Microsoft Data Engine or Microsoft Desktop Engine database software |
| MSI | Microsoft Software Installation |
| MSTT | Machine control panel |
| NC | Numerical Control: Numerical control |
| NCK | Numerical Control Kernel: Numeric kernel with block preparation |
| NCU | Numerical Control Unit: NCK hardware unit |
| NFS | Network File System |
| NTLM | NT LAN Manager: Authentication procedure for computer networks |
| OB | Organization block in the PLC |
| ODBC | Open Database Connectivity |
| OEM | Original Equipment Manufacturer |
| OLE | Object Linking & Embedding |
| OP | Operation Panel: Operating equipment |
| OPI | Operation Panel Interface: Interface for connection to the operator panel |
| OPC | OLE for Process Control |
| PC | Personal Computer |
| PCMCIA | Personal Computer Memory Card International Association (memory card standardization) |
| PCU | PC Unit: Computer unit |
| PG | Programming device |
| PDA | Production Data Acquisition: Production data acquisition |

| | |
|---|---|
| PLC | Programmable Logic Control: PLC |
| PMT | Parts Monitoring & Tracking: Parts tracking |
| PO | POWER ON |
| ProToolPro | Configuration tool |
| PWS | Personal Web Server |
| RFC | Requests for Comments |
| ROM | Read Only Memory |
| SC | Service Client |
| SE | Service Engineer |
| SEC | Service Engineer Client |
| SEG | Tool presetter |
| SFI or SFI RM | Shop Floor Integrate or Shop Floor Integrate Resource Management |
| SI | SINUMERIK Integrate |
| SK | Softkey |
| SSL | Secure Socket Layer |
| SW | Software |
| TDI | Tool Data Information |
| TC | Teamcenter |
| TCP | Transmission Control Protocol |
| TLCA | Tool Library CA: Tool catalog data |
| TLCU | Tool Library Customer: Customer tool catalog data |
| TLCUA | Tool Library Customer Assemblies: Complete tools |
| UAT | Universal Axis Test |
| UNC | Uniform naming convention |
| VB | Visual Basic |
| VC | Visual C |
| VNCK | Virtual numerical control core |
| WCS | Workpiece Coordinate System |
| T | Tool |
| TLC | Tool Length Compensation |
| WOP | Workshop-Oriented Programming |
| WPD | Work Piece Directory: Workpiece directory |
| TRC | Tool Radius Compensation |
| WSDL | Web Services Description Language |
| T | Tool |
| TO | Tool Offset |
| MT | Machine Tool |
| TM | Tool Management |
| TC | Tool Change |
| XML | Extensible Markup Language |

# A.2 Documentation overview SINUMERIK 840D sl

## General documentation

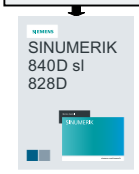

Advertising brochure

Catalog NC 62

Catalog PM 21


System ManualCtrl-Energy

## User documentation




Operating Manual
– Universal
– Turning
– Milling
– Grinding

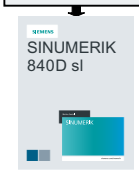

Create MyConfig Operating Manual


Programming Manual
– Fundamentals
– Job Planning
– Measuring Cycles


Programming Manual
– ISO Turning
– ISO Milling


Diagnostics Manual, Alarms

## Manufacturer/Service documentation



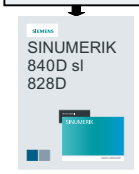

Equipment Manual
– NCU
– Operator components and networking
– ADI4


System Manual Guidelines for machine configuration


Commissioning Manual
– CNC: NCK, PLC, Drive
– Base software and operating software


Lists Manual
– Machine data
– Interface signals
– Variables

## Manufacturer/Service documentation




Function Manual
– Basic functions
– Extended Functions
– Special Functions
– Synchronized Actions
– ISO Dialects


Function Manual Tool management


Function Manual Safety Integrated


Configuration Manual
– EMC installation guideline
– Industrial security

## Info / Training


Training documentation
– Simple milling with ShopMill
– Simple turning with ShopTurn


Tool and Mold Making Manual

## Electronic documentation

DOConCD

Industry Online Support (SIOS)

Industry Mall

# Index

## R



## S



## T



## U