ADMIN GUIDE

KeyAqua/KeyHeat 2025.1

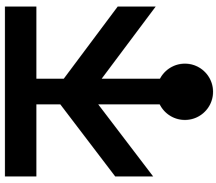


Table of contents

KeyAqua/KeyHeat 2025.1 Admin Guide (ENG)

Introduction 3
Admin user interface 4
Managing usernames and user data 5
Text constants 9
KeyAqua configurations 44
KeyHeat configurations 46
KeyUV configuration 48
Object defaults 51
External document types 52
Bypassing two phased authentication by using an IP address 53
Freely defined extra data 54
Maps and coordinate systems 55
Layers 56
Defining point object types 58
Thematic layers 59
Mapping 60
Printing 62
Form integration settings 63
Import tool settings 66
GDPR 68

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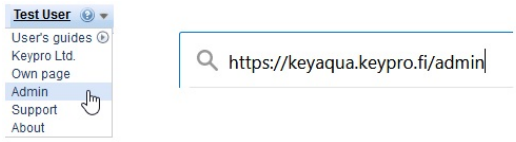
Introduction

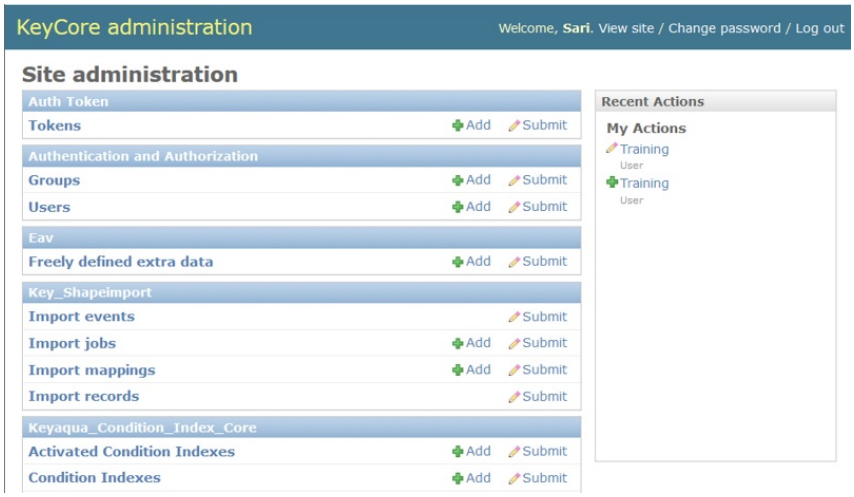
This document describes the KeyAqua application settings that can be defined on the Admin site. In addition, the document describes some typical administration tasks related to the KeyAqua application. If you are not sure how to modify any functions or settings described in this document, please contact customer support.

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Admin user interface

If your user account has administrator privileges, you can access the KeyAqua admin user interface by selecting **Admin** link from the Help menu **or** by typing **/admin** after the KeyAqua URL you are using.





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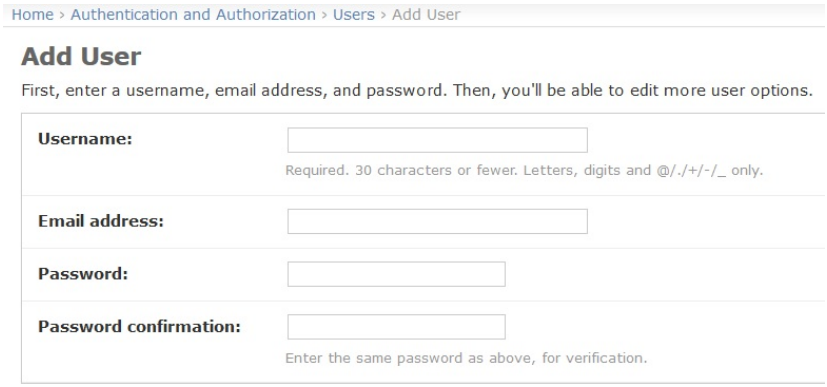
Managing usernames and user data

Each **KeyAqua** user is identified based on their personal unique username.

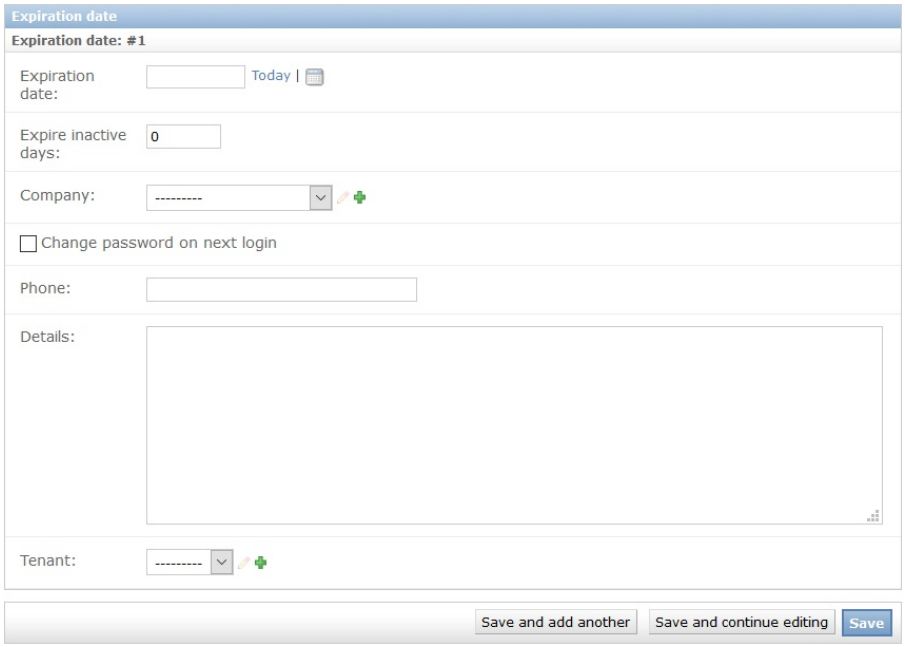
Creating new users

In the admin user interface, in the **Authentication and Authorizations** group, click **Users**, and in the top-right corner of the view that is displayed, click **Add user.**

1. Fill in the **Username**, which can have a maximum of 30 characters.
2. Enter the same password in the **Password** and **Password confirmation** fields.

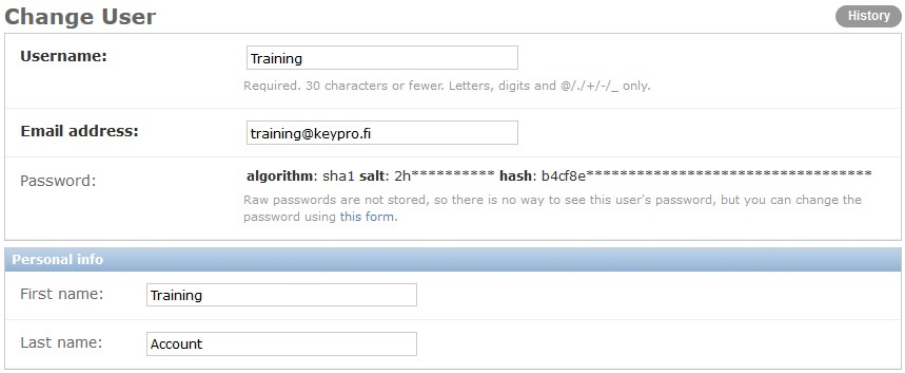


3. Define an **Expiration date** if you want to limit the validity of the username. You can also define the expiration date for the username in days.
4. You can link a username to a **company.**
5. Select the **Change password on next login** checkbox if you want the user to change the password that you created.
6. **If you are using two phased authentication**, it is important that the user's phone number is entered in the **Phone number** field. In the **Details** field, you can enter optional information about the user. The contents of the field will not be visible to the user unless you give the user admin rights.
7. Click **Save**.



8. On the displayed form, enter the user's **First name** and **Last name** and **Email address**.

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9. Follow the instructions provided in the User authorisations chapter to define the user rights.

Deleting usernames

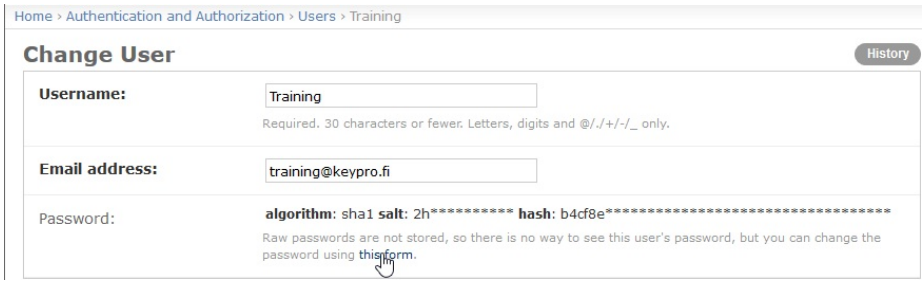
To delete an existing username, select the username on the **Authentication and Authorizations** > **Users** list and click **Delete** on the displayed form.

Changing user passwords

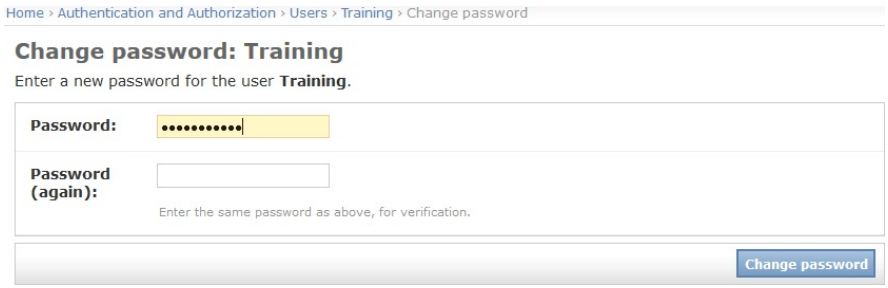
Users can change their own passwords through the link in the application's main view. Alternatively, users can change their forgotten password by clicking **Forgot password?** link on the application's log-in page.



Admin users can change the password for any user by selecting the appropriate username on the **Authentication and Authorizations > Users** list and by clicking **this form** link below the password on the **Change User** form.



Note! For security reasons, passwords are stored in the system database with strong encryption, and not even admin users can view the passwords of users through the admin interface.



User authorisations

Add or modify the permissions assigned to a username.

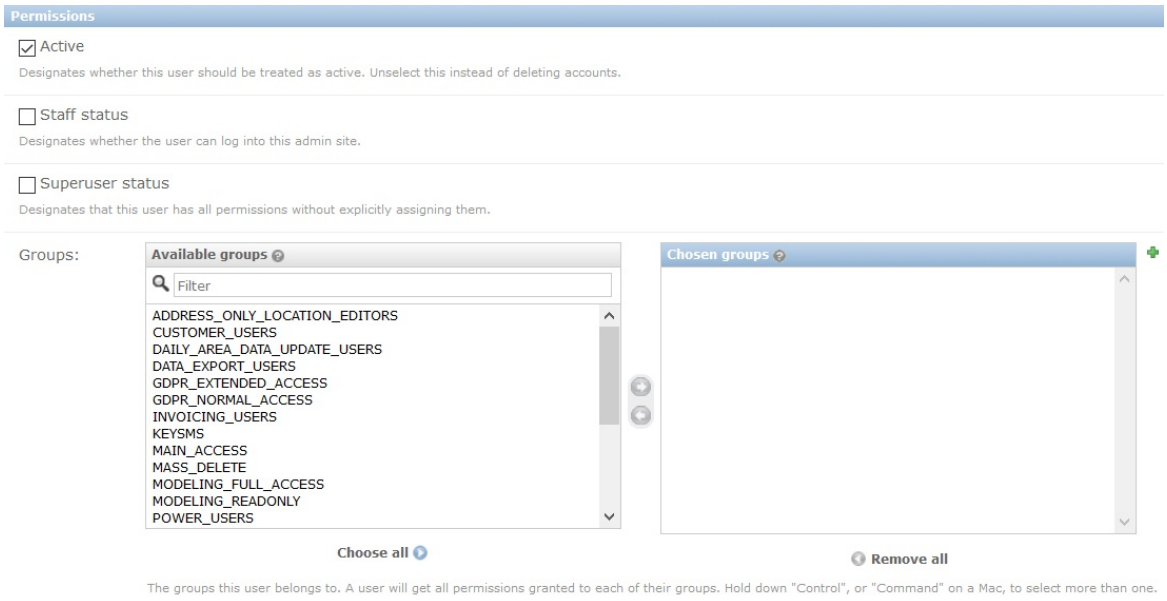
1. Select the username on the **Authentication and Authorizations** > **Users** list, or if you are creating a new user account, you can add permissions when creating the user account (Create new users).
2. a) Select the **Active** checkbox to specify the validity of the username.

b) Select the **Staff status** checkbox to grant the user admin privileges.

c) Select the **Superuser status** checkbox to give the user all permissions without separate user group selections.

1. Select the user groups available to the user from the **Available groups'** menu.

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1. Click the arrow button displayed between the lists to add groups to the **Chosen groups** list.
2. You can define user-specific permissions in a similar manner.
3. **Save** changes.

Available user groups in KeyAqua

Only default user groups listed in this chapter are maintained in version updates. If there are other user groups, that user has created by themselves, they need to be updated by the customer manually. We suggest using only the groups listed in this chapter.

The following user groups have been defined as default groups in KeyAqua:

- **POWER_USERS** is a user authorised to add, modify, and delete network objects.
- **DATA_EXPORT_USERS** is a user authorised to export data to another data format by using the Export function.
- **READONLY_USERS** is a user with viewing permissions (no right to modify), who can open and pick network objects to their forms.
- **CONSUMER_LAYERS** is a user who has access to the Customer and Consumer point forms.
- **REFERENCE_MAP_USER** is a user authorised to import files to the map by using the Spatial upload function.
- **MASS_DELETE** is a user authorised to delete several objects at once. The mass deletion function of the application must be activated to enable this.
- **MAIN_ACCESS** is a user authorised to use the main application only. KEYCORE_IGNORE_MAIN_VIEW_ACCESS_GROUPS must not be in an active state in the application.
- **VIEWER_ACCESS** is a user only authorised to use KeyMobile. KEYCORE_IGNORE_MAIN_VIEW_ACCESS_GROUPS must not be in an active state in the application.
- **GDPR_NORMAL_ACCESS** is a user authorised to view customer data.
- **GDPR_EXTENDED_ACCESS** is a user authorised to view customer data and customer data of the “Private–restricted” type.
- **HTK_ACCESS** is a user who has access to the Alert form.
- **MODELING_FULL_ACCESS** is a user who has access to use the Modeling function.
- **MODELING_READONLY** is a user with viewing permissions (no right to modify) on the Modeling form.
- **USER_THEME_GROUP** is a user who has access to User theme form.
- **UV_CONTRACTOR_DIRECTOR** is a user who has director’s rights. He/she has the rights to control and supervise the work related to the contractor.
- **UV_CONTRACTOR_MECHANIC** is a user who has mechanic’s rights. He/she has the rights to carry out tasks related to the UV contractor.
- **UV_MAINTENANCE_CONSTRUCTOR** is a user who has access to KeyWork forms.
- **UV_USER** is a user who has viewing access and limited modifying access to KeyWork forms. This user group always must be active if there’s also additional **UV** user groups that need to be active in the environment.
- **POPUP_MESSAGE_USER** is a user who has Notifications tool enabled in the user interface. The application will be polling the Notifications center for new messages for the user and open them in the lower right corner of the UI.
- **DIARY_VIEW** is a user authorized to view Diary feature related functionalities.
- **DIARY_EDIT** is a user authorized to view, create and edit Diary feature related functionalities.
- **DIARY_FULL** is a user authorized to view, create, edit and delete Diary feature related functionalities.
- **PROPERTY_BORDER_REPORTS** is a user authorized to get data from MML web services.

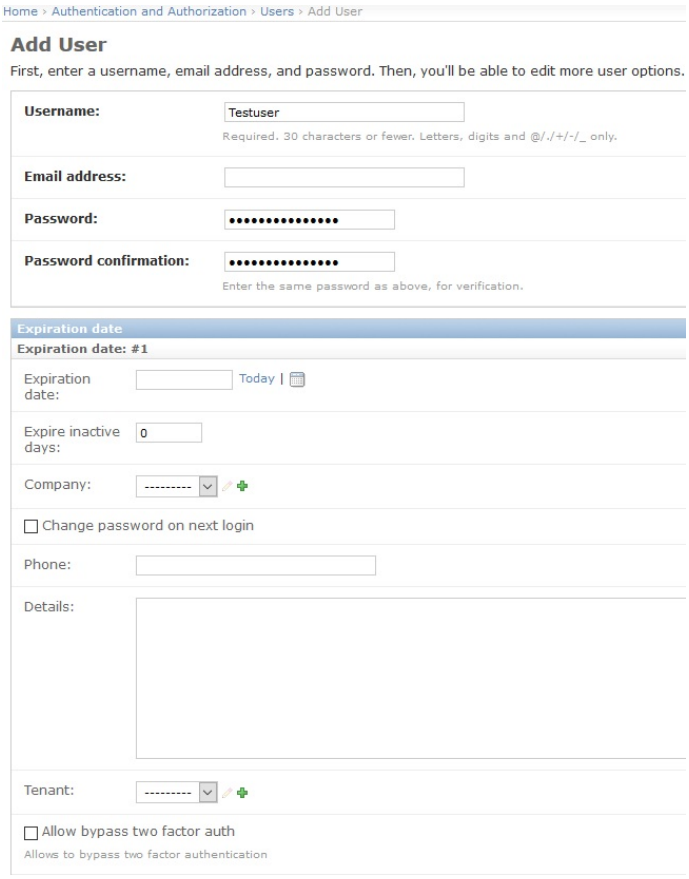
Defining two phased authentication for a user (This function is subject to a separate order.)

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For two phased authentication, the user must provide not only a username and password, but also a one-time password received via SMS to log into the system.

Adopting two phased authentication (Admin)

1. Go to **Authentication and Authorizations Users**.
2. To modify the user data, click the username or add a new user by clicking **Add user**.
3. Make sure that the **Phone** field has the person's correct phone number.
4. Check that the following checkbox is NOT selected: **Allow bypass two factor auth**.
5. **Save** the changes to apply two phased authentication to the user.



Logging in when using two phased authentication

1. Enter the username and password in the log-in form's fields and click **Log in**.
2. If the credentials you entered are correct, the system will send a single-use code to your phone as a text message. Enter the code in the **Code** field and then click **Log in.** If the code is entered incorrectly, the system will send a new single-use code to your phone.

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Text constants

The various picklists of the application forms are retrieved from the text constants. If the content of the text constants is edited, the picklists on the forms will be changed accordingly when the application page is reloaded. Text constants are also used for other purposes. For example, they can be used to specify the privacy policy website.

Note! KeyAqua's text constants are available in two different text constant tables: **Aqua's text constants** (Keyaqua_Core – Text constants) and **Text constants** (Txt_Constant group – Text constants).

When creating new text constants or when editing existing constants, you should check the spelling. The group name field for text constants must not contain spaces because they may result in system malfunction. **Normally, there is no reason why the Group name field should be modified when text constants are modified.** However, if a space is incorrectly included in the Group name field of the text constant, the text in the Group name field for the text constant should be modified. The group name for the text constant must already exist in the system. In other words, **no new text constants should be created.** In addition, it is good to note that Aqua's text constants and the Txt_Constant text constants have groups with the same names (e.g. DUCT_STATE).

Deleting text constants should be avoided. However, if you want to delete text constants that belong to a text constant group, we recommend that you contact Keypro support. **Text constants not mentioned in this document should not be modified without the permission of Keypro Oy.** If you have created a new common text constant (Txt_Constant) and want to delete it, you should follow the instructions in the Deleting common text constants chapter.

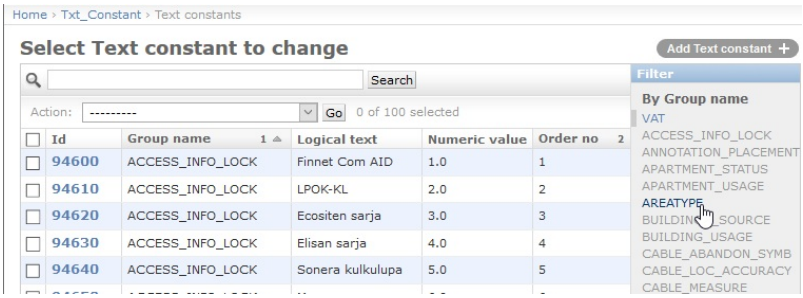
Editing and deleting text constants

In the admin user interface, click the **Text constants** link **under Keyaqua Core** or the **Text constants** link.





On the displayed list, click the ID of a text constant to edit it. To limit the list content to a single group, click the group in question on the **Filter** list.



General text constant columns

Text constants include the following information for each setting:

- Group name: text constants have been divided into groups, which are used to categorise the settings related to various topics.
- Logical text: the text that the application uses internally.
- Text [fi]...Text [en]: the translations of the **Text** field that are displayed in the browser in the selected language.
- Numeric value**:** is used, for example, as the numeric value equivalent to the text value, to provide information on whether the object is included in the safe-to-dig.com service, whether the feature is in use and to indicate the type of technology. Further information is available in the chapter that discusses each specific group.
- Abbreviation: **the internally used default abbreviation of the text constant.**
- **Abbreviation [fi]...Abbreviation [en]:** the translations of the **Abbreviation** field that are displayed in the browser in the selected language. If the selected language is not supported, the **Abbreviation** field will be displayed.
- Numeric value 2...Numeric value 4**:**
- Text value**:** varies depending on the group. As a rule, this is not in use.

Category: Four-digit data. E.g. 7012 (Gas) or 7022 (District heating). Specifies the forms on which specific shared (e.g. VALVE_OPEN_STATE) text constant group data is displayed.

- Description**:** May contain descriptive information. As a rule, this is not in use.
- Value...Value 4**:** these fields are usually related to the description techniques of old systems. You can ignore these fields if you are using the browser application.

Optional data: Typically contains longer text. As a rule, this is not in use.

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- Order no**:** a sequence number for settings. For example, if the values of a group are retrieved for a picklist, the values will be displayed in the order specified by the order number. For some groups, values with negative order numbers are not displayed on the picklists.
- Availability start and end:displayed/can be modified through the group's own admin interface if the field is in use. If data has been entered in these fields, selections with availability start or end dates in conflict with the current date (not available anymore or availability period has not yet started) will be displayed either in grey or not at all depending on the group.

Text constant columns in KeyAqua

To edit KeyAqua's text constants, select **Keyaqua_Core** - **Text constants**:



- **Group name:** text constants have been divided into groups, which are used to categorise the settings related to various topics. You should pay attention when spelling a group name.
- Txt (fi)... Txt (en): texts that are displayed in the browser in the selected language.
- Txt 2: contains various data in text format depending on the purpose of the text constant group. For example, color codes in the form of #RRGGBB (Hex).
- Order: a sequence number for settings. For example, if the values of a group are retrieved for a picklist, the values will be displayed in the order specified by the order number. For some groups, values with negative order numbers are not displayed on the picklists.
- Numeric value**:** is used, for example, as the numeric value equivalent to the text value, to provide information on whether the object is included in the safe-to-dig.com service, whether the feature is in use and to indicate the type of technology. Further information is available in the chapter that discusses each specific group.
- **Abbreviation [fi]...Abbreviation [en]:** Abbreviations that are displayed in the browser in the selected language.
- **Value:** A text value, such as a URL or a string of characters describing a state, such as CLOSED.

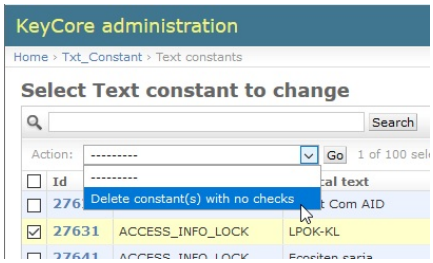
Deleting common text constants

You must use a separate delete function to delete common text constants (Txt_Constant). You can use the delete function to delete one or more text constants from the list at one go. Before deleting a text constant, make sure that it is not used in KeyAqua. If a constant is used by the system, the deletion will fail.

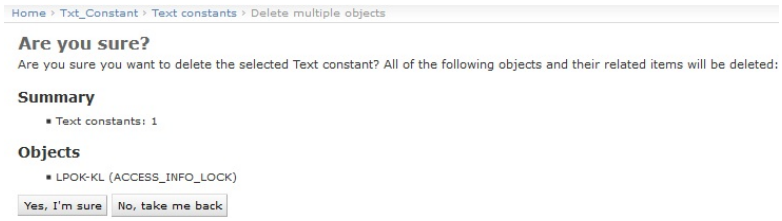
Select **Text constants**:



Find the text constant you want to delete. Click the first check box for a text constant row to select a constant. Then select **Delete constant(s) with no checks** in the Action drop-down menu and click **Go**.



Click **Yes, I'm sure** to confirm the deletion of the text constant.



KeyCore text constants

Login screen terms

The terms and conditions link available in the login screen is defined in the TERMS_AND_CONDITIONS group under Text constants. To activate the link in the login screen, fill in the following fields:

- **Group name:** TERMS_AND_CONDITIONS
- **Logical text (TXT):** private_terms
- **Order number:** 1 (order number)
- **Text value:** Link of for the terms and conditions. For example, "https://www.company.com/terms_and_conditions".

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- **Text [en]:** Yksityiset ehdot (value that is visible to the user)
- **Text [en]:** Private terms (the value shown to the user on the English login page)
- **Text [en]:** Private villkor (the value that is displayed to the user on the login page in Swedish)

Defaults

To set the defaults, go to an object form in the application and click **Save as defaults** in the drop-down menu for **Save**. The selection is only visible to admin users. You can define defaults for nearly all forms, such as Plan, Point object, Address, Text, Line and Area forms.

Placement scale

The placement scales available in the map tools are defined in the SCALE group under Text constants.

- Text...Text (en)**:** a scale value that is appropriate for the user, for example, 1:500.
- Numeric value: the numeric value equivalent to the text for scaling objects.
- Value: not available in the browser application. A reference to a Feature table. Contact Keypro's application support for help.
- Value 2: not available in the browser application. A reference to a Feature table. Contact Keypro's application support for help.
- Numeric value 2: defines the default placement scale. The default placement scale when the application is launched is a placement scale with a Numeric value 2 = 1.

Location accuracy and height accuracy

Location accuracies are defined in the LOCATION_ACCURACY group, while the H_ACCURACY group is used to define height accuracies. Both are used on some of the object forms in the relevant picklists on the **Common settings** tab.

- Text...Text (sv): text specifying the location accuracy, for example, "+-5 m"
- Numeric value**:** a numeric value equivalent to the text field, for example, 5.0. The value in this field is the radius of a circle in metres, within which the actual location of an object is when measured from the object's saved location and at the applied level of certainty.

Plan state

The state of a plan is defined in the PLAN_STATE group.

- Numeric value 2: if the state of a plan is changed to **Ready**, the user will be asked whether the usage states of the related objects should be updated (they will be updated to a usage state with the numeric value 1. Further information is available in the Usage state chapter).

0	not displayed in the safe-to-dig.com service
1	ready, with planned objects also being displayed in the safe-to-dig.com service
null/<something else>	planned objects will also be displayed in the safe-to-dig.com service

If the Numeric value 2 is not zero or NULL, the plan-related objects with the usage state "planned" will be displayed in the safe-to-dig.com service. (Objects with the usage state "in use" are always displayed in the safe-to-dig.com service, regardless of the plan's state.) This means that it is possible to specify, for example, that objects linked to plans that are in the pre-planning phase or under planning are not displayed in the safe-to-dig.com service. If a planned object is not linked to any plans, it will be displayed in the safe-to-dig.com service.

- **Numeric value 3:** For example, for a constant in the PLAN_STATE group the logical text of which is **In preplanning**, the numeric value is 1. You must not edit this.

Plan type

The plan type is defined in the PLAN_TYPE group:

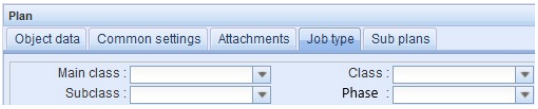
Numeric value: defines the type of plan in question:

4	Deconstruction

If the plan's type is deconstruction and the plan's usage state is changed to Ready (see the Plan state chapter for more information), the user will be asked whether the objects related to the plan should be deleted or scrapped. If the user selects deletion, the objects will be deleted. If the user selects scrapping, the usage state of the objects will be changed to a usage state (see Usage state for more information) with a numeric value of 3. This feature is activated with the setting PLAN_AUTOMATIC_SCRAPPINGS.

Work type tab for Plan

The **Work type** tab for the Plan form is a feature that can be ordered separately.



The values for the picklists are defined in the following text constant groups:

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Group	Field description
PLAN_WORK_TYPE_MAIN	Main type
PLAN_WORK_TYPE_SUB	Sub-type
PLAN_WORK_TYPE	Type
PLAN_WORK_PHASE	Phase

Point object types

Name: name that the application uses internally.

Label [fi]...Label [en]: localised name that is visible to users.

Symbol name: the symbol that is displayed on the map.

Point object type category: the category that the type belongs to. See the Point object type categories chapter for further information.

Point object type categories

The type categories of point objects are defined in the POINT_TYPE_CATEGORY group.

- Logical text: the text that the application uses internally:

Loop/coil	A point object linked to a cable
<other>	A regular point object

- Text [fi]...Text [en]: the translations of the **Text** field that are displayed in the browser in the selected language.
- Numeric value**:** the type of the category:

1	The category is used as redline in Keymobile.
-1	Type used in KeyRNS. The trigger updates the type_id data field for the object. The type_id field will be removed, but its fields are still used by safe-to-dig.com and the placement scale calculation.

Line

The content of the **Type** picklist on the Line form is defined in the **FREE_LINE_TYPE** group. The logical texts and numeric values for the default constants in the system (Redline and Measurement) must not be edited without Keypro's consent.

- Logical text: the text that the application uses internally:

Redline	Is displayed as a line on the map.
Measurement	A line with an arrowhead, with its length displayed on the map.

- Text [fi]...Text [en]: the translations of the **Text** field that are displayed in the browser in the selected language.
- Order no.: Defines the order of the type on the picklist.
- Numeric value**:** For system-internal use (must not be modified):

Redline	1
Measurement	-1

The options for the **Usage state** picklist are defined based on the constants in the **FREELINE_STATE** group. In most environments, there are two options: Planned and In use.

- Logical text: the text that the application uses internally.
- Text [fi]...Text [en]: the translations of the **Text** field that are displayed in the browser in the selected language.
- Order no.: Defines the order of the type on the picklist.
- Numeric value**:** For system-internal use (must not be modified):

In use	1
Planned	2

Text

The contents of the **Type** picklist on the Text form is defined in the **FREE_TEXT_TYPE** group. The system has one option by default: Redline. **The logical text and numeric value for the constant in question must not be modified without Keypro's consent.**

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- Logical text: the text that the application uses internally.
- Text [fi]...Text [en]: the translations of the **Text** field that are displayed in the browser in the selected language.
- Order no.: Defines the order of the type on the picklist.
- Numeric value**:** For system-internal use (must not be modified):

Redline	1

The options for the **Usage state** picklist on the Text form are defined based on the constants in the **FREETEXT_STATE** group. In most environments, there are two options: Planned and In use.

- Logical text: the text that the application uses internally.
- Text [fi]...Text [en]: the translations of the **Text** field that are displayed in the browser in the selected language.
- Order no.: Defines the order of the type on the picklist.
- Numeric value**:** For system-internal use (must not be modified):

In use	1
Planned	2

Address usage purposes

The usage purposes of addresses are defined in the APARTMENT_USAGE group (the usage purpose of an apartment) and the BUILDING_USAGE group (the usage purpose of a building).

- Numeric value...numeric value 4: these fields specify the addresses that will be excluded in various situations, for example, if you do not want to include addresses with the usage state **Demolished**. If no value has been entered or the value entered into the field is 0, the address will be included. Otherwise the address will not be included. Addresses are displayed in accordance with the table below.

Numeric value	1	Related to external interfaces. **Do not edit!**
Numeric value 2	1	Related to external interfaces. **Do not edit.**
Numeric value 3	1-11	The VRK usage code equivalent to the purpose of use. (Note! Only used in Finland.) This is used when the VRK material is used to update addresses. **Do not edit.**
Numeric value 4	1	Addresses are not updated directly from the VRK file, but the update is included in the list of addresses that will not be updated. (Note! Only used in Finland.)

- Text value**:** The Text value of the BUILDING_USAGE group specifies the color of the address symbol.

r g b	Color of the address symbol. Each value is a number between 0...255, for example, green is presented as “0 255 0”.

Address usage purpose 2

The values for the Address usage purpose 2 field are defined in the KN_ADDR_SPEC group.

- Text value**:** The text value defines the color used to display the address number on the map.

r g b	The color of the address number. Each value is a number between 0...255, for example, green is presented as “0 255 0”.

Usage state of an apartment

The contents of the Usage state picklist on the Apartment form is defined in the APARTMENT_STATUS group.

Coordinate system options

To define the Coordinate system options that are displayed to users, go to the KEYCORE_IMPORT_SRS groups under Text constants.

- Text value**:** the code equivalent to the coordinate system. This code must be included in the **Code** column of the Coordinate systems. See the Coordinate systems chapter for more information.

Note! The KEYCORE_IMPORT_SRS group under Text constants defines the options displayed to the users. The equivalent information must be included in the coordinate system definitions (see the Coordinate systems chapter).

Area types

Area types are defined in the FREEAREA_TYPE group.

- Numeric value: defines the area type

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1	Access restriction area
2	Province
3	City
4	Zip code
5	Switching center area (Censal)
6	Country border
7	Population center
8	Autonomous area (Comunidad Autónoma)
9	Building
22	Unsubsidised area
101	(reserved for a modified right of use area)

Area categories

Area categories are defined in the FREEAREA_CATEGORY group. The Txt constant links chapter provides information on linking area types to categories.

Txt constant links

- Parent id: Area category (see Area categories).
- Child id: Area type (see Area types).

Usage states of areas

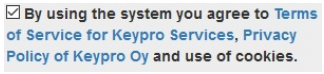
The usage states of areas are defined in the FREEAREA_STATE group.

- Numeric value:

102	(reserved for a modified Right of use area)
103	(reserved for a modified Right of use area)
104	(reserved for a modified Right of use area)

Privacy policy and help texts

If the KeyCore text constants include the text constant for group TERMS_AND_CONDITIONS, a link to the terms of service and privacy policy will be displayed on the KeyAqua home page. The link text is retrieved from the Text [fi]... Text[en] field and the link address from the Text value field (in the format: http://...). More than one link can be added by using a constant. A comma and space are automatically used to separate the links. The web page defined for the link is opened on a new tab.



The menu texts for the user manuals are derived from the HELP_MANUALS text constant fields: Text [fi]... Text [en]. You can edit the text in those fields, but the contents of other fields may only be modified by Keypro.

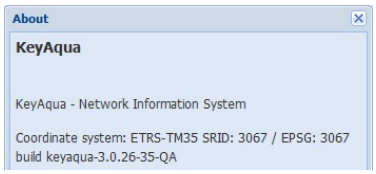


You can add links to instructions in the **Help** menu by adding text constants to the HELP_REST group. By default, the HELP_REST group includes Keypro Oy, which opens Keypro Oy's homepage on a new tab. You can create your own link to a page by using the default page as a template and by completing the mandatory fields. The order number must be different for each text constant in the HELP_REST group.



You can change the description text that appears in the About window by editing the values of the HELP_ABOUT group's constant: Text [fi]... Text [en]. Other fields may only be edited by Keypro. The HELP_ABOUT group may include only one constant.

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Consumer point

Some of the information in the picklists for the Consumer point form is defined in the common text constants (Txt_Constants) and some in the Keyaqua_Core text constants. For more information on the KeyAqua text constants, see the Consumer point chapter.

The logical text for the CP_TYPE group constants must not be edited. The texts for the picklists can be modified in the Text [fi]...Text [en] fields. The options for the Heating form field are defined in the HEATING_FORM group and they are mainly related to external interfaces.

Group	Field description	Form
CP_TYPE	Type	Consumer point
HEATING_FORM	Heating mode	Consumer point

Customer registration (This feature is subject to a separate order.)

Some of the texts for the **Customer registration** feature (which is subject to a separate order) can be updated by modifying the optional information for the CUSTOMER_REG_TEXT constants in the common text constants (Txt_constants) group. In addition, the text in the additional header on the Contact Update form is also derived from the constants in that group. At the moment, only texts in Finnish can be modified through the admin user interface. Keypro modifies the texts in English and Swedish.

KeyAqua text constants

Customer

Customer-related groups are defined in Keyaqua_Core text constants – usually in groups whose names start with **CUSTOMER**.

Invoicing languages are defined in the CUSTOMER_INV_LANG group:

- Txt (fi)...Txt (en): Invoicing language, e.g. Finnish.
- Numeric value**:** Reserved for the following values:

1	Finnish
2	English
3	Swedish

Customer roles are defined in the CUSTOMER_ROLE group:

- Txt (fi)...Txt (en): Description of the role, e.g. Tenant.
- Numeric value**:** Reserved for the following values:

1	Tenant
2	Owner

Customer states are defined in the CUSTOMER_STATE group:

- Txt (fi)...Txt (en): Description of the state, e.g. Active.
- Numeric value**:** Reserved for the following values:

0	Active
1	No sales
2	Inactive

Customer types are defined in the CUSTOMER_TYPE group:

- Txt (fi)...Txt (en): Type description, e.g. Private or Municipality.
- Numeric value**:** Reserved for the following values:

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0	Private
1	Municipality
2	Company
3	Government
4	Undefined
5	Water cooperative

Consumer point

Groups related to consumer points are defined in the Keyaqua_Core text constants and usually in groups whose names start with **CONSUMERPOINT** or **CONSUMER_POINT**.

Text constants related to the amount of asbestos and the required protection are defined in the CONSUMERPOINT_ASBEST group. These can be used to modify the values in the Asbestos fields on the Consumer Point form.

- Txt (fi)...Txt (en): Description of the amount of asbestos, e.g. 4 - requires protection.
- Numeric value**:** Reserved for the following values:

0	No asbestos
1	Potentially
2	Exists
3	Requires protection

The groups for the consumer point are defined in the group **CONSUMERPOINT_GROUP**. Txt (fi)... Txt (en) is the description of the group. No numeric values are used.

The states for the consumer point are defined in the group **CONSUMERPOINT_STATE** as follows:

- Txt (fi)...Txt (en): Description of the state, e.g. Active or Extinct.
- Numeric value**:** Reserved for the following values:

0	Active
1	Nominee
2	Extinct
3	No billing

The values for the Consumer Point form's fields Sprinkler customer and Industrial wastewater are defined in the **SPRINKLER_CUSTOMER** and **INDUSTRIAL_WW_CONT** groups (in this order). In these, Txt (en)... Txt (en) specifies the description, which is usually Yes or No. In addition, the numeric values are reserved as follows:

1	Yes
2	No

The values for the Consumer Point form's field Critical customer are defined in the **CRITICAL_CUSTOMER** group. Txt (fi)... Txt (en) specifies the description, which is usually Yes or No.

1	Yes
2	No

If the customer has ordered the **Supply interruption** functionality, the values may be as presented in the table below. **The numerical values must not be edited without Keypro's consent.** Txt 2 defines the color on the Supply interruption form (Supply interruption (a district heating function subject to a separate order)).

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Numeric value	Txt	Txt 2
0	Standard	(null)
1	To be considered	green
2	Critical	red
1000	Undefined	(null)

User of a consumer point

Text constants related to the consumer point's user are defined in KeyAqua_Core's text constants in groups that usually start with **CP**.

Activity values are defined in the group **CP_ACTIVITY**:

- Txt (fi)...Txt (en): Description of activity, e.g. In use.
- Order no.: Reserved as follows:

1	In use

The categories for the consumer point's users are defined in the **CP_CATEGORY** group:

- Txt (fi)...Txt (en): Description of the category, e.g. Normal customer.
- Order no.: Reserved as follows:

0	Normal customer

Sources are defined in the **CP_SOURCE** group:

- Txt (fi)...Txt (en): Description of the source, e.g. KeyAqua or External.
- Txt_2: Usually empty, or Bisnode if the consumer point's user is imported from an external source.
- Order no.: Reserved as follows:

1	KeyAqua

- Numeric value**:** Reserved as follows:

1	External source

Usage state

Usage states are defined in Keyaqua_Core text constants in the **USAGE_STATE** group. It is used on several different forms, including the Valve, Manhole and Node forms.

- Txt (fi)...Txt (en): Description of the usage state, e.g. Planned or Discarded.
- Numeric value**:** Reserved for the following values:

0	Undefined
1	In use
2	Planned
3	Discarded

Error report

Text constants related to error reports are defined in Keyaqua_Core text constants. The names of the groups start with **ERROR**. Txt (en)... Txt (sv) defines the description. No numeric values are used:

Group	**Description**
ERROR_CAUSE	Reason for the fault, e.g. Cave-in
ERROR_REPORT_STATE	Report status, e.g. Valid
ERROR_TYPE	Type of error, e.g. Flood

Error and investigation area

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The areas used in the error reports and investigations are defined in Keyaqua_Core text constants in the **SN_DISTRICT** group. Txt (en)... Txt (sv) defines the area description. No numeric values are used.

Maintenance and repair

The types of Maintenance and Repair forms are defined in Keyaqua_Core text constants in the **SN_OPERATION_TYPE** group. There are two types: Maintenance and Repair, which must not be deleted. The translated texts can be edited if necessary.

- Txt (fi)...Txt (en): Description, usually either Maintenance or Repair.
- Numeric value**:** Reserved for the following values:

1	Maintenance
2	Repair

Type of operating area

Operating area types are defined in Keyaqua_Core text constants in the **COOPAREA_TYPE** group.

- Txt (fi)...Txt (en): Description of the operating area type, e.g. Water.
- Numeric value**:** Reserved for the following values:

0	Water
1	Sewer

Occurrence

Occurrence types are defined in Keyaqua_Core text constants in the **OCCURRENCES** group:

- Txt (fi)...Txt (en): Description of the occurrence, e.g. Error report.
- Numeric value**:** Reserved for the following values:

0	Error report
1	Repair/welfare measure
2	Investigation
3	Work program
4	Acceptance test
5	Document
6	Condition report
7	Quality complaint
8	Leak report

Measure

Measures are defined in Keyaqua_Core text constants in the **SERVICE_TYPE** group. The types are used on the Failure report and Maintenance forms. Txt (fi)... Txt (en) is the description of the procedure, e.g. Replacing a meter.

CCTV

CCTV descriptions are defined in Keyaqua_core text constants in the **TV_INSPECTION_CODES** group. These are related to the CCTV functionality, which can be purchased separately.

- Txt (fi)...Txt (en): Description, e.g. Surface damage. Do not edit.
- Value: Type of damage in accordance with the table below:

1	Structural
2	Functional
3	Special

Importing phone numbers

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The SMS sending service is accompanied by a phone number import function, where you can import phone numbers from a file into the system. You can select the customer name and phone number columns in the file using drop-down menus, which are defined in the Keyaqua_Core text constants in the **MESSAGING_COLUMN** group.

- Txt (fi)...Txt (en): Description of the column, e.g. In column 1 of the file.
- Numeric value: Specifies the location of the column in the file starting from zero. In other words, 0 is the first column, 1 the second, 2 the third, etc.

Work program

Text constants related to work programs are defined in the Keyaqua_Core text constants in groups whose names start with **PROGRAM**. These mainly affect the options that are selected from the drop-down menus of the Work Program form.

Program types are defined in the PROGRAM_TYPE group:

- Txt (fi)...Txt (en): Description of the program type, e.g. Renovation program.
- Numeric value**:** Not in use.

The values in the drop-down menu for Renovation are defined in the **PROGRAM_RETYPE** group:

- Txt (fi)...Txt (en): Description of the program type, e.g. Renovation program.
- Numeric value**:** Reserved for the following values:

1	Renovation program
2	Repair program
3	Maintenance program

Invoicing

Text constants related to invoicing are defined in Keyaqua_Core text constants in groups whose names start with **INVOICE**. These are related to the invoicing functionality, which is available as a separate purchase, and there is usually no need to change them.

Invoicing groups are defined in the **AQUA_INVOICE_GROUP** group:

- Txt (fi)...Txt (en): Description of the invoicing group, e.g. Water billing.
- Numeric value**:** Defines the invoicing group in accordance with the table below. **Do not edit!**

Numeric value	**Description**
1000	Water billing
2000	Wastewater billing
3000	Basic fee, water
4000	Basic fee, wastewater

The types of invoicing are defined in the **INVOICE_TYPE** group:

- Txt (fi)...Txt (en): Description of the invoicing type, e.g. Estimate or Meter reading.
- Numeric value**:** Defines the invoicing type in accordance with the table below. **Do not edit!**

Numeric value	**Description**
1	Estimate
2	Basic fee
3	Meter reading

Device source

Device sources are defined in the common text constants (Txt_Constant) in the **DEVICE_SOURCE** group. Source selections are used on the Device form. **Text [fi]... The text [en]** is a description of the source, e.g. AqvaRex.

- Text [fi]... Text [en]: Description of the source, e.g. Aqvarex.
- Text value**:** Defines the source in accordance with the table below. **Do not edit!**

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Text value	Description
keyaqua_remotemx_core	RemoteMX
keyaqua_aqvarex_core	Aqvarex
Keyaqua_econet_core	Econet
keyaqua_kamstrup_core	Kamstrup
keyaqua_hwm_core	HWM
keyaqua_measuring_services	Measurement services
keyaqua_digita_interface	Digita interface

Unconnected real estate

Text constants related to unconnected real estate are defined in the Keyaqua_Core text constants. These mainly affect the options available in the drop-down menus of the Unconnected real estate form.

The audit status drop-down menu options are defined in the **LICENSE_STATE** group:

- Txt (fi)...Txt (en): Description, e.g. Pending or Not handled.
- Numeric value**:** Not in use.

The types of unconnected real estate are defined in the **UNCONN_REALEST_TYPE** group:

- Txt (fi)...Txt (en): Type of real estate, e.g. Row house or Apartment house.
- Numeric value**:** Not in use.

Fireplug

Text constants related to fireplugs are defined in the Keyaqua_Core text constants in groups whose names start with **FIREPLUG**. These primarily define the options available in the drop-down menus on the Fireplug form.

The categories of fireplugs are defined in the **FIREPLUG_CLASS** group:

- Txt (fi)...Txt (en): Description of the category, e.g. Wall fireplug or Ground fireplug.
- Numeric value**:** Not in use.

Two groups are required to define the fireplug types: **FIREPLUG_TYPE** and **NEW_FIREPLUG_TYPE**. For each type definition in the **FIREPLUG_TYPE** group, an identical type definition is required in the **NEW_FIREPLUG_TYPE** group.

- Txt (fi)...Txt (en): Description of the category, e.g. Stockholm.
- Numeric value**:** Not in use.

In addition, a new row must be added to the **AQUA_FIREPLUG_TYPE** table, with the row referring to the value in the **NEW_FIREPLUG_TYPE** group.

The manufacturers of fireplugs are defined in the **FIREPLUG_MANUFAC** group:

- Txt (fi)...Txt (en): Description of the category, e.g. Undefined.
- Numeric value**:** Not in use.

Hydrant

Text constants related to hydrants are defined in the Keyaqua_Core text constants in the **HYDRANT_KEYTYPE** and **HYDRANT_MANUFACTURER** groups.

The key hydrant types are defined in the group **HYDRANT_KEYTYPE**:

- Txt (fi)...Txt (en): Description of the key type, e.g. Triangle or Square.
- Numeric value**:** Not in use.

Hydrant manufacturers are defined in the **HYDRANT_MANUFACTURER** group:

- Txt (fi)...Txt (en): Description of the manufacturer, e.g. Undefined.
- Numeric value**:** Not in use.

Modeling

Text constants related to modeling are defined in Keyaqua_Core text constants in groups whose names start with **MODELING**. Modeling is a feature that can be purchased separately.

The **MODELING** group is used to define the general modeling constants:

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Text	Field to be modified	Description
ENABLED	Value	Enables/disables the modeling function. If the value is 1, the modeling function is enabled, otherwise it is disabled.
API_AUTH_USER	Value	The user ID for the Fluidit interface.
API_AUTH_PASS	Value	The password for the Fluidit interface.
SIMULATE_URL	Value	The URL to which modeling requests are sent, e.g. https://keypro.fluidit.fi/services/ASIAKAS/simulate.
CALLBACK_URL	Value	The URL to which simulated messages are sent from the Fluidit system, e.g. https://ASIAKAS.keyaqua.keypro.fi/keyaqua_modeling/simulationready/<uuid>/.
RESULTS_URL	Value	The URL from which the Fluidit results are retrieved, e.g. https://keypro.fluidit.fi/services/ASIAKAS/results/<uuid>.
STATUS_URL	Value	The URL from which the current state of the modeling run is being queried, e.g. https://keypro.fluidit.fi/services/ASIAKAS/status/<uuid>.
TIME_SERIES_URL	Value	The URL from which the time series data for the results of modeling are being queried, e.g. https://keypro.fluidit.fi/services/ASIAKAS/results/<modeling_uuid>/<parameter_name>/<component_uuid>/.
ANALYSIS_URL	Value	The URL from which the analysis data for the modeling results is retrieved, e.g. https://keypro.fluidit.fi/services/ASIAKAS/results/<uuid>/<type>/.
RESULTS_BATCH_SIZE	Numeric value	To speed up the importing of modeling results, the results are saved in a database in bundles of multiple results. The default bundle size is 10.
SRID	Numeric value	The SRID used to convert the geometries of modeling results. The default is 4326.

Modeling types are defined in the **MODELING_TYPE** group:

- Txt (fi)...Txt (en): Description of the type, e.g. Planned network.
- Value**:** Reserved as follows:

EXISTING	Modeling an existing network.
PLANNED	Modeling a planned network.
TEMPORARY	Temporary water usage.

Modeling states are defined in the **MODELING_STATUS** group:

- Txt (fi)...Txt (en): Status description, e.g. Modeling in progress.
- Value**:** Reserved as follows:

COMPLETE	Modeling complete.
FAILED	Modeling failed.
FETCHING_RESULTS_FAILED	Failed to retrieve results.
FETCHING_RESULTS	Results are being fetched.
IN_PROGRESS	Modeling in progress.
SENDING	Sending modeling request.

The properties of the modeling results are defined in the **MODELING_RESULT_PROPERTIES** group:

- Txt: The internal field name in the data model, e.g. avg_head.
- Value**:** The properties displayed in JSON format. JSON may include the following features:

cls	CSS class for the results row.
noValue	Hides the value if the value is "true". This is used in the group header rows.
timeSeriesParameter	A parameter that is used when querying time series from the Fluidit interface.

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The colors of the water origin legends in the modeling results are defined in the **MODELING_NODE_RESULT_ORIGIN_COLOR** group:

- Order no.: Specifies the order of colors used.
- Value**:** Color code, e.g. "#FF0000".

SmartWater

Text constants related to the SmartWater functionality are usually defined in Keyaqua_Core text constants or, in some cases, in common text constants (Txt_Constants).

The measurement criteria and the data displayed as a graph are defined in the **AREA_MEASURE_CRITER** group:

- Txt (fi)...Txt (en): Description of the measurement criterion, e.g. daily, pumped and precipitation.
- Numeric value**:** Reserved as follows:

0	Daily consumption
1	Monthly consumption
2	Nighttime consumption
3	Daytime consumption
6	Daily (precipitation)
7	Monthly (precipitation)
8	Daily, pumped and precipitation

The input directions for connections between the area and equipment are defined in the **INPUT_DIRECTION** group:

- Txt (fi)...Txt (en): Direction, e.g. In or Out.
- Numeric value**:** Reserved as follows:

0	In
1	Out

The measuring targets for input are defined in the **INPUT_MEASURE** group:

- Txt (fi)...Txt (en): Description of the target, e.g. Water.
- Numeric value**:** Reserved as follows:

0	Water

The **MEAS_AREA_LIMITS** group defines the limit values indicating whether the area's flow values are within the normal limits. Three categories are defined for water and sewage systems: below normal, normal, and above normal.

- Txt: Description of the limit, e.g. SEWER_RANGE_1.
- Txt_2: The colour displayed on the form for the limit in question, e.g. #FFFF00.
- Value**:** Limit value for the group, e.g. -25 or -25.25.

Example values:

Txt	**Txt_2**	**Value**	**Description**
SEWER_RANGE_1	#FFFF00	-25	Color when the value is < –25.
SEWER_RANGE_2	#00CC00	-25.25	Color when the value is between –25 and 25.
SEWER_RANGE_3	#FF6666	25	Color when the value is >25.
WATER_RANGE_1	#FFFF00	-25	Color when the value is < –25.
WATER_RANGE_2	#00CC00	-25.25	Color when the value is between –25 and 25.
WATER_RANGE_3	#FF6666	25	Color when the value is >25.

The networks of the measuring device are defined in the **DEVICE_MEASURES** group:

- Txt (fi)...Txt (en): Description, e.g. Clean water.
- Numeric value**:** Reserved as follows:

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0	Clean water
1	Wastewater
2	Storm water

The **PRECIPITATION_LIMITS** group defines the limit values (similar to the **MEAS_AREA_LIMITS** group) that indicate whether the precipitate values are within the normal range. Three categories are defined for water and sewage systems: below normal, normal, and above normal.

- Txt: Description of the limit, e.g. RANGE_1.
- Txt_2: The color displayed on the form for the limit in question, e.g. #A0FB0D.
- Value: Limit value for the group, e.g. 0, 0.5 or 10.

Example values:

Txt	Txt_2	Value	Description
RANGE_1	#A0FB0D	0, 0.5	Colour when the value is between 0 and 0.5.
RANGE_2	#00B050	0.5, 1	Colour when the value is between 0.5 and 1.
RANGE_3	#D8EC1C	1, 1.5	Colour when the value is between 1 and 1.5.
RANGE_4	#E9B41F	1.5, 2	Colour when the value is between 1.5 and 2.
RANGE_5	#FC6F20	2, 4	Colour when the value is between 2 and 4.
RANGE_6	#FC4F42	4, 10	Colour when the value is between 4 and 10.
RANGE_7	#D51F01	10	Colour when the value is >10.

The constants related to the alarms generated by automation equipment are defined in the **ALARM_MIN_PRESSURE** and **ALARM_MAX_PRESSURE** groups. The text value defines the pressure limit (psi), for example:

Group	Text	Description
ALARM_MIN_PRESSURE	5	Minimum pressure 35 psi.
ALARM_MAX_PRESSURE	35	Maximum pressure 35 psi.

The height reference systems for the marine water level measurement values are defined in general text constants (Txt_Constants) in the **HEIGHT_REF_SYSTEM** group:

- Txt (fi)...Txt (en): The name of the height reference system in the user interface, e.g. N2000.
- Txt: An internal height reference system identifier transmitted over the interface, e.g. N2000.

The observation station data related to the measurement of sea water levels is defined in the **SEAWATER_OBSERVATORY** group in the general text constant group (Txt_Constant). The group defines the nearest observation station and the height reference system used by default.

- Numeric value: The observation station ID that refers to the SEAWATER_OBSERVATORY table in the measurement database.
- Numeric value 2: The height reference system ID that refers to the HEIGHT_REF_SYSTEM group in the common text constants (Txt_Constants).

The SEAWATER_CRITICAL_LIMIT group has one constant whose numerical value can be used to determine the critical sea level. For example, the numeric value 60 draws a horizontal red line at a height of 60 centimetres in the Sea Level chart.

Epanet

Text constants related to the Epanet functionality are defined in the Keyaqua_Core text constants in the **EPANET_DUCT_STATUS** and **EPANET_FLOW_UNIT** groups. In addition, some Epanet functionalities are also affected by the Keyaqua_Core text constants **DUCT_STATE** and **FLOW_METER_CLASS**.

The **EPANET_DUCT_STATUS** group is used to define the duct status:

- Txt (fi)...Txt (en): State description, e.g. Open or Closed.
- Value: State identifier:

OPEN	Open
CLOSED	Closed

The units used for unit conversions in Epanet calculations are defined by using the **EPANET_FLOW_UNIT** group.

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- Txt (fi)...Txt (en): Description of the unit of measurement, e.g. LPM (litres/min).
- Order no.: Indicates whether the SI system or U.S. units of measurement are used. If the order number is between 6 and 10, the unit is interpreted as a U.S. unit of measurement, in which case the Epanet calculation uses U.S. units of measurement. Otherwise, the unit is interpreted as an SI unit.
- Value**:** Coefficient when converting from the m^3/year unit of measurement to the selected unit of measurement.

The default values for text constants are as follows:

Text	Order no	Value
CMH (cubic meters/hr)	1	0.0001141553
CMD (cubic meters/day)	2	0.0027397260
LPS (liters/sec)	3	0.0000317098
LPM (liters/min)	4	0.0019025875
MLD (megaliters/day)	5	0.0000027397
AFD (acre-feet/day)	6	0.0000022211
CFS (cubic feet/sec)	7	0.0000011198
GPM (gallons/min)	8	0.0005026105
IMGD (Imperial MGD)	9	0.0000006027
MGD (million gal/day)	10	0.0000007238

Water ducts and sewer ducts

Constants related to water ducts and sewer ducts are defined in Keyaqua_Core text constant groups whose names usually start with or contain **DUCT**. In general, they are used on the Water duct and Sewer duct forms, but they can also be used for other duct-related functions, such as duct annotations and leak reports.

General groups:

Group	Description
DUCT_BRAND	Brand.
DUCT_CLASS	Duct type. Used on the Water leak report form.
DUCT_DIAMETER	Diameter, e.g. 500. Note that simply adding a new diameter to text constants is not sufficient, as the diameter must be linked to a duct type. See Duct materials and diameters.
DUCT_FIRMNESS_CLASS	Firmness class, e.g. E16. Note that simply adding a new firmness class to text constants is not sufficient, as the firmness class must be linked to a duct type. See Duct materials and diameters.
DUCT_LOCATION	Location, e.g. Tunnel.
DUCT_MATERIAL	Material, e.g. PVC. Note that simply adding a new material to text constants is not sufficient, as the material must be linked to a duct type. See Duct materials and diameters.
DUCT_OWNER	Owner, e.g. Water supply plant.
DUCT_PRECIPITATE	Precipitate, e.g. No precipitation. Used on the Repair and Water leak report forms.
DUCT_PRESSURE_CLASS	Pressure category, e.g. PN10. Note that simply adding a new pressure category to text constants is not sufficient, as the pressure category must be linked to a duct type. See Duct materials and diameters.
DUCT_STATE	Usage state, e.g. Planned. The numeric values are reserved so that 1 = In use, 2 = Removed by digging, 3 = Discarded.
DUCT_TYPE	Duct type, e.g. Distribution duct. Note that simply adding a new duct type is not enough, but the duct type must be linked to the network and network type. See Defining duct types.
SN_DUCT_FORMCODE	Duct shape, e.g. Spherical. Must be linked to a duct type. See Duct materials and diameters.

Groups related to duct annotations:

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Group	Description	Reserved numerical values
DUCT_ANNOT_COORD	The unit of measurement for duct annotations, e.g. mm.	0 = mm 1 = cm 2 = dm 3 = m
DUCT_ANNOT_PLACEMENT	Placement of duct annotations, e.g. Above the duct.	0 = Above the duct 1 = On the duct 2 = Below the duct 3 = In line with duct 4 = On annotation line 5 = Height info
DUCT_DIALOG_ID	A setting to select whether annotations include the cable/duct ID or an internal ID.	1 = ID Otherwise, the internal ID is displayed.

Groups of common text constants (Txt_Constant):

Group	Description
DUCT_TYPE	Duct type. Used only on the Manhole inspection form.

Types of water ducts and sewer branches

The types of water ducts and sewer branches are defined in Keyaqua_Core text constants in the BRANCH_TYPE group. Txt (fi)... Txt (en) is the description of the type. No numeric values are used.

Network follower

Text constants related to network follower are defined in the Keyaqua_Core text constants in groups whose names start with **NF**.

The maximum depth of network monitoring (number of tracked network objects) is defined in the group NF_DEPTH. The numeric value indicates the maximum depth at which following is ended. The default value is 500.

Route selections are defined in the **NF_FOLLOW_VALVE** group:

- Txt (fi)...Txt (en): Description, e.g. Continue over open valves.
- Numeric value**:** One of the following:

0	Stop on valve
1	Continue over open valves

Network Type

Network types are defined in the Keyaqua_Core text constants in the **NET_TYPE** group. There is usually no need to change these. Network types are used in particular to define duct types. See Defining duct types.

- Txt (fi)...Txt (en): Description of the network type, e.g. Water duct.
- Numeric value**:** Network type:

1	Water duct
2	Sewer
3	Pressure sewer
null	Other than the above (e.g. District heating)

Network subtype

The sewage system may include various network subtypes, e.g. Wastewater, Storm water and Mixed Water. Network subtypes are defined in the Keyaqua_Core text constants in the **NETWORK_TYPE** group. There is usually no need to change these. Network subtypes are used in particular to define duct types; See Defining duct types.

- Txt (fi)...Txt (en): Description of the network subtype, e.g. Storm water.
- Numeric value**:** Network type:

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1	Water duct
2	Wastewater
3	Rainwater
4	Mixed water

Network abbreviation

Network abbreviations are defined in Keyaqua_Core text constants in the **NETWORK_PREFIX** group. **Do not edit!**

- Txt (fi)...Txt (en): Abbreviation, e.g.SN or PMWN.
- Numeric value**:** Must be defined as follows:

1	SN
2	SWN
3	WN
4	PSN
5	PSWN
6	MWN
7	PMWN

Symbol references

Symbol references are defined in Keyaqua_Core text constants in the **AQUA_SYMBOLS** group.

- Txt (fi)...Txt (en): The description displayed in the drop-down menu, e.g. Flow direction.
- Txt 2**:** Defines the symbol in accordance with the table below. **Do not edit!**

Txt 2	**Description**
indefinable_location	Non-specific location
abandoned	Discarded
flow_arrow	Flow direction

Yes/No text constants

The Yes and No constants used on many different forms are defined in the common text constants (Txt_Constant) in the **GENERAL_YES_NO** group. **The logical text must not be edited.**

Manhole

The several text constants related to manholes are defined in KeyAqua_Core's text constants in groups that usually are fields in Common settings tab with **MANHOLE**. In general, only the texts **Txt (fi)... Txt (en)** that define the text displayed in the user interface can be modified.

General text constants related to manholes:

Group	**Description**
MANHOLE_MATERIAL	The material of the manhole, e.g. PEH
MANHOLE_OWNER	The owner of the manhole, e.g. Water cooperative
MANHOLE_DESIGN	The design of the manhole, e.g. Prefabricated
MANHOLE_RENOMATER	The material used for manhole renovation, e.g. PVC
MANHOLE_RENOVATION	The renovation method for a manhole, e.g. Concreting
NEW_MANHOLE_TYPE	Node, e.g. Inspection manhole

Please note that adding a new node only to the text constants in the NEW_MANHOLE_TYPE group is not sufficient, as the node must be selected as the manhole type on the Lid types page.

Text constants related to data on **manhole condition**:

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Group	Description
MANHOLE_CONDITION	Information on the condition of manholes, e.g. In condition
MANHOLE_FAULTS	Faults in manholes, e.g. Lid broken
MANHOLE_LEAKS	Information on leaks in manholes, e.g. Grout joint

Other text constants related to manholes:

Group	Description	Value
MANHOLE_DIALOG_ID	A setting that specifies whether annotations display the internal ID of the manhole or the USER_ID from the database.	1 – Int. ID 2 – USER_ID

Manhole lids

The several text constants related to manhole lids are defined in the Keyaqua_Core text constants in groups that start with **LID**. Text constants define the capacities, diameters, lid states and lid types. Texts **Txt (fi)... Txt (en)** define the descriptions that are displayed in the user interface. No numeric values are used.

The following text constant groups can be edited:

Group	Description
LID_CAPACITY	Lid capacity, e.g. 25
LID_DIAMETER	Lid diameter, e.g. 500
LID_SHAPE	The shape of the lid, e.g. Spherical or Rectangle
LID_STATE	The status of the lid, e.g. Hat absent
LID_TYPE	Lid type, e.g. Grill

Locking

Locking is defined in the common text constants (Txt_Constant) in the **ACCESS_INFO_LOCK** group. Locking options are used on the Access information form. **Text [fi]...Text [en]** is the description of locking. No numeric values are used.

Condition index

Condition index is a feature that can be purchased separately. The Keyaqua_Core text constant **ENABLED_CONSTANT_LINK_TAB** group is used to activate it. The numeric value 1 activates the Condition index tab on the Water duct and Sewer duct forms. **Do not edit!**

Classification

Classification is defined in the Keyaqua_Core text constants in the **FAULT_CODE** group. **Txt (fi)... Txt (en)** is the classification code, which is usually a number between 0 and 4. The values in the FAULT_CODE group are displayed in the Classification fields in the picklists for the Classification field on the Water valves and Sewer valves forms. No numeric values are used.

The Txt 2 fields in the FAULT_CODE group include color information that determines the color used to display the valve on the map, provided that the map layers corresponding to the valves (SN valves dh, PSN valves dh, WS valves kl) are activated. For example, if the classification of the distribution duct valve is saved as 3, the valve is displayed in red on the map. **The values of the constants in the FAULT_CODE group must not be changed without the consent of Keypro.**

Fire water station manufacturer

The manufacturers of fire water stations are defined in the Keyaqua_Core text constants in the **FIREWATER_MANUFAC** group. Txt (fi)... Txt (en) is the name or description of the manufacturer. No numeric values are used.

Duct renovation

Text constants related to duct renovation are defined in the Keyaqua_Core text constants. The names of the groups related to renovation start with **DRENOVATION**.

Renovation categories are defined in the **DRENOVATION_CATEGORY** group:

- Txt (fi)...Txt (en): Description of the renovation category, e.g. Injection.
- Txt 2: Internal abbreviation. Do not edit!
- Numeric value**:** Specifies the type of renovation internally in the system. **Do not edit!**

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Txt	Txt 2	Numeric value
Cured-in-place pipe	CUR	0
Coating	COAT	1
Injection	INJ	2
By digging	DIGG	3

Renovation methods are defined in the **DRENOVATION_METHOD** group:

- Txt (fi)...Txt (en): Description of the renovation method, e.g. Slip lining.
- Numeric value**:** Specifies the renovation type for the method:

0	Cured-in-place pipe
1	Coating
2	Injection
3	By digging

The renovated section is defined in the **DRENOVATION_PART** group:

- Txt (fi)...Txt (en): Description of the section, e.g. Whole manhole distance or Given length.
- Numeric value**:** Specifies the duct section:

0	Whole manhole distance
1	Given length
2	Other duct portion

Types of pumping station

Pumping station types are defined in the Keyaqua_Core text constants in the **PUMPSTATION_TYPE** group. **Txt (fi)... Txt (en)** is the name of the type, e.g. Concrete ring. No numeric values are used. The order number can be used to define the order in the drop-down menus.

Roles of pumping stations

The roles of pumping stations are defined in the Keyaqua_Core text constants in the **PUMP_STATION_ROLE** group.

- Txt (fi)...Txt (en): Text describing the role of the pumping station, e.g. Line pumping station.
- Numeric value**:** Specifies the role of the pumping station:

0	Undefined
1	Pressure station
2	Line pumping station
3	Stop-over pumping station

Survey file import

Location and height accuracies and source codes related to survey file import. They are defined in the Keyaqua_Core text constants in the **ACCURACY**, **HEIGHT_ACCURACY**, and **SOURCE_CODE** groups.

Note! When modifying text constants related to survey file import, you should be very careful as the group definitions must correspond to the definitions in the common text constant groups (Txt_Constant) LOCATION_ACCURACY, H_ACCURACY and MAPPING_METHOD!

The ACCURACY group must have a corresponding text constant for each text constant in the LOCATION_ACCURACY group, and their numeric values must be the same. Similarly, the HEIGHT_ACCURACY group must have a corresponding text constant for each text constant in the H_ACCURACY group, with corresponding numeric values used, and the rows in the MAPPING_METHOD group must have corresponding rows in the SOURCE_CODE group. **If the numeric values do not match, survey file import may create incorrect accuracy values for network objects.**

- Txt (fi)...Txt (en): text specifying the location accuracy, for example, +-5 m.
- Numeric value**:** a numeric value equivalent to the text field, for example, 5.0. The value in this field is the radius of a circle in metres, within which the actual location of an object is when measured from the object's saved location and at the applied level of certainty. Note that the common text constants (Txt_Constant) must have a text constant with the same numeric value.

Junction

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JUNCTION text constants can be found in the common text constants (Txt_Constant). They define the options included in the drop-down menus on the Junction form. Edit the text fields to change the text displayed in the user interface. The numeric value for all is 0. You can change the order in the drop-down menus by editing the value in the Order no. field.

JUNCTION_MAINT_AREA	Description of the maintenance area of the junction (e.g. East, West, Undefined)
JUNCTION_NETWORK	The junction's network (usually a city, e.g. Helsinki, Kotka, Lohja)
JUNCTION_STATE	The current status of the junction (e.g. Active, Discard, Planned, Undefined)

Manhole inspection

Text constants related to manhole inspections can be found in the common text constant (Txt_Constant) groups that start with **MH**. They are mainly text values that describe the structure, condition and defects of manholes. You can change the order in the drop-down menus by changing the value in the Order no. field.

The groups related to manhole inspections are:

MH_INSP_ACTIVITY	Whether the inspection is active (defects in the inspected manholes require repairs) or historical (the inspection was completed, and repairs done).
MH_INSP_BASE_FAULTY	The type of the basic fault that was detected (if any) in the manhole during the inspection and the severity of the defect expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_BASE_STRUCTURE	The basic structure of the manhole, e.g. Saddle manhole, A renovation duct through the manhole with an unopened back, Back of the duct unopened.
MH_INSP_CONE_MAT	The cone material used in the manhole, e.g. concrete of plastic.
MH_INSP_CONE_SHAPE	Shape of the manhole's cone (symmetrical or asymmetrical).
MH_INSP_CREVICE	The crevice or damaged material found in the manhole and its severity expressed as a numerical value. (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_CREVICE_ADD	For more information on the crevice or damaged material (direction, type, or shape of the defect).
MH_INSP_DEVICE_IN_MH	Description of the accessory in the manhole (e.g. a flow meter, rat trap, overflow structure).
MH_INSP_DISLOCATION	Description and severity of a dislocation defect found in the manhole as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_DISLOC_ADD	Further information on the dislocation defect (direction, type, or shape of the defect).
MH_INSP_DUCT_INSIDE	Describes how far into the manhole the penetrating duct extends and its severity expressed as a numerical value. (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_FACT_DEF	Description of the manufacturing or installation defect and its severity expressed as a numerical value. (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_FACT_DEF_ADD	Further information on the manufacturing or installation defect.
MH_INSP_FAIL_STATE	The reason for cancelling the investigation of a manhole, such as a lid that could not be opened or a manhole that could not be located.
MH_INSP_FAULTY_JUNC	Fault type for a defective junction in a manhole. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_FRAME_MAT	Material of the manhole's frame (e.g. concrete or cast iron).
MH_INSP_GASKET_LOOSE	Indicates whether the manhole has a loose gasket. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_GASK_LO_ADD	Further information on the loose gasket, for example, which gasket material was used.
MH_INSP_INTERMID_MAT	Material of the intermediate part of the manhole (e.g. concrete or steel).
MH_INSP_JOINT_LOC	Duct's joint point (e.g. joined above the chute or has a negative slope).
MH_INSP_JOINT_TYPE	Duct jointing method (e.g. Prefabricated joint, sealed or closed joint).
MH_INSP_LEAKS	Type of leakage defect (inward) found in a manhole. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).

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MH_INSP_LID_FAULTY	Type of the lid defect detected in a manhole. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_LID_H_POS	Lid's position relative to the ground or surface.
MH_INSP_LID_MATERIAL	Material used in the manufacture of the lid (e.g. concrete, plastic, cast iron).
MH_INSP_LID_SHAPE	Shape of the manhole lid (e.g. square or round).
MH_INSP_LID_TYPE	Manhole lid type (e.g. grate or solid).
MH_INSP_MANHOLE_MAT	Material used in the manufacture of the manhole wall (e.g. concrete ring, cast concrete, plastic, brick).
MH_INSP_MANHOLE_REN	Renovation of the manhole (e.g. sprayed concrete, plastic-coated, plastic renovation manhole inside an existing manhole).
MH_INSP_MANHOLE_SHAPE	Shape of the manhole wall (round, square).
MH_INSP_MANHOLE_TYPE	Manhole type (e.g. storm water, inspection manhole, overflow manhole).
MH_INSP_METHOD	Inspection method (e.g. digital scanning, laser measurement, photography).
MH_INSP_PURPOSE	The original reason for the inspection (e.g. Documenting the manhole's location and structure. leak water report).
MH_INSP_ROOTS	Describe whether roots were found in the manhole during inspection. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_ROOTS_ADD	Further information on the roots found, e.g. number of roots.
MH_INSP_SEDIMENT	Sediment found in the manhole and its effect on the functioning of the manhole. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_SEDIMENT_ADD	Description of the sediment found in the manhole (e.g. fat, vegetation).
MH_INSP_SEWER_TYPE	Type of the manhole's sewer system (storm water, mixed water, wastewater).
MH_INSP_SHAPE_CH	Shape changes in the manhole. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_SHAPE_CH_ADD	Type of the shape change (e.g. point-form or oval).
MH_INSP_SILT_ADD	Siltation found in the manhole (e.g. fine sand, coarse gravel, hard or dense concrete).
MH_INSP_SILTATION	Indicates whether siltation was found in a manhole and its effect on the functioning of the well. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_STAND_MAT	Material of the manhole extension (concrete, hard or soft plastic, brick).
MH_INSP_STEPS	Manhole steps.
MH_INSP_STRAN_OBJ	Foreign object or obstacle. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_STRAN_OBJ_ADD	Location of the foreign object or obstacle and other additional information.
MH_INSP_SURF_DAM	Description of surface damage to the outer structure of a manhole. Severity is expressed as a numerical value (1 = not serious, 4 = significantly impairs the functioning of the manhole).
MH_INSP_WATER_FLOW	The water flow passing through the well and its description.
MH_INSP_WEATHER	Weather conditions during the inspection (rain, dry, melting snow).
NETWORK_TYPE	Network Type. Only used for manhole inspections.

Valves

Text constants related to valves are defined in KeyAqua_Core's text constants, usually in groups that start with **VALVE**. In the **Txt 2** field of the **VALVE_STATE** group whose state is Closed, there is a color value that determines the color of the valve displayed on the map when the valve's state is "Closed". The Txt 2 field has three RGB color values between 0 and 255, separated by spaces. The default value for the VALVE_STATE field is '0 0 0', i.e. black. **You should note that there is also a group named VALVE_STATE in Text constants (Txt_Constant).**

The most common text constant groups:

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VALVE_MANUFACTURER	Manufacturer, e.g. Undefined.
VALVE_STATE	State, e.g. Ajar.
VALVE_STATE_INFO	Information on the state, e.g. Unpaid bill for a closed valve. Note that the information must be linked to states at the database level in the VALVE_STATE_INFO table. This cannot be done through the maintenance interface.
VALVE_TYPE	Type, e.g. Flap.
VALVE_HAND	Handedness, e.g. Left.
NEW_VALVE_TYPE	Node, e.g. Shut-off valve. The numerical value 1 refers to the node that is the default node when the duct is cut. Note that merely adding a new node does not yet add it to the drop-down menus, but the type must be defined at the database level in the AQUA_VALVE_TYPE table.

State report for water network nodes

Text constants related to state reports for nodes are defined in Keyaqua_Core text constants.

Node classes are defined in **NODE_GROUP**:

- Txt (fi)...Txt (en): Description of the node class, e.g. Survey point.
- Numeric value**:** Specifies the node class:

1	Hydrant
2	Fireplug
3	Fire water station
4	Survey point
5	Pressure increase
6	Pumping station
7	Valve

Other text constants related to state reports:

NODE_EMPTY	Node emptying values, e.g. Getting empty.
NODE_STATE	The states of node functioning, e.g. Not working.
NODE_REPAIRMENT	Repair method, e.g. By air intake vehicle.
FAULT_CODE	Classification, e.g. 0. See Classification. Note that this is used on other forms as well.
PLATE	Plates, e.g. Proportions wrong.
VALVE_TYPE	Valve type, e.g. Flap. See Valves. Note that this is used on other forms as well.
VALVE_HAND	Handedness e.g. Left. See Valves. Note that this is used on other forms as well.
VALVE_STATE	Valve state, e.g. Ajar. See Valves. Note that this is used on other forms as well.
VALVE_ERRORCAUSE	The cause of the error, e.g. Valve stuck.
VALVE_SHELTER	Valve shelter, e.g. Full of soil.
LID_STATE	The status of lids, e.g. Lid absent, see Manhole lids.
HEAT_INSULATION	Heat insulation, e.g. No need. Note that this is used on other forms as well.

Water leak report

Text constants related to leak reports are defined in the Keyaqua_Core text constants. The names of the groups start with **LEAK**. No numeric values are used. You can modify the texts.

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Group	Description
LEAK_DESCRIPTION	Description of the leak, e.g. Crack
LEAK_NODE	Shaped piece, e.g. T-piece
LEAK_JUNCTION_TYPE	Duct jointing method, e.g. Welded
DUCT_CLASS	Duct type.
DUCT_PRECIPITATE	Precipitate, e.g. No precipitation.

Meter class

Water meter classes are defined in the Keyaqua_Core text constants in the **FLOW_METER_CLASS** group. Meter classes are used, for example, on the Consumer point form.

- Txt (fi)...Txt (en): Description of the meter class, e.g. Main meter or Submeter.
- Numeric value: Defines the meter class as follows:

0	Main meter
1	Submeter

Types of measurements

Types of measurements are defined in the Keyaqua_Core text constants in the **FLOW_METER_WATER** group. Typical types of measurements are water for households and water for agriculture.

- Txt (fi)...Txt (en): Description of the type of measurement, e.g. Water for household.
- Numeric value: Defines the type of measurement as follows:

0	Water for household
1	Agriculture water

Meter type

Meter types are defined in the Keyaqua_Core text constants in the **FLOW_METER_TYPE** group. Meter types are used, for example, on the Consumer point form. Txt (fi)... Txt (en) is a description of the meter size, e.g. Type 1.

Meter size

Meter sizes are defined in the Keyaqua_Core text constants in the **FLOWMETER_SIZE** group. The sizes defined in the FLOWMETER_SIZE group are used, for example, for district heating meters and water meters on the Consumer point form. The Txt (fi)... Txt (en) fields include a description of the meter size, e.g. DN10.

Note! The values displayed in the picklists for Measur. center DN and Branch line DN on the Consumer point form are defined in the Keycore text constant (Txt_Constant) group **DH_CP_DN.**

Measuring methods

Measuring methods are used on the Device form and on the Remote measurement service and the Remote measurement area forms. Measuring methods are defined in the Keyaqua_Core text constants in the **FLOW_MEASURING_METHOD** group.

- Txt (fi)...Txt (en): Description of the measuring method, e.g. Container measurement.
- Txt 2: Color code in the format #RRGGBB. The coloring is used on the Remote measurement service and Remote measurement area forms.
- Numeric value: Defines the measuring method in accordance with the table below.

The default values are as follows:

Txt	Txt 2	Numeric value
Container measurement	#FF1493	0
Container measurement (frequency converter)	#FFB6C1	1
Flow measurement (magnetic measurement)	#008000	2
Computational measurement	#7FFF00	3
Flow measurement (impulse measurement)		4

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Classification

The **KU_RESTRICTED_TYPE** group in the common text constants (Txt_Constant) defines classifications for forms that may contain personal data. These classifications (e.g. Private or Normal) are included, for example, on the Consumer point and Customer forms.

- Txt (fi)...Txt (en): Description of the classification, e.g. Private.
- Numeric value: Determines the classification. Possible values:

-1	Private individual (restricted access)
1	Normal (no restrictions)

Investigation

Data in the drop-down menus on the Investigation form is mainly downloaded from text constants starting with **EXMN** (Keyaqua_Core text constants). You can change the order in the drop-down menus by changing the value in the Order no. field. You can change the text of the text constants displayed in the drop-down menu by editing the values in the Txt (fi/en/sv) fields. Numeric values are not used.

picklists for the Investigation form and the corresponding groups:

Group	**Description**
EXMN_LST_EXEC	Done by
EXMN_LST_METHOD	Method
EXMN_LST_PURPOSE	Purpose
SN_DISTRICT	Area

Constants related to defects

The following defect-related constants are included on the Error report, Failure report and Quality reclamation forms. In addition to these constants, when the value of **SN_FAILUREREPORT_ENABLE** is 1, the failure report is available in the Reporting tools. There must be only one **SN_FAILUREREPORT_ENABLE** constant, and values other than the value in the Numeric value field should not be edited.

Apart from the **FLR_YEAR_SEASON** group, the data in the groups in question is included in the drop-down menus on the forms. You can change the order in the drop-down menus by changing the value in the Order no. field. You can change the text of the text constants displayed in the drop-down menu by editing the values in the Txt (fi/en/sv) fields. Unless separately stated, the contents of the Numeric value and Value fields for the constants related to defects must not be edited. When creating new constants for groups, you should not enter a value in the fields in question unless the others also have a value, such as 0.

For each constant in the **FLR_YEAR_SEASON** group, a new selection button is displayed on the Basic information tab on the Failure report form. Like the picklists, you can change the order of presentation by modifying the Order number value.

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Group	Field description	Form/tab
FAILURE_CAUSE	Complaint	Quality reclamation/General
FAILURE_LOCATION	Location of the failure	Failure report/Duct
FAILURE_TARGET	Reason of the failure	Quality reclamation/Conclusions
FLR_EXTRA_REASON	ET Reason	Failure report/Reason
FLR_WORK_REASON	Facility Reason	Failure report/Reason
FLR_YEAR_SEASON	Description of the Season button	Failure report/Basic information
DESIGNER_FAILREPORT	Designer	Failure report/Statistics
ORIG_PERDN	Orig per DN	Failure report/Basic information
UNDERGROUND_DRAIN	Underground drain	Failure report/Basic information
CORROSION_LOCATION	Corrosion location	Failure report/Duct
DAMAGE_DETECT	Damage detection method	Failure report/Reason
DAMAGE_PIPELINE	Damage pipeline	Failure report/Duct
DAMAGE_TAS	Damage type and scope	Failure report/Duct
ADDITIONAL_DAMAGE	Additional damage	Failure report/Basic information
GROUND_WATER_LV	Groundwater level	Failure report/Basic information
GROUND_TYPE	Foundation	Failure report/Basic information
HEAT_SESON	Heating season	Failure report/Statistics
JOINT_TYPE	Jointing method	Failure report/Extra info
WORK_TYPE	Type of work	Failure report/Statistics
HEAT_INSULATION	Insulation	Failure report/Extra info
CONTRACT_FAILREPORT	Contractor	Failure report/Statistics
LEAK_DETECT	Leak detection method	Failure report/Reason

Repair

The constants included in the Repair form usually start with **REPAIR**. In addition, the Repair form also includes several groups used for the Water leak report. You can change the order in the drop-down menus by changing the value in the Order no. field. You can change the text of the text constants displayed in the drop-down menu by editing the values in the Txt (fi/en/sv) fields. Numeric values are not used.

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Group	Field description	Form/tab
REPAIR_LOCATION	Location of the repair site	Repair/Repair
REPAIR_SURFACE	Top layer material	Repair/Repair
REPAIR_OLD_FILL	Old fill ground	Repair/Repair
REPAIR_NEW_FILL	New fill ground	Repair/Repair
REPAIR_BASE	Duct line foundation	Repair/Repair
REPAIR_TYPE	Repair type	Repair/Repair type
REPAIR_FLUSH	Flushed	Repair/Repair type
REPAIR_WATER	Temporary water supply	Repair/Extra info
LEAK_JUNCTION_TYPE	Duct junction type, Junction type for a new duct	Repair/Repair, Repair/Repair type
LEAK_NODE	New leak node	Repair/Repair type
LEAK_DESCRIPTION	Description of the leak	Repair/Extra info
OUTSIDE_CAUSE	External cause	Repair/Extra info
MATERIAL_CAUSE	Material-related reason	Repair/Extra info
GROOVE_CAUSE	Groove-related reason	Repair/Extra info
INSTALLATION_CAUSE	Installation-related reason	Repair/Extra info
OTHER_CAUSE	Other reason	Repair/Extra info

TYPE constants

TYPE constants mainly affect the contents of the Node fields on the forms available under Water node tools and Sewer node tools. In general, the **values in the Numeric value and Value fields** of the TYPE constants **must not be modified**, and no values should be entered in those fields when creating new constants. For many TYPE constants, there is a page for editing their default values. The ID of the constant in question is entered in the Value field for the default values.

The standard ID in the drop-down menu for the Node field on the Water tank form must exist in the WATERTANKTYPE_ID field in the AQUA_WATERTANK_TYPE table in the database. Therefore, adding a new TYPE_WATERTANK constant does not add a new constant to the drop-down list for Node. The defaults for water tanks can be modified from Keyaqua_Core Water Tank Defaults.

The Numeric value and Value fields of TYPE_OTHER_NODE constants must not be modified because the values in the fields may affect the application logic. By default, the Value field for the Temporary Water Intake constant under the TYPE_OTHER_NODE group contains the text TEMP_WATER _INTAKE, which must not be edited.

The TYPE_BRANCH group may contain only one constant and its Numeric value and Value fields must not be edited. The default values for water branches are defined in Keyaqua_Core Water branch defaults. The default values for sewer branches may be edited from Keyaqua_Core Sewer branch defaults.

The values in the Numeric value and Value fields for the NEW_VALVE_TYPE and NEW_MANHOLE_TYPE constants may not be edited. Only one constant for the NEW_VALVE_TYPE and NEW_MANHOLE_TYPE constants may have 1 as the numeric value. Adding new NEW_MANHOLE_TYPE constants does not automatically add additional options to picklists (see Manhole and Manhole and lid types). Further information on the NEW_VALVE_TYPE constants is available under Valves.

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Group	Field description	Forms
TYPE_BRANCH	Node	Water branch, Sewer branch
NEW_FIREPLUG_TYPE	Node	Fireplug
TYPE_FIREWATER	Node	Fire water station
TYPE_HYDRANT	Node	Hydrant
TYPE_MEASURING_POINT	Node	Water measuring point, Sewer measuring point
TYPE_OTHER_NODE	Node	Water other nodes, Sewer other nodes
TYPE_PUMP	Node	Water pumping station
NEW_PUMP_TYPE	Node	Sewer pumping station
NEW_VALVE_TYPE	Node	Water valves, Sewer valves
NEW_MANHOLE_TYPE	Node	Water nodes, Sewer nodes
TYPE_WATERTANK	Node	Water tank

Supply interruption (A district heating function subject to a separate order)

This chapter presents the constants related to interruptions. The values of the constants must not be changed without the consent of Keypro.

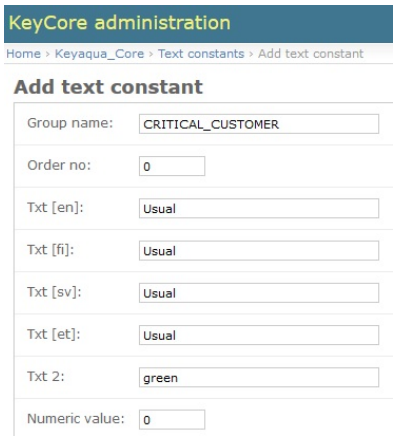
States of supply interruptions:

Group	Logical text	Numeric value
INTERRUPTION_STATE	Not valid	0
INTERRUPTION_STATE	Valid	1
INTERRUPTION_STATE	Complete	2
INTERRUPTION_STATE	Cancelled	3
INTERRUPTION_STATE	Ended	4

CRITICAL_CUSTOMER

The row colors for rows listed on the Consumer points tab on the Supply interruption form can be defined by editing the value in the **Txt 2** field for the CRITICAL_CUSTOMER constants under Keyaqua_Core text constants. The color information must be in a format that the browser understands.

In the figure below you can see that green has been set as the value for the constant named **Standard**.



The options for the Consumer Point form's field Critical customer are defined in the CRITICAL_CUSTOMER group. More information on the values of the constants in this group is available in the Consumer point chapter.

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Colors can be defined based on the HTML name (Green, Red, Blue, Aqua, ...) or in the HEX format. E.g. “#00FFFF”.

Filtering order for Type in Notifications

The types have their order set in TXT_CONSTANTS table row which has groupname called POPUP_TYPE_MAPPING.

- **Additional data (fi)...Additional data (en)**: For example, by using this mapping Notificationtype_4 would be shown first, then Notificationtype_3 etc:

"Notificationtype_1": { "text": "Tyyppi 1", "order": "4" },

"Notificationtype_2": { "text": "Tyyppi 2", "order": "3" },

"Notificationtype_3": { "text": "Tyyppi 3", "order": "2" },

"Notificationtype_4": { "text": "Tyyppi 4", "order": "1" }

KeyGas constants

Some **KeyGas** constants are Aqua’s text constants (Keyaqua_Core text constants) and some are Txt_Constant text constants. In general, no new constants should be added to text constant groups where constants have a value in the Numeric value or Value field. In addition, the values in the Numeric value and Value fields must not be modified, unless separately specified.

The options in the picklists on the KeyGas duct form mainly depend on the values defined in the **SN_GAS_DUCT_TYPE** table. As a result, only certain predefined options are included in the various picklists and therefore adding new constants to groups such as **GAS_DUCT_MATERIAL**, **GAS_DUCT_PRESSURE**, and **GAS_DUCT_DIAMETER** does not add new options to the drop-down menus. However, changes to the Txt values for existing constants are displayed in the drop-down menu options.

Values for the picklists on the KeyGas manhole form are retrieved in a similar manner as for the KeyGas duct form. For example, you can edit the **GAS_LID_TYPE** constant text, but adding a new GAS_LID_TYPE constant does not automatically add additional options to the picklist because the constant’s ID must be on a row that corresponds to the node selected in the LID_TYPE_ID field in the GAS_MANHOLE_TYPE table.

The contents of the Placement field on the Annotate gas duct form come from Aqua’s text constants group DUCT_ANNOT_PLACEMENT, so editing the constants in that group also affects the contents of the Placement fields on the Annotate gas duct and Conduit annotation forms (see chapter: Water ducts and sewer ducts).

Keyaqua_Core text constants:

Group	Field description	Form/tab
GAS_MANHOLE_TYPE	Node	KeyGas manhole/KeyGas manhole
GAS_CONDITION_CLASS	Classification	KeyGas manhole/KeyGas manhole
GAS_LID_TYPE	Lid type	KeyGas manhole/KeyGas manhole
GAS_VALVE_TYPE	Node	Gas valve/Gas valve
GAS_NET_TYPE	Network type	KeyGas duct/KeyGas duct Gas valve/Gas valve KeyGas manhole/KeyGas manhole
GAS_DUCT_TYPE	Duct type	KeyGas duct/KeyGas duct
GAS_DUCT_MATERIAL	Material	KeyGas duct/KeyGas duct
GAS_DUCT_PRESSURE	Pressure class	KeyGas duct/KeyGas duct
GAS_DUCT_DIAMETER	Diameter	KeyGas duct/KeyGas duct
GAS_PRESSURE_CONTROL	Pressure controller	Consumer point/Gas
GAS_DUCT_SIZE	Duct size, DN	Consumer point/Gas
GAS_METER_MODEL	Meter: Model	Consumer point/Gas
GAS_S_METER_MODEL	Remote reading device: Model	Consumer point/Gas
GAS_MOD_METER_MODEL	Converter: Model	Consumer point/Gas

Txt_Constant:

The **Text[fi]**...**Text[en]** values for the constants in the **GAS_SYMBOLS** group may be modified, but you should not add new GAS_SYMBOLS constants.

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When adding text constants (Txt_Constant) to specific groups, such as the **VALVE_OPEN_STATE** group, you must also define the value 7012 (Gas category) in the Category field. For example, if the Category field for a new constant in the VALVE_OPEN_STATE group is set to 7022, the new constant will be available in the options for the Valve state field on the District heating valve form. Please note that the value in the Category field is not relevant for all constants. For example, regardless of the value of the category, the values in the ANNOTATION_PLACEMENT group are displayed in the picklists for both the Annotate DH cable form under DH annotations and the Annotate gas cable form under Gas annotations.

Group	Field description	Form/tab
GAS_MANHOLE_TYPE	Node	KeyGas manhole/KeyGas manhole
GAS_SYMBOLS	Symbols	Gas annotations/Annotate gas symbol
GAS_VALVE_MANUFAC	Manufacturer	Gas valve/Gas valve
GAS_VALVE_MODEL	Type	Gas valve/Gas valve
VALVE_OPEN_STATE	Valve state	Gas valve/Gas valve
CABLE_RENTER	Renter	Gas cable/Gas cable
GAS_CABLE_CONTRACTOR	Contractor	Gas cable/Gas cable
CABLE_STATE	Usage state	Gas cable/Gas cable
CABLE_TYPE	Installation type	Gas cable/Gas cable
CABLE_TECHNOLOGY	Type	Gas cable/Gas cable
ANNOTATION_PLACEMENT	Placement	Gas annotations Annotate gas cable

KeyDH constants

Some **district heating-related (DH)** constants are Aqua's text constants (Keyaqua_Core text constants) and some are Txt_Constant text constants. In most cases, the groups for DH constants include values for the picklists on the various KeyDH forms, but the DH constants are also used for the picklists on the District heating tab on the Consumer point form and for the district heating meters on the consumer point form.

No new constants should be added without Keypro's consent to text constant groups where constants have a value in the Numeric value or Value field. In addition, the values in the Numeric value...Numeric value 4 fields for existing constants in the system **must not be modified** if they have predefined values and are not discussed in this document. For example, modifying the numeric values of the **VALVE_OPEN_STATE** constants can result in incorrect system operation.

The contents of the Placement field on the Annotate DH conduit form come from Aqua's text constants group DUCT_ANNOT_PLACEMENT, so editing the constants in that group also affects the contents of the Placement fields on the Annotate duct and Annotate gas duct forms (see chapter Water ducts and sewer ducts).

We recommend that constant groups related to observations and starting with DH_OBSERVATION are modified through KeyDH administration (for more information, please see the Settings for observations chapter).

Keyaqua_Core text constants:

Group	Field section/description	Form
DH_METER_MEASURES	Data/Measures	District heating meters for consumer point
DH_METER_MODEL	Meter section/Model	District heating meters for consumer point
DH_REMOTE_MODEL	Remote-reading device section/Model	District heating meters for consumer point
DH_MODIFIER_MODEL	Modifier section/Model	District heating meters for consumer point

Txt_Constant:

Constants related to district heating often start with **DH**, but district heating-related forms also use many of the same constants that, for example, KeyGas uses. In many cases, when adding or modifying Txt_Constant text constants, you should note that the **Category** field contains the value **7022**, which is the District Heating category (for example, the KeyGas category is 7012). Please note that the value in the Category field is not relevant for all constants. For example, regardless of the value of the category, the values in the ANNOTATION_PLACEMENT group are displayed in the picklists on both the Annotate DH cable form under DH annotations and the Annotate gas cable form under Gas annotations.

DH constants related to consumer points:

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Group	Field description	Form/Tab
DH_CP_DN	Measur. center DN	Consumer point/District heating
DH_CP_DN	Branch line DN	Consumer point/District heating
DH_CP_LIMITER	Limiter	Consumer point/District heating, DH meters
NETWORK_NUMBER	Network number	Consumer point/District heating

Other KeyDH constants:

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Group	Field description	Form
DH_MANHOLE_NW_TYPE	Network Type, Network subtype	District heating valve, District heating manhole
DH_VALVE_TYPE	Node	District heating valve
DH_VALVE_MODEL	Type	District heating valve
DH_VALVE_MANUFAC	Manufacturer	District heating valve
DH_MANHOLE_DN_SIZE	DN	District heating valve, District heating manhole
VALVE_STATE	Usage state	District heating valve
VALVE_OWNER	Owner	District heating valve
VALVE_OPEN_STATE	Valve state	District heating valve
DH_NODE_OWNER	Owner	Node form
DH_NODE_STATE	Usage state	Node form
DH_NODE_TYPE	Node	Node form
CABLE_STATE	Usage state	District heating cable
CABLE_OWNER	Owner	District heating cable
CABLE_TYPE	Installation type	District heating cable
CABLE_TECHNOLOGY	Type	District heating cable
CABLE_RENTER	Renter	District heating cable
DH_INSUL_RESIST_UNIT	Insulation resistor (M1, M2, P1, P2)	District heating cable
DH_CABLE_CONTRACTOR	Contractor	District heating cable
HEAT_CONDUIT_TYPE	Network subtype	District heating conduit
DH_CONDUIT_TYPE	Type	District heating conduit
CONDUIT_STATE	Usage state	District heating conduit
HEAT_CONDUIT_SHELL	Shell	District heating conduit
CONDUIT_OWNER	Owner	District heating conduit
DUCT_MATERIAL	Material	District heating conduit
DUCT_ROLE	Role	District heating conduit
DUCT_OWNER	Owner	District heating conduit
DUCT_STATE	Usage state	District heating conduit
MANHOLE_OWNER	Owner	District heating manhole
MANHOLE_STATE	Usage state	District heating manhole
DH_MANHOLE_TYPE	Type	District heating manhole
DH_OBSERVATION_COND	Condition	Observation
DH_OBSERVATION_SIDE	Side	Observation
DH_OBSERVATION_STATE	State	Observation
DH_OBSERVATION_TYPE	Type	Observation
ANNOTATION_PLACEMENT	Placement	DH annotations Annotate DH cable
NF_FOLLOW_VALVE	Pass node	District heating network follower

Setting constants for KeyDH

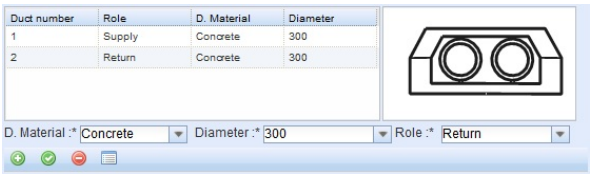
KeyDH has some text constants the values of which can be modified to define information displayed in form fields or header bars.

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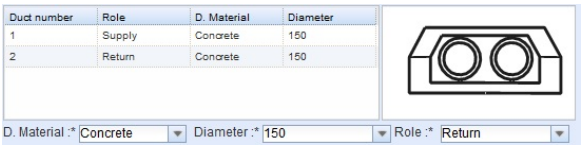
The value of the **DH_DUCT_DIAM_PRESENT** text constant defines whether the outer or inner diameter information for a conduit is displayed in the header of the District heating conduit form, in the Diameter column in the table displayed on the District heating tab and in the Diameter picklist. The default value in the Text field for the DH_DUCT_DIAM_PRESENT text constant is %OUTER%, which means that the outer diameter is displayed on the form by default.

When the value in the Text field of the DH_DUCT_DIAM_PRESENT text constant is %INNER%, the inner diameter of the district heating conduit is displayed on the form. If the inner diameter has not been defined for a conduit type to be displayed in the Diameter picklist, the value displayed on the picklist is 0.

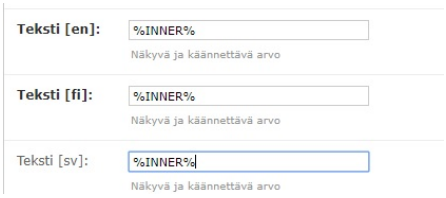
In the figure below, the outer diameter is displayed by default on the District heating conduit form.



In the figure below, when the value of the DH_DUCT_DIAM_PRESENT text constant is %INNER%, the inner diameter defined for the district heating conduit in the Diameter field in the table is displayed.



Note! The %OUTER% or %INNER% value must be completed in the Text[fi]...Text[en] fields in addition to the Logical text field in order for the setting to work correctly.



Various constants for settings

KeyAqua has a small number of various settings that can be adjusted through the common text constants (Txt_Constant).

KEYCORE_HCOLOR

Edit the text value of the **KEYCORE_HCOLOR** text constant to change the highlighting colors for **Highlight** and **Highlight all**. The color information must be given in hexadecimal format and the first character must be a hashtag (#). There can be only one constant in the KEYCORE_HCOLOR group. Only the value in the text value field can be changed.

Some example colors:

Red: #FF0000, green: #00FF00, blue: #0000FF, lilac: #7F00FF

PAPER_SIZE

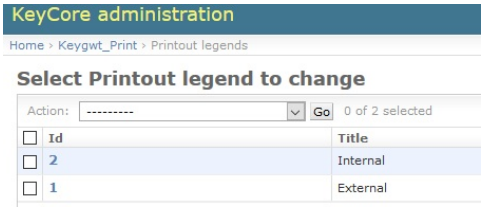
The constants in the **PAPER_SIZE** group define the paper sizes for printing. **The values must not be edited without Keypro's consent.**

PRINT_LEGEND_POS

Use the **PRINT_LEGEND_POS** constants to force a printout legend to be included in a specific corner on printouts. With this, the legend will always be in the same place regardless of the **Position** selection for printing.

Below you can see an example of how the **Internal** printout legend already created in KeyAqua is forced to the top-left corner.

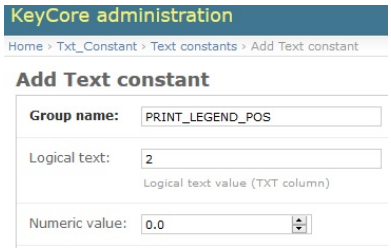
1. Select Keygwt-Print > Printout legends.
2. Make a note of the ID of the **Internal** printout legend (2).



1. **Add a new text constant** and name the group PRINT_LEGEND_POS. Enter the ID of the **Internal** printout legend in the Logical text field

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and enter zero (0) as the value in the Numeric value field. Then complete the mandatory Text and Abbreviation fields. For example, you can enter **Internal** in the fields.



After saving, the **Internal** legend should be displayed in the top-left corner, even if another location was selected from the Position picklist.

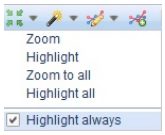


KEYCORE_ADDR_SOURCE

The constants in the **KEYCORE_ADDR_SOURCE** group are used to adjust address source settings. The text values for constants are displayed in the Source picklist on the Address form. **They must not be edited without Keypro's consent.**

DEFAULT_HIGHLIGHTING_ENABLED

When the Numeric value for the constant in the **DEFAULT_HIGHLIGHTING_ENABLED** group is 1, three additional options for positioning are displayed under the Locate button's options on the Consumer point form. **The value of the constant must not be modified without Keypro's consent.**

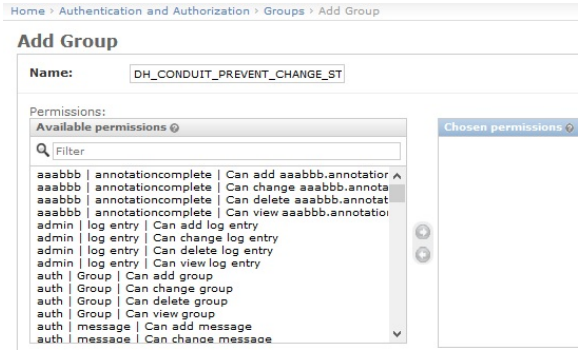


DH_CONDUIT_PERMISSION_TYPE

Use the constants in the **DH_CONDUIT_PERMISSION_TYPE** to prevent users belonging to a specific group from modifying district heating conduit information, for example, for conduits whose Usage state is **In use**. The DH_CONDUIT_PERMISSION_TYPE group may only include one constant. The limitation does not apply to users with Admin rights.

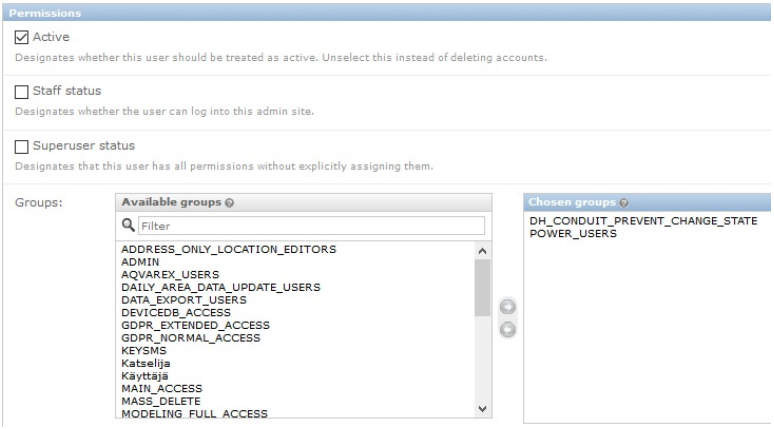
- **Numeric value:** The ID of the constant in the CONDUIT_STATE group under Text constants (Txt_Constants) whose logical text is, for example, **In use** (Numeric value 1).
- **Description:** In the following format: {"<The group to which the restriction applies>": {"state_id__in":[<the ID of the constant in the CONDUIT_STATE group>]}}. For example: {"DH_CONDUIT_PREVENT_CHANGE_STATE": {"state_id__in":[9220]}}

1. Create a new group called DH_CONDUIT_PREVENT_CHANGE_STATE:



2. Select the group DH_CONDUIT_PREVENT_CHANGE_STATE for the user to which the restriction will apply:

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3. In the CONDUIT_STATE group, check the ID of the constant with the Logical text **In use** and the numeric value **1**:



4. Create or modify the text constant with the Group name DH_CONDUIT_PERMISSION_TYPE. In addition, enter e.g. ”dh conduit pt” in the mandatory fields. Text for the description field: {"DH_CONDUIT_PREVENT_CHANGE_STATE": {"state_id__in":[9300]}}.

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KeyAqua configurations

Defining duct types

Duct types define the available combinations of networks, network subtypes, and duct types. This means that duct types can be used to determine, for example, the duct types that can be selected when the duct's network is **Sewer** and the subtype is **Mixed water**, or other similar combinations.

Select **Keyaqua_core** -> **Duct types**

- **Net type:** The network to which the duct belongs, e.g. Water or Sewer. The options are defined in the Keyaqua_Core text constants in the **NET_TYPE** group. See Network Type.
- **Sub type:** The subtype of the network. Usually, the network subtype for water networks is Water duct. In the sewer network, it is usually Wastewater, Mixed water, or Storm water. The options are defined in the Keyaqua_Core text constants in the **NETWORK_TYPE** group. See Network subtype.
- **Duct type:** Duct type, e.g. Service pipe or Distribution duct. The options are defined in the Keyaqua_Core text constants in the **DUCT_TYPE** group. See. Water ducts and sewer ducts.
- **Feature:** A system-internal code that refers to the **FEATURE** table in the database. Each duct type should have its own code that defines, among other things, the color that is used to display the duct on the map. New FEATURE codes cannot be added through the maintenance interface.

The network subtypes available for selection are defined by the network on the Water duct and Sewer duct forms. The combination of network and network subtype then determines the duct types that can be selected.

Duct materials and diameters

Duct materials and diameters are used to create the available combinations of network types, materials, diameters, pressure classes and firmness classes. Duct materials and diameters may, for example, be defined so that only specific materials are available for selection for specific networks, and only specific diameters are available for selection for specific materials. In addition, only specific pressure and firmness classes may be available for selection for specific diameters.

Select **Keyaqua_core** -> **Duct types**

- **Type:** The network to which the duct belongs, e.g. Water or Sewer. The options are defined in the Keyaqua_Core text constants in the NET_TYPE group. See Network Type.
- **Material:** Duct material, in the Keyaqua_Core text constants in the DUCT_MATERIAL group. See Water ducts and sewer ducts.
- **Diameter:** Duct diameter, in the Keyaqua_Core text constants in the DUCT_DIAMETER group. See Water ducts and sewer ducts.
- **Pressure:** Pressure class, in the Keyaqua_Core text constants in the DUCT_PRESSURE_CLASS group. See Water ducts and sewer ducts.
- **Pressure:** Firmness class, in the Keyaqua_Core text constants in the DUCT_FIRMNESS_CLASS group. See Water ducts and sewer ducts.
- **Technical lifespan:** The technical lifespan of the duct in years (an integer number). This is used to calculate the current and remaining service life using the Water duct and Sewer duct forms.
- **Duct shape:** Shape, e.g. Spherical, in the Keyaqua_Core text constants in the SN_DUCT_FORMCODE group. See Water ducts and sewer ducts.

The duct materials and diameters are defined by the network on the Water duct and Sewer duct forms. The selected network determines the materials available for selection. The selected material determines the diameters available for selection. The selected diameter determines the pressure and firmness classes available for selection.

Manhole and lid types

Select **Keyaqua_core** ->**Lid types**

- **Net type:** The network to which the manhole belongs, e.g. Water or Sewer. The options are defined in the Keyaqua_Core text constants in the NET_TYPE group. See Network Type.
- **Sub type:** The subtype of the network. Usually, the network subtype for water networks is Water duct. In the sewer network, it is usually Wastewater, Mixed water or Storm water. The options are defined in the Keyaqua_Core text constants in the NETWORK_TYPE group. See Network subtype.
- **Manhole type:** Manhole type, e.g. Inspection manhole. The options are defined in the Keyaqua_Core text constants in the NEW_MANHOLE_TYPE group. See Manhole.
- **Lid type:** Lid type, e.g. Grill. The options are defined in the Keyaqua_Core text constants in the LID_TYPE group. See Manhole lids.
- **Feature:** A system-internal code that refers to the FEATURE table in the database. Each manhole and lid type should have its own code that defines, among other things, the color that is used to display the manhole on the map. New FEATURE codes cannot be added through the maintenance interface.

The manhole type is displayed for selection on several forms in the drop-down menu for Node. The lid types defined for the manhole types are displayed in the drop-down menu for Lid type. Further information: Lid types for manholes.

Manhole diameters

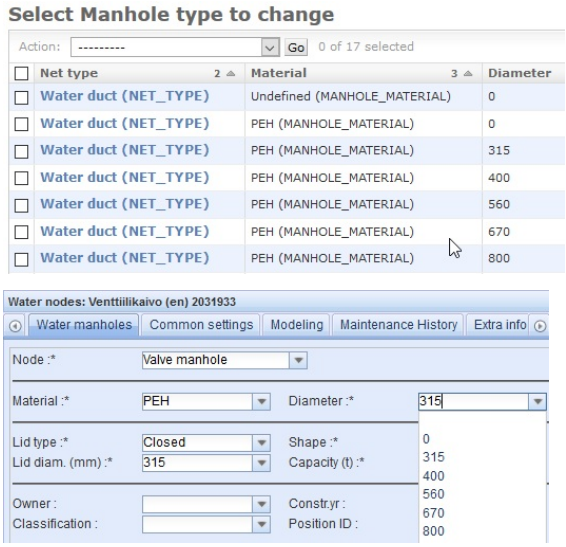
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Select **Keyaqua_core** -> **Manhole type**

Go to the Manhole type admin page to define Manhole types. You can define the network type, material, diameter, and order number for manholes.

- **Net type:** The network to which the manhole belongs, e.g. Sewer or Pressure sewer. Based on the network, you can filter the options, for example, on the Sewer manholes and KeyGas manholes forms. The options are defined in the Keyaqua_Core text constants in the NET_TYPE group. See Network Type.
- **Material:** The material of the manhole, e.g. concrete. The options are defined in the Keyaqua_Core text constants in the MANHOLE_MATERIAL group.
- **Diameter:** Lid diameter in millimetres.
- **Order no.:** The order number affects the order in the Material drop-down menu. The order number must be the same for all materials. For example, for all manhole types with concrete as their material, the order number must be the same (e.g. **3**).

Added and customised manhole types are displayed on various forms, depending on the selection in the Network field. See, for example, Figure 31, with the Manhole types listed in the figure displayed in the picklists on the Water manholes form (Figure 32).



Lid types for manholes

Go to **Lid types** to modify and add manhole lid types. The values related to lid types are displayed in the drop-down menus, for example, on the Water manholes and Sewer manholes forms. The Lid type options are displayed on multiple forms in accordance with the selection for the Node drop-down list. Adding new lid types for manholes is explained in Manhole and lid types.

New lid types can be created and modified from: **Keyaqua_core -> Lid types**. Click the **Add lid type** button to add a new lid type.

- **Lid type:** Lid type. E.g. Grill. The options are defined in the Keyaqua_Core text constants in the LID_TYPE group. See Manhole lids.
- **Lid shape:** Shape. E.g. Spherical. The options are defined in the Keyaqua_Core text constants in the LID_SHAPE group. See Manhole lids.
- **Lid diameter:** A typical legend on the forms is: Lid diam. (mm). E.g. 560. The options are defined in the Keyaqua_Core text constants in the LID_DIAMETER group. See Manhole lids.
- **Lid capacity:** A typical legend on the forms is: Capacity (t). E.g. 40. The options are defined in the Keyaqua_Core text constants in the LID_CAPACITY group. See Manhole lids.

Aqua controls

Aqua controls can be modified and added through the Admin site. **Modifications and additions should only be made by Keypro because modifications must also be made to database tables that cannot be edited through the Admin site.**

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KeyHeat configurations

This chapter discusses the various KeyDH configurations that can be made through the Admin user interface. In addition, this chapter descries the effects that some settings related to DH functionalities have on the Pre-planning form (a function subject to a separate order).

District heating conduit type definitions

You can edit the options in the Type picklist on the District heating conduit form through the Admin user interface. **The values in the Numeric value field must not be modified without the consent of Keypro.**

Select **Keydh > Conduit types**

1. **Text:** Text data for the system's internal use. This field is updated when the text in the Text[en] field is updated.
2. **Text [en]:** The type displayed in the list when English is selected as the language when logging into the system.
3. **Text [fi]:** The type displayed in the list when Finnish is selected as the language when logging into the system.
4. **Order no.:** Determines the order of Types on the picklist.
5. **Numeric value:** For the system's internal use. **Do not edit!**
6. **Numeric value 2:** Number. The Numeric value 2 field determines whether the prices on the District heating conduit and Pre-planning forms are calculated based on the Conduit type's Price for a new building or Reconstruction price field. If the Numeric value 2 field is empty, the New building field will be used. If the Numeric value 2 field contains a number, the Reconstruction price field will be used for the calculation.

You can also modify the district heating conduit types through the DH_CONDUIT_TYPE group under Text constants. For further information, please see chapter KeyDH constants.

District heating shell type definitions

You can edit the options in the Shell type picklist on the District heating conduit form through the Admin user interface. **The values must not be modified without the consent of Keypro.**

Select **Keydh > Keydh conduit shell types**

- **Type:** The text displayed in the Shell type field, which is the same in all languages.
- **Feature:** A system-internal code that refers to the **FEATURE** table in the database. New FEATURE codes cannot be added through the maintenance interface.
- **Image url:** The name of the image displayed on the right on the District heating form and the path on the application server. No new images can be added through the Admin user interface.
- **Conduit shell type:** Specifies the shells for which the Shell type selection is available. For this reason, the options in the Conduit shell type field are the same as in the D. Material picklist on the District heating conduit form.

Definitions of district heating conduit types

The conduit types determine, for example, the available combinations of materials and diameters. You can specify the available diameters for duct types, when the conduit material is, for example, **Steel**. In addition, you can provide price information for conduit types.

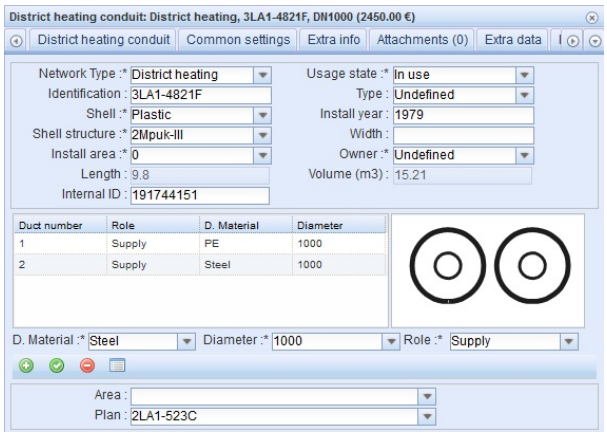
Select **Keydh** -> **Conduit types**

- **Conduit type:** Conduit type (text).
- **Outer diameter:** The diameter information (number) that appears in the Diameter picklist on the District heating conduit form. It is also displayed as default in the top bar of the form and in the Diameter column in the table on the District heating conduit tab.
- **Inner diameter:** Diameter information (number). Modify the values of the (KeyCore) text constant DH_DUCT_DIAM_PRESENT to have it displayed in the top bar and in the Diameter column in the table instead of the outer diameter information that is displayed as default.
- **Material:** The material for which the conduit diameter information is displayed for selection in the Diameter picklist on the District heating conduit form.
- **Price for a new building:** The price for a new building (EUR/metre). The information is displayed in the final part of the heading of the District heating conduit form according to the settings (for further information, see the District heating conduit type definitions) chapter. The total price of the objects for which the plan in question is saved will be displayed in the **Estimated total price (€)** field on the Pre-planning form (a function subject to a separate order.
- **Reconstruction price:** The reconstruction price (EUR/metre). The information is displayed in the final part of the heading of the District heating conduit form according to the settings (for further information, see the District heating conduit type definitions) chapter. The total price of the objects for which the plan in question is saved will be displayed in the **Estimated total price (€)** field on the Pre-planning form (a function subject to a separate order.

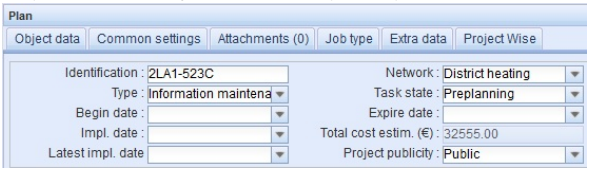
Note! The price information on the District heating conduit form will be displayed in the final part of the form heading only if the state of the linked plan is **In pre-planning**.

In the figure below, the final part of the heading includes the amount calculated based on the reconstruction price (250) and length (32).

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The prices of all the objects to which the plan in question is linked will be displayed in the Estimated total price (€) field.



The network subtypes available for selection are defined by the network on the **Water duct** and **Sewer duct** forms. The combination of network and network subtype then determines the duct types that can be selected.

Settings for observations

You can modify the options for the State, Type, Side and Condition picklists on the **Observation** form for KeyDH through the Admin user interface (Figure 35). You can edit the displayed texts through the Text[fi]...Text[en] fields. **Existing data must not be deleted without the consent of Keypro.**



The same settings can also be modified through the DH_OBSERVATION_STATE, DH_OBSERVATION_TYPE, DH_OBSERVATION_SIDE and DH_OBSERVATION_COND groups under the common text constants. Editing these groups through the common text constants also allows you to edit some fields **that should not be edited without Keypro's consent.**

For example, the Observations and Observations (Finished) levels that are used in some environments use the values in the Logical text fields for symbol colors. In addition, the constant in the DH_OBSERVATION_STATE group with **Finished** as the value in the Logical Text field must have a Numeric value **1**.

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KeyUV configuration

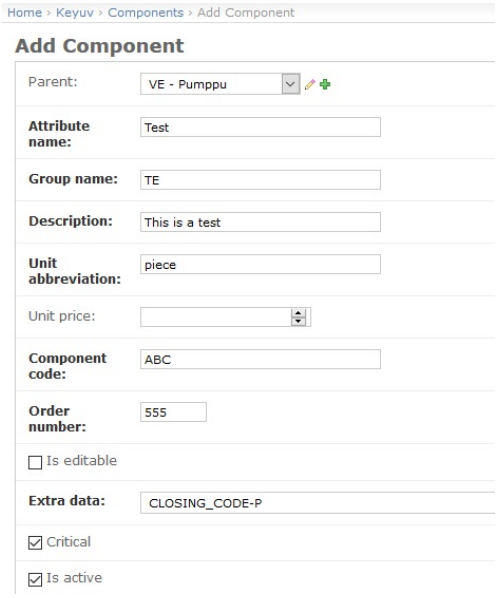
If KeyAqua/KeyDH has been integrated with the KeyUV work management system, the Admin user interface can be used to add and modify both components and the observations related to components. In KeyDH, the term corresponding to component is **Observation**, and the term corresponding to a component-related observation is **Deflection**. The screenshots in this document are taken from KeyAqua, but the same instructions can be applied to KeyDH. Information about components and component-related observations is used on several forms.

Components (Observations)

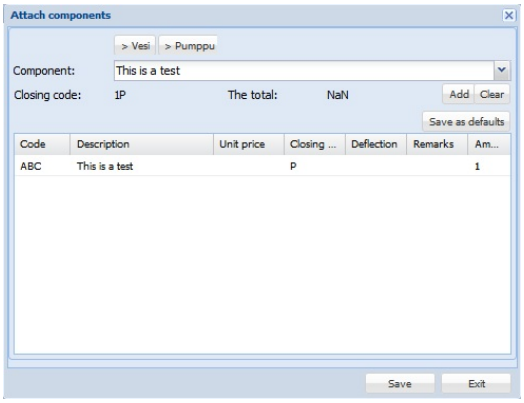
To add a new material, select **Keyuv > Components**:



Complete the required fields:



The new material will be available for selection, for example, on the **Add components** form in the **Component** field:



The key fields on the **Change Component** form:

Parent: The parent specifies the host component (if any). E.g. Water or Sewer. The component's host may have a parent etc. Only the lowest node of the chain can be selected, with the other nodes being menus. Do not set the lower nodes in the same node chain as the parent of the upper nodes.

Attribute name (text field): Unique information on the observation. For example, you can create default observation lists based on the Attribute name and Group name.

Group name: The text information that is displayed, for example, in the Component picklist on the Maintenance history form (Observation in KeyDH). For example, you can create default observation lists based on the Attribute name and Group name.

Description: The name of the component in the fields on various forms.

Unit abbreviation: Unit information, e.g. pieces.

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Unit price: Component unit price. Used in cost calculations on various forms.

Component code: A code in text format that is displayed, for example, on the Add components form.

Order number: Specifies the order in which the component appears in various picklists.

Extra data (picklist): Predefined closing codes. For example, CLOSING_CODE-VI for sewer network objects and CLOSING_CODE-VE for water network objects.

Usually, there is no need to modify the values in the **Component extra infos** section for KeyAqua and KeyDH.

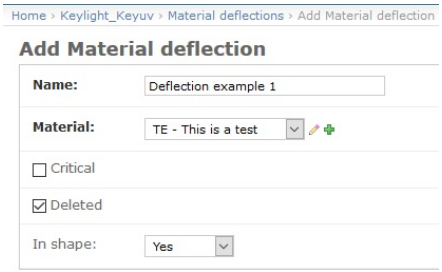
Material deflections (Deflections)

You can add and modify the contents of the Deflection (Deviation) picklist in the Material deflections section in the Admin user interface. The Deflection field can be found, for example, in the Edit extra info window and in the Maintenance history search form.

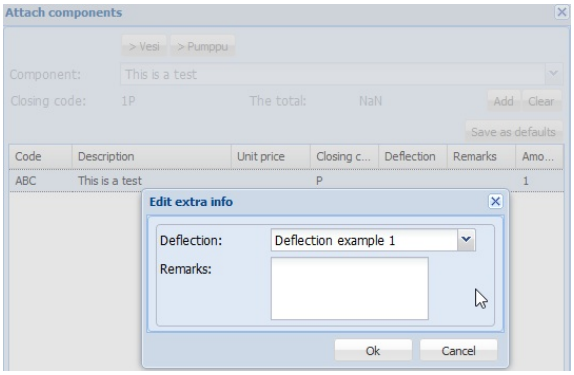
To add a new Component, select: **Keylight_Keyuv > Material deflections** and click **Add material deflection**:



Enter a name for the **Material deflection** and select an existing material from the Material list:



Click **Save**. The **deflection** is now available in the Deflection picklist (requires that the page be reloaded in the browser):



The key fields on the **Add material deflection** form:

Name: Text displayed in the Deflection picklists on various forms.

Material: The component for which the Material deflection is available.

In shape: Specifies the component's condition. This information can be used, for example, to filter the results on the Maintenance history search form.

Maintenance history selections

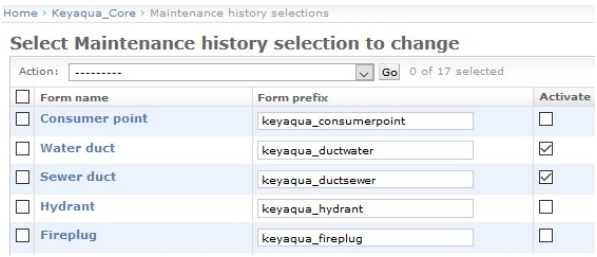
Use the Admin user interface to determine the forms on which the Maintenance history tab is available. Users can only control the forms that have been predefined in the system on the Maintenance history selections page.

New forms must not be added, or forms removed without Keypro's consent. In addition, any changes to the fields **Form name** and **Form prefix** will be made by Keypro. You can change the selection in the Active checkbox.

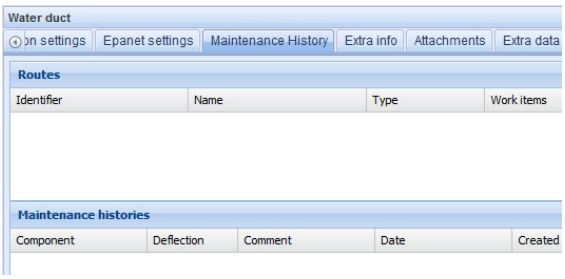
Activating the **Maintenance history** tab for a form:

Click **Keyaqua_Core > Maintenance history selections** and click the Activate checkbox for the form of your choice:

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The **Maintenance history** tab is available on the activated form (requires the page to be reloaded):



Fields on the **Change Maintenance history selection** form:

Maintenance history model: object type to which the extra data is linked. Do not edit.

Form prefix: prefix of the object type form. Contact Keypro support if you need any help. Do not edit.

Activate: whether the definition is active, i.e. whether the Maintenance history tab is displayed on the object form.

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Object defaults

To set the defaults, go to an object form in the application and click **Save as defaults** in the drop-down menu for **Save**. The selection is only visible to admin users.

Defaults support the following fields, the values of which are entered when the defaults are retrieved to the form:

- ${year} – current year
- ${date} – date in the following format: 2019-04-15
- ${user} – name of user

For example, the following string entered into the **Comments** field and saved as a default:

${year} ${date} ${user}

will result in the following text when defaults are retrieved:

2019 2019-04-15 matti@example.com

These fields can be removed by saving empty fields as defaults. To edit, re-enter text in the fields and save as defaults or edit the defaults of the object in question through the Admin site.

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External document types

- To add, delete and edit external document types, select **Keygwt_Core > External document types**.
- Type [fi]...Type [en]: external document type and its translation.
- Description: a description of the document type for maintenance purposes.
- Default: if Yes, the external document type is used as a default in KeyMobile.

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Bypassing two phased authentication by using an IP address

Go to **Keygwt_Login Ignored IP Address in two factor authentication** to add, modify or delete IP addresses for which the second phase (SMS code) of two phased authentication is omitted even though the user has enabled it.

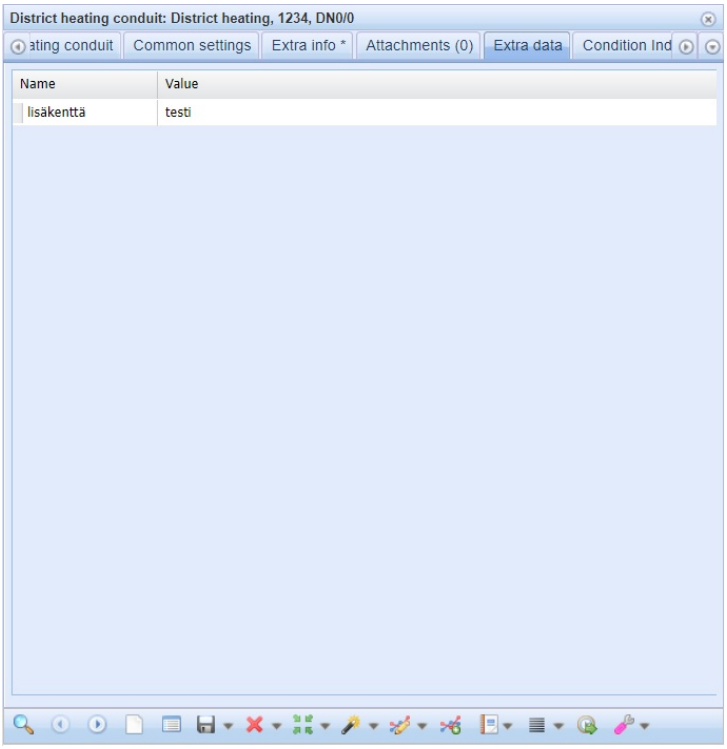
To add a new IP address, click **Add Ignored IP Address in two factor authentication** and enter the permitted IP address in the field on the form that is displayed. The **Network mask** field is not mandatory, and, in many cases, you do not have to complete the information.



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Freely defined extra data

Freely defined extra data is information that can be freely specified for the object types without making changes to databases. The data will be visible to users on the **Extra data** tab on object forms.



Defining freely defined extra data

Select **Eav** -> **Freely defined extra data**



- Model: The object form to which the data is linked. Described in the Extra data selections chapter.
- Name [fi] ... Name [en]: Field name and its translations.
- Data type: data type of the added data.
- Order number: The order in which the freely defined data is presented on the Extra data tab.

Extra data selections

Select **Keycore_Eav** -> **Extra data selections**



- Form name: object type to which the extra data is linked. Do not edit.
- Form prefix: prefix of the object type form. Contact Keypro support if you need any help. Do not edit.
- Activate: whether the definition is active, i.e. whether the Extra data tab is displayed on the object form.

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Maps and coordinate systems

Maps

Select **Keygwt_Core > Maps.**

- Name: name used internally by the system
- Label: customer-friendly name
- Settings: map options, for example:

“scales: [6000000,2500000,1000000,500000,250000,100000,50000,20000,10000,5000,2000,1000,500,250,100,50], maxScale: 6000000, minScale: 50, units:'m', maxExtent:new OpenLayers.Bounds(3000000,6500000,3800000,7800000),projection:"EPSG:2393",mapCenter:new OpenLayers.LonLat(3457632.87,6705378.64),zoom:8”

in which..

    - scales: Available scales. Changing these is not allowed, unless Keypro application support has authorised you to do so!
    - maxScale: maximum scale
    - minScale: minimum scale
    - units: unit of measurement
    - maxExtent: available map area (pre-defined). Do not edit. Contact Keypro support for help as necessary)
    - projection: coordinate system
    - mapCenter: default map center when logging into the system
    - zoom: default placement scale when logging into the system
- Layers: layers included on the map

Coordinate systems

Select **Keygwt_Core > Coordinate systems.**

- Name: name of the coordinate system (usually the same as the code)
- Code: code used for the coordinate system
- SRS details: defined in accordance with the PROJ.4 coordinate system
- **Note!** The options visible to users are defined in **text constants**. See the Coordinate system options chapter.

Applications

Do not edit!

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Layers

Defining layers

Select **Keygwt_Core** > **Layers.**

- Type: layer type

WFS
WMS
TMS
WMTS
OSM
Google
MapServer
ComboMS

- Name: unique internal name of the layer.
- Label: internal label of the layer.
- Label [fi]...Label [en]: label of the layer and its translations displayed to the user.
- URL: URL for loading the layer.
- Parameters: layer-related parameters that will be sent to the map server.
- Options: layer-related options that will be sent to the map server.
- Metaresource: WFS metaresource.

Layer group permissions

Select **Keygwt_Core** > **Layer group permissions**.

- Layer: see the Defining layers chapter.
- User group: the user group that has access to the layer (see the Available user groups in KeyAqua chapter).

Layer locks

File imports lock the layer for the duration of the operation so that the layer cannot be removed in midstream. To remove the lock in problem situations, go to the Admin site (**Keygwt_core** > **Layer locks**).

Layer legend elements

Select **Keygwt_Core** > **Layer legend elements**

- Layer legend: See the Layer legends chapter.
- Description [fi]... Description [en]: a description and translations of the layer legend element, which will be displayed to the user.
- Fill color: symbol fill color that will be displayed in the legend, for example, the color used to fill in a circle.
- Stroke color: symbol stroke color that will be displayed in the legend, for example, the color used to draw a circle.
- Stroke width: line width of a symbol that will be displayed in the legend.
- Type: symbol and preview image that will be displayed in the legend.
- Line dash length (px): length of a line for drawing a dashed line. In addition, the line space length must be defined.
- Line space length (px): length of a line space for drawing a dashed line. In addition, the line dash length must be defined.
- Icon URL: URL address that will be displayed instead of a symbol.
- Order number: order of elements displayed to the user.

Layer legends

Select **Keygwt_Core** > **Layer legends.**

The layer legend defines the layer on which the legend will be displayed, and the layer legend elements define the content of the legend. Layer legend elements are discussed in the Layer legend elements chapter.

Layer: layer on which the legend is displayed (see the Defining layers chapter.

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Layer info

Select **Keygwt_Core** > **Layer info.**

- Node: See chapter Layer switcher nodes.
- Header [fi].. Header [en]: header and its translations that are displayed to users.
- Description [fi]... Description [en]: layer description and its translations.
- Copyright [fi]...Copyright [en]: copyright information for the layer data and the related translations.
- Source [fi]... Source [en]: layer data source.

Freely defined extra data for layer info

Select **Keyqwt_core > Layer info EAV values.**

- Entity ct: not in use.
- Entity id: layer info to which the freely defined extra data will be linked.
- Text: information as text.
- Link: URL link to the data, if available.
- Extra data: Freely defined property attributes specified for the layer. (See the Defining freely defined extra data chapter.
- Created: creation date.

Layer switcher nodes

Select **Keygwt_Core** > **Layer switcher nodes.**

- Name: internal name of the layer switcher node.
- Node type: whether this is a layer or a layer group.
- Parent: parent under which the layer switcher node will be created. If nothing is selected, the node will be created at the highest level of the hierarchy.
- Label: internal label.
- Label [fi]...Label [en]: group label and its translations displayed to users. For individual layers, the layer label is displayed.
- Order number: level within a group.
- Layer: the layer in question (see the Defining layers chapter).
- Checked: whether this layer is defined as a default. Not relevant to groups.
- Expanded: whether this layer is expanded by default. Applies to groups only.

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Defining point object types

Select **Keycore_Point** > **Point object types**

- Name: type name.
- Label...Label [en]: label and its translations displayed to the user.
- Symbol name: name of the symbol displayed on the map.
- Point object type category: define the available options in the POINT_TYPE_CATEGORY group under Text constants. Further information is available on the Editing and deleting text constants chapter.

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Thematic layers

Modifying thematic layers requires in-depth system knowledge, so it is smart to leave everything except corrections to translated texts to Keypro's specialists.

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Mapping

Mapping defaults

To set the defaults, go to a **Survey file import** form in the application and click **Save as defaults** in the drop-down menu for **Save**. The selection is only visible to admin users.

Mapping configurations

Mapping configurations specify the order of fields in a file and the character used as a separator.

Select **Keygwt_Keyconvert** -> **Mapping configs**.

- Label: name of the mapping configuration.
- Separator: separator used to separate fields in the mapping file.
- Mapping Options: fields included in the mapping data.
    - Mappable: the content and options for this field have been defined in the Keyconvert mappables chapter.
    - Column number: the order of columns in a land survey file. Column numbering must start from zero and there can be no gaps in the numbering. The order in which data is added is not relevant.

Mapping methods

Select **Keygwt_Keyconvert** -> **Mapping methods**.

The **Mapping methods** admin page is used to manage the MAPPING_METHOD group under Text constants, and the group can also be accessed through Text constants (Editing text constants).

- Text [fi]... Text [en]: name of the mapping method and its translations.
- Numeric value: not in use.
- Order: position in the group.

Land survey file as raw text

The application's form is the primary form that should be used for land survey file processing. To use the file as raw text, access it through this page.

Select **Keygwt_Keyconvert** -> **Survey files**.

Do not edit the survey file's fields or add new ones through the admin site.

Keyconvert mappables

Keyconvert mappable is a field (column) on the survey file form.

Select **Keygwt_Keyconvert** -> **Keyconvert mappables**.

The admin page for **Keyconvert mappables** includes the text constant group KEYCONVERT_MAPPABLES, which can also be accessed through text constants (Editing text constants).

- Text [fi]... Text [en]: name of the Keyconvert mappable field and its translations.
- This field is for information that has not been defined as being included in other columns: we recommended defining this for one field only. If more than one field is defined, the field with the largest number will collect the information (see the Mapping configurations chapter). This data will be saved in the Numeric value 4 field in the text constants.

Results of the survey

The application's form is the primary form that should be used for survey result processing.

Survey objects

The old way of defining the object types in imported files.

Code set

A code set is a set of kind codes, according to which the file's rows will be interpreted. See the Convert codes chapter.

- Select **Keygwt_Keyconvert** -> **Code sets.**
- Text: name of the code set.

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- Text [fi]... Text [en]: name of the code set and its translations.
- Order no
- Numeric value
- Text value

Survey coordinate orders

The old way of defining the order of coordinates in imported files.

Height accuracies

Select **Keygwt_Keyconvert** -> **Height accuracies.**

The **Height accuracies** admin page is used to manage the H_ACCURACY group under Text constants, and the group can also be accessed through Text constants ((Editing text constants).

- Text [fi]... Text [en]: height accuracy and its translations displayed to the user.
- Numeric value: numeric value equivalent to the height accuracy text.
- Order: position in the group.

Convert codes

Select **Keygwt_Keyconvert** -> **Convert codes**.

- Code: kind code in the survey file.
- Table name: database table name equivalent to the code.
- Type field name: name of the object type field in the object's database table that is equivalent to the code.
- Type field table: database table name of the object type that is equivalent to the code.
- Type field id: primary key of the object type that is equivalent to the code.
- Id text: default ID of the object that is equivalent to the code.
- Object pk field name: name of the primary key field in the object's database table that is equivalent to the code (usually ID or MSLINK).
- Description: a description of the object that is equivalent to the code.
- Description [fi]... Description [en]: a description of the object that is equivalent to the code.
- Code type: an alternative way of defining the code type (old method).
- Object type: an alternative way of defining the object type (old method).
- Specific type: an alternative way of defining the object type (old method).
- Geometry type (mapping geometry): object's geometry type (see theGeometry types chapter).
- Code set: code set to be used (see the Code set chapter.

Kind codes

The old method of defining the meaning of codes in a file.

Location accuracies

Select **Keygwt_Keyconvert** -> **Location accuracies.**

The **Location accuracies** admin page is used to manage the LOCATION_ACCURACY group under Text constants, and the group can also be accessed through Text constants (Editing text constants).

- Text [fi]... Text [en]: location accuracy and its translations.
- Numeric value: numeric value equivalent to the location accuracy text.
- Numeric value 4: this must be a single number (in the old method, it must match the equivalent field in the SURVEY_CONSTANT table).
- Order: order displayed to users on the selection list.

Geometry types

Select **Keygwt_Keyconvert -> Geometry types.**

Geometry types is an admin page that is only used for translation purposes. Edit only the **Text [fi]... Text** [en] fields.

Survey procedures

Select **Keygwt_Keyconvert** ->**Survey procedures.**

Survey procedures is an admin page that is only used for translation purposes. Edit only the **Text [fi]... Text** [en] fields.

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Printing

Defining the printout legend

- Title [fi]... Title [en]: printout legend and its translations displayed to the user.
- Header text [fi]... Header text [en]: text to be printed in the printout legend's top section and the related translations.
- Footer text [fi]... Footer text [en]: text to be printed in the printout legend's bottom section and the related translations.
- Copyright [fi]... Copyright [en]: not in use.
- Description [fi]... Description [en]: description to be printed in the printout legend and the related translations.
- Extra text [fi]... Extra text [en]: not in use.
- Image: logo to be added in the printout legend. The image must be stored in a specific directory on the application server. Please contact Keypro's customer support for help when you want to add or change an image.
- Scale: not in use.

Print frame defaults

Print frame defaults cannot be saved in the application but must be modified through the Admin site.

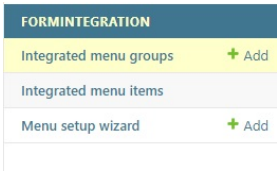
1. Select **Keygwt_Print** > **Print frame defaults.**
2. Edit the values in the fields, as necessary.
3. Click **Save**.

Note! The names of the fields must match the names used in the application's software code. For this reason, contact Keypro's support when you are adding a new field or if you encounter any problems.

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Form integration settings

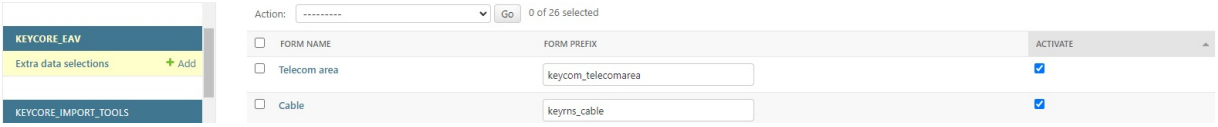
Form integration tools can be found under FORMINTEGRATION.



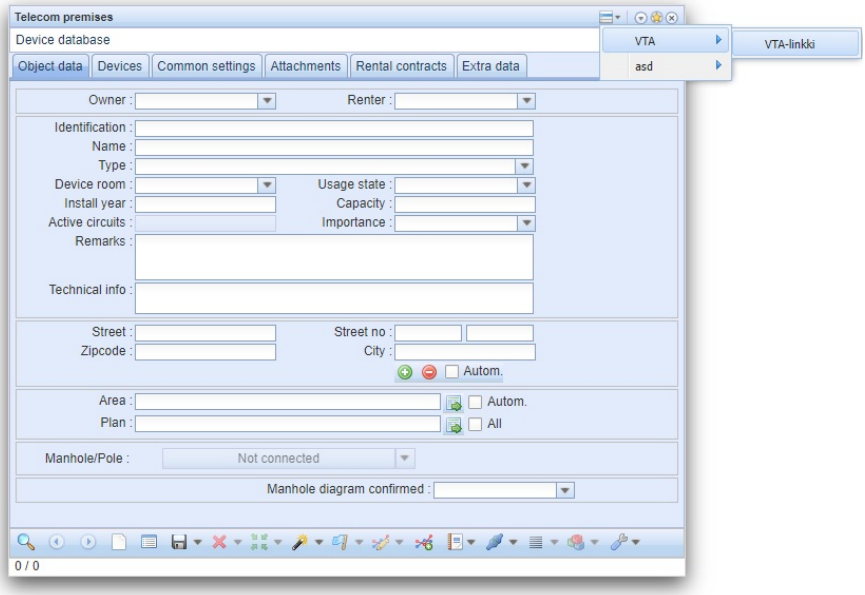
With form integrations, the admin user is able to configure a custom menu in the top toolbar. For the menu, the user is able to define groups and items that are available in the **Menu setup wizard** functionality.

Menu setup wizard

Before using the **Menu setup wizard**, make sure the desired object types have been activated in order to choose them when creating a new menu group. Open Extra data selections and check the **Activate** checkbox next to a form name in order to activate it in the **Menu setup wizard**.



The **Menu setup wizard** itself is used for creating menu groups and defining items (actions) for these groups. In the KeyCom user interface, the menu groups are presented under the **Menu** button in the top toolbar. A menu group is a placeholder for menu items, which are always external links.



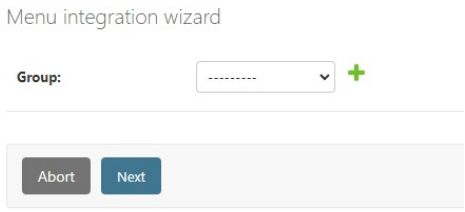
The menu setup process

The **Menu setup wizard** is accessible under subsection **Formintegration**:

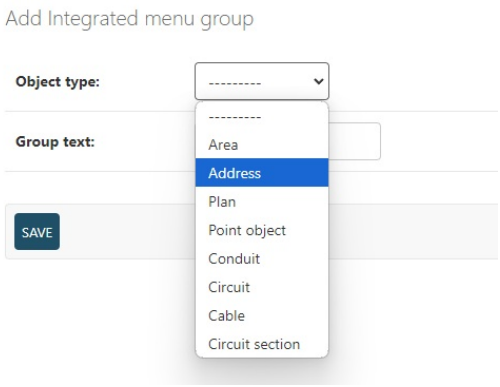


1. At first, you must select a menu group, which the actual menu item with a click-action will be added. You can either select an existing group from the drop-down menu, or create a new group with the plus -button, that opens up a new page for creating a menu group:

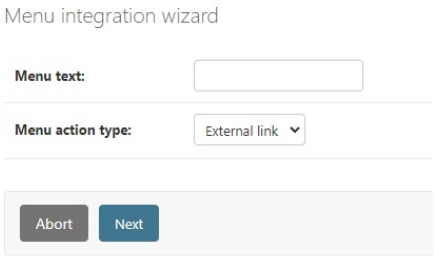
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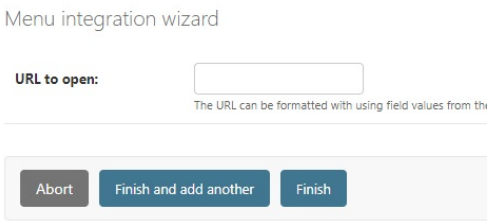
2. If you chose to create a new group, you must choose the object type to which the menu group will be bound to. Only those object forms can be chosen which have Extra attribute value's (EAV) enabled for them. If you chose an existing group from the drop-menu, you can skip to step 3:



3. When you have chosen the group you wish to use, the **Next** button will take you to the page where you can choose the name and action type for the menu item. Currently, only action type **External link** is available:



4. You must then enter the URL that you wish to be opened into a new browser tab. The URL field supports both Dojo & Ext field identifiers as placeholders. The placeholders are defined with curly brackets, which should wrap the ID of the form field from which to take the value from:



5. Lastly, you can finish the process or use the **Finish and add another** function to save your current progress and run the **Menu setup wizard** again. Abort can be used at any stage of the process and it will take you back to the admin index page.

Editing the menu groups and items

You can later edit and delete the complete menu integrations in the text constants group CLIENT_FORM_CONFIG and individual menu groups in the text constants group CLIENT_FORM_GROUP.

Deleting menu groups and items

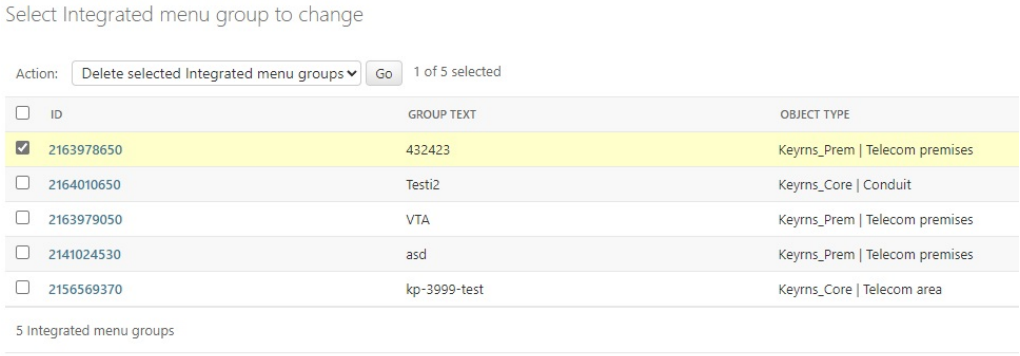
You can later view and edit existing menu groups and items by opening their menus under the FORMINTEGRATION subsection.

1. Open a list of previously determined menu groups or items.

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2. Choose the groups/items that you want to delete.



3. The select **Action: Delete selected Integrated menu groups** and **Go**.

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Import tool settings

Import tool settings require in-depth understanding of the system. The person modifying the settings must know the full names of the Django models and modules used for data import. In addition, setting the default values of objects may require the retrieval of foreign key values from the database.

Shape import objects

Select **Keycore_import_tools** > **Shape import objects**

On the displayed list, you can see the import status of each object. Imported network objects are not deleted one-by-one on this page, but an entire event will be deleted. See the chapter Deleting a shape import event and the related objects.

Shape import events

Select **Keycore_import_tools** > **Shape import events**

1. On the displayed list, you can see the basic data on import events.
2. Open a single event to view a more detailed event log.

Deleting a shape import event and the related objects

Select the import event(s) to be deleted.

1. On the drop-down menu above the list, select **Delete with imported objects**.
2. Click the **Go** button.

Shape import methods

Select **Keycore_import_tools** > **Shape import methods**

- Name: name used on the admin site.
- Label [fi]... Label [en]: name and its translations displayed to the user.
- Module: module used in the import.
- Options: json configuration for the import. Mandatory configurations include the following: the plan state (plan_state_id), plan type (plan_type_id) and the type of import report.

For example:

{
"plan_state_id": 231830,

"import_report_type": 1210,

"plan_type_id": 231990

}

Check the values in the PLAN_STATE and PLAN_TYPE groups under **Text constants**. The type of import report is obtained from the **list of External document types** (see the External document types) chapter. If these values are missing or incorrect, the import will fail.

Shape import mapping configuration

Select **Keycore_import_tools** > **Shape import mapping configuration**

- Method: applicable import method (see the Shape import methods chapter).
- Source type: geometry type, such as a line.
- Destination model: the full name of the Django model, for example: keyrns_core.models.Cable.
- Options: data in JSON format, with an “attrs” value that includes a set of key/value pairs for defining the network object data to be imported.

In key/value pairs, the *key* (on the left) is equivalent to a single field for a network object (for example, cable type, stroke color, placement scale for telecom premises) and the *value* (on the right) can be either a fixed text or number, or a special variable, the value of which is retrieved from the source data, meaning either a shape file or CSV file. When a variable is used, add the character $ in front of it and enter the field name by using the font size used in the source data.

An example:

{"attrs": {

"CableType_id": 12930,

"State_id": 330,

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"Remarks": "$comments"

}

}

In this example, the **CableType_id-** and **State_id** fields are foreign keys for another table, and a **comments** field from the data to be imported will be entered in the **Remarks** field. It is easier to complete these fields on the admin page because the list of fields will be created under the text field when the Destination model field has been completed correctly and the data has been saved.

- Refresher: fields for the object. This will be regenerated when the data has been saved and the Destination has been correctly defined. The field names can be checked on this list when entering the data for the Configuration field.

An example: importing addresses

The configuration depends on the format of the original file.

The address file in this example:

CITY,ZIP,APTS,STREETNO,STREET,X,Y

Alicante,65530,1,1,Calle de Finlandia,3459116.25,6710938.97

Alicante,65530,1,2,Calle de Finlandia,3459079.20,6710953.52

Alicante,65530,4,3,Calle de Finlandia,3459144.03,6710958.82

Required configuration:

Method: address [keycore_import_tools_shcape_import.methods.simple.simple]

Source type: Point

Destination model: keygwt_address.models.AddressCreatorModel

Configuration: {"attrs": {"streetno": "$STREETNO", "streetname_fi": "$STREET", "city_fi": "$CITY", "zipcode": "$ZIP"}, "extra": {"apartments": "$APTS"}}

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GDPR

GDPR is the new General Data Protection Regulation of the European Union. Its purpose is to protect the privacy of users and change the companies' mindset and measures related to data protection.

The related user groups

With the GDPR, two new user groups have been added to the system. The new user groups are GDPR_NORMAL_ACCESS and GDPR_EXTENDED_ACCESS, which are included in the default user groups (see chapter Available user groups in KeyAqua). By default, only the users in these groups are authorised to access customer data.

Private–restricted customer type

In addition, a new customer type has been added to the system to accommodate the changes required by the GDPR. The name of this new group is **Private–restricted**. Access to data related to this customer type is restricted to users who belong to the GDPR_EXTENDED_ACCESS user group.

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