



Product Information Additional Modules

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1 MODULES FOR CALCULATION/SIZING

1.1 Spaix PipeCalc

Spaix PipeCalc is a comprehensive duty point calculation module for the determination of the duty point for centrifugal pumps and friction loss calculation for unbranched systems. The module contains the flow calculation for e.g. wastewater and drinking water as well as the dewatering from rainfall according to DIN EN 12056, for drinking water according to DIN 1988, for heating systems according to heatable floor space, building type as well as temperature difference.

Available for platform(s): Web, Desktop

The screenshot displays the Spaix PipeCalc software interface. On the left, a sidebar contains input fields for 'Förderstrom' (Flow rate: 5 l/s), 'Gesamtförderhöhe' (Total head: 12.45 m), 'Statische Förderhöhe' (Static head: 2 m), and 'Rohrreibungsverlusthöhe' (Pipe friction loss height: 10.45 m). Below these are sections for 'Mediendaten' (Medium data) and 'Umgebungsbedingungen' (Environmental conditions). The main area shows a schematic diagram of a pump installation with a pump, a vertical pipe, and a horizontal pipe. The diagram is labeled 'Pumpenrohrleitung Drucksseite - H: 10.5 m'. Below the diagram, a table lists the components of the system and their respective friction losses. The table has columns for 'Beschreibung' (Description), 'D / mm', 'k / mm', 'v / m/s', 'L / m', and 'Hv / m'. The components listed include 'Rohrleitung (10)', 'Druckanschluss', 'Rückflussverhinderer', 'Ventil', 'Kreuzer', 'T-Stück', 'Austritt', and 'Sonstige Verluste'. The total head loss is calculated as 10.45 m. The interface also includes a 'Berechnung' (Calculation) section with a 'Berechnungsmodell' (Calculation model) dropdown and a 'Anzeigen' (Show) checkbox. At the bottom, there are 'OK' and 'Abbrechen' (Cancel) buttons.

1.2 Spaix ParallelPumping

The module enables the calculation of performance curves for similar or different pump types in parallel. The display of the resulting pump curve is shown as a reduced curve viz. the branch pipe loss is settled with the respective pump curve, while the system curve only represents the pipe loss.

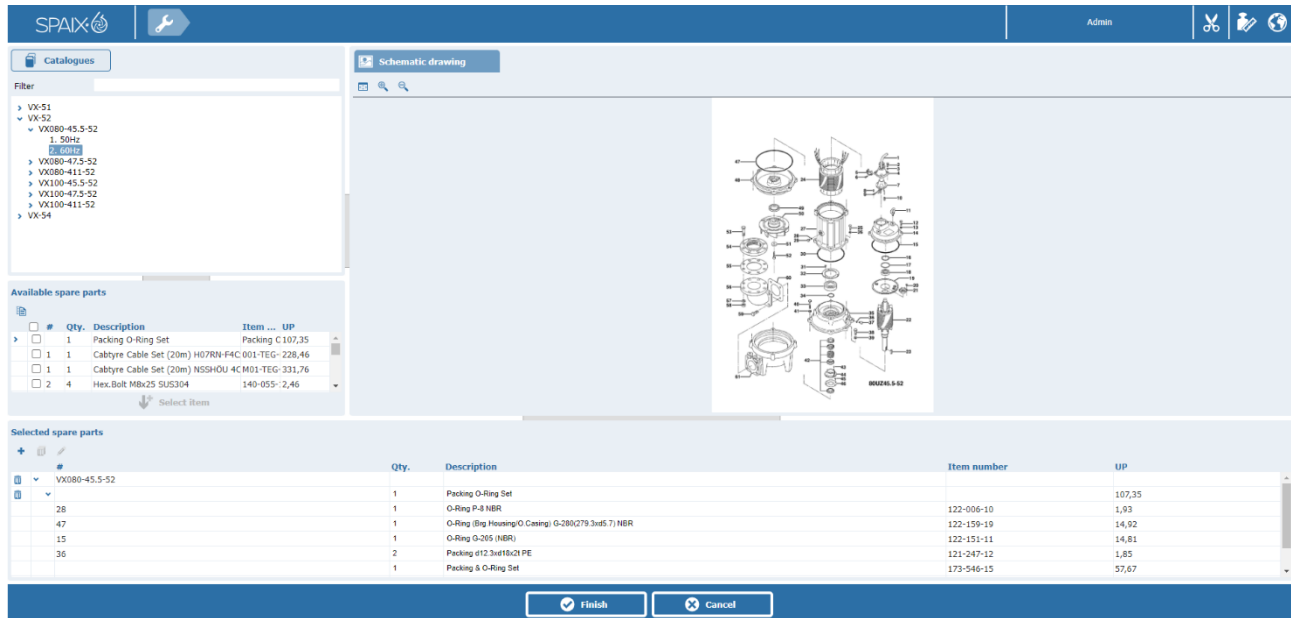
The input of branch pipe losses is carried out at the hydraulic selection after having selected "Single pumps as parallel circuit" in the field Nature of system under Total flow. Basis for the flow calculation is the intersection point of the system curve as well as the reduced curve. The Head is read off at the pump performance curve. For the pumps 2-n only the display of the reduced curve is ensued.

Available for platform(s): Web, Desktop

1.3 Spaix SpareSelector

This add-on provides a powerful platform for the search and selection of spare parts, which can be carried out independent of the product via the catalog selection or dependent of a selected pump or unit. In addition, the program also offers the user the possibility of direct selection by entering the item number or spare part description.

Available for platform(s): Web, Desktop



1.4 Spaix SidechannelViscosityConverter

This module enables the curve conversion for pumping high viscous fluids with side channel pumps according to the calculation published by SIHI in the handbook "Basic Principles for the Design of Centrifugal Pump Installations" (7th Edition, 2003). In the database, the calculation method is assigned to the hydraulics.

Available for platform(s): Web, Desktop

1.5 Spaix MagdriveSizer

The Spaix MagdriveSizer was developed for companies for which the selection of magnetic drives is indispensable part of the product configuration while at the same time ensuring effective data management with a minimum of redundancy.

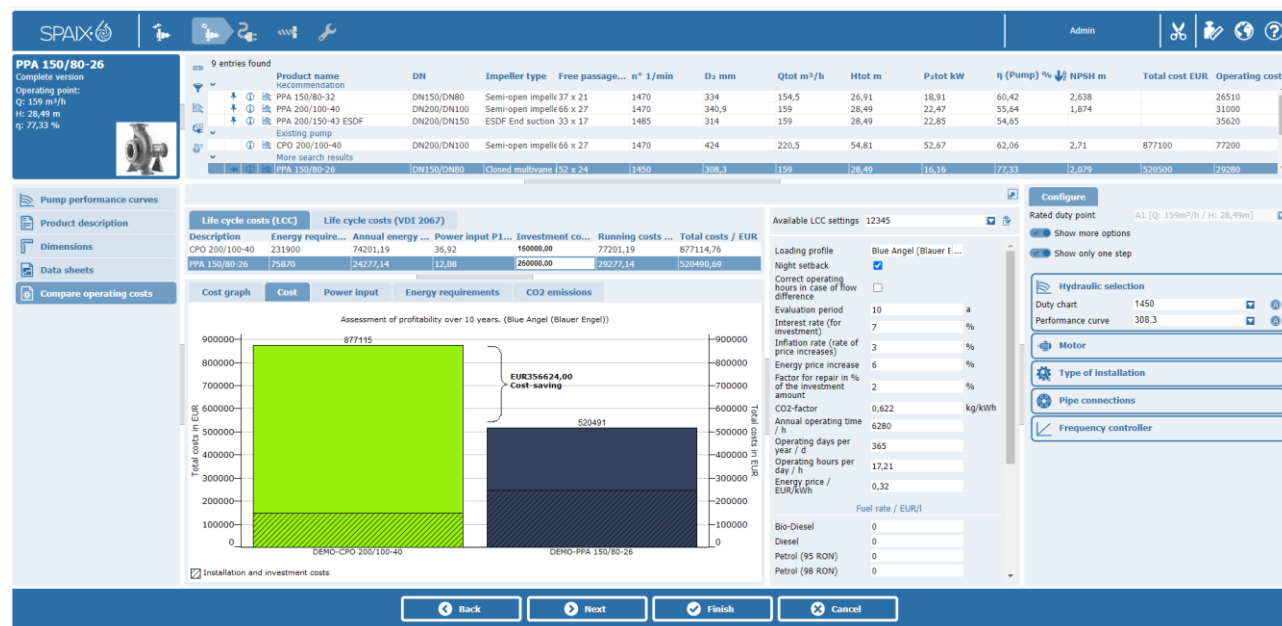
Apart from the consideration of safety factors depending on the moment of inertia, it is possible to enter eddy current losses as well as viscosity losses with separate curves.

Available for platform(s): Web, Desktop

1.6 Spaix PumpExchanger

This add-on enables the pump exchange by allocation of old pump series (own and competitor's models) to corresponding current products. Via the duty point data suitable replacement pumps are recommended and the energy and life cycle costs of old and new pump are compared.

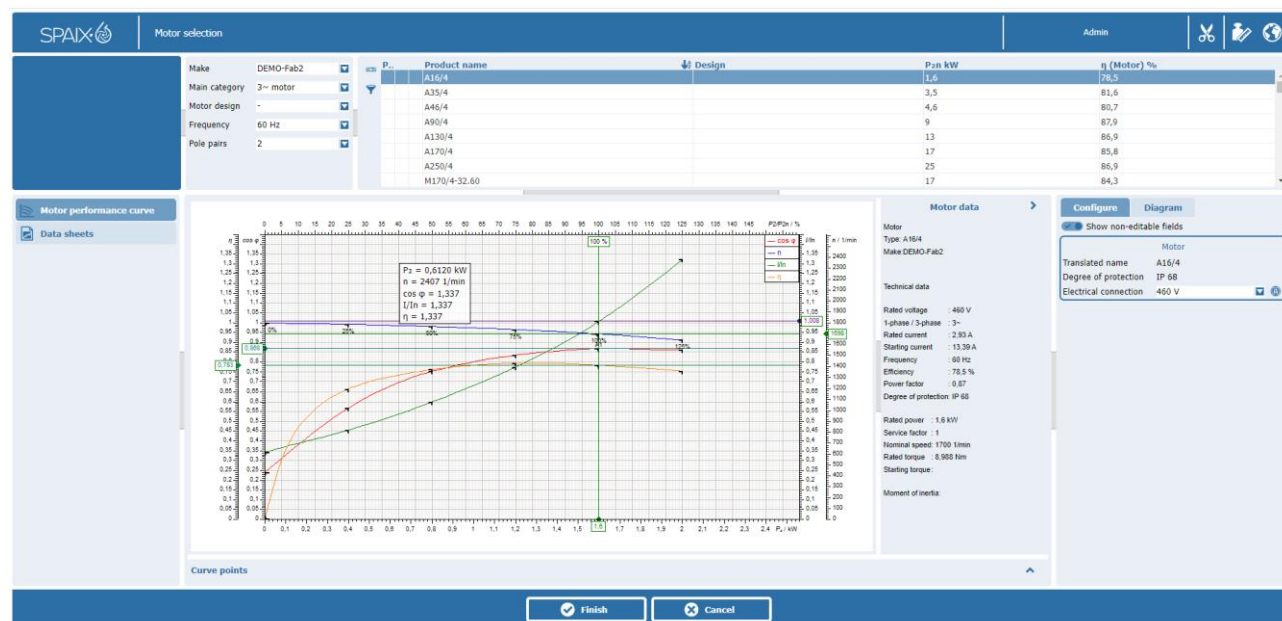
Available for platform(s): Web, Desktop



1.7 Spaix MotorBrowser

The module enables browsing and selecting of electrical motors as separate main item independent of the pump.

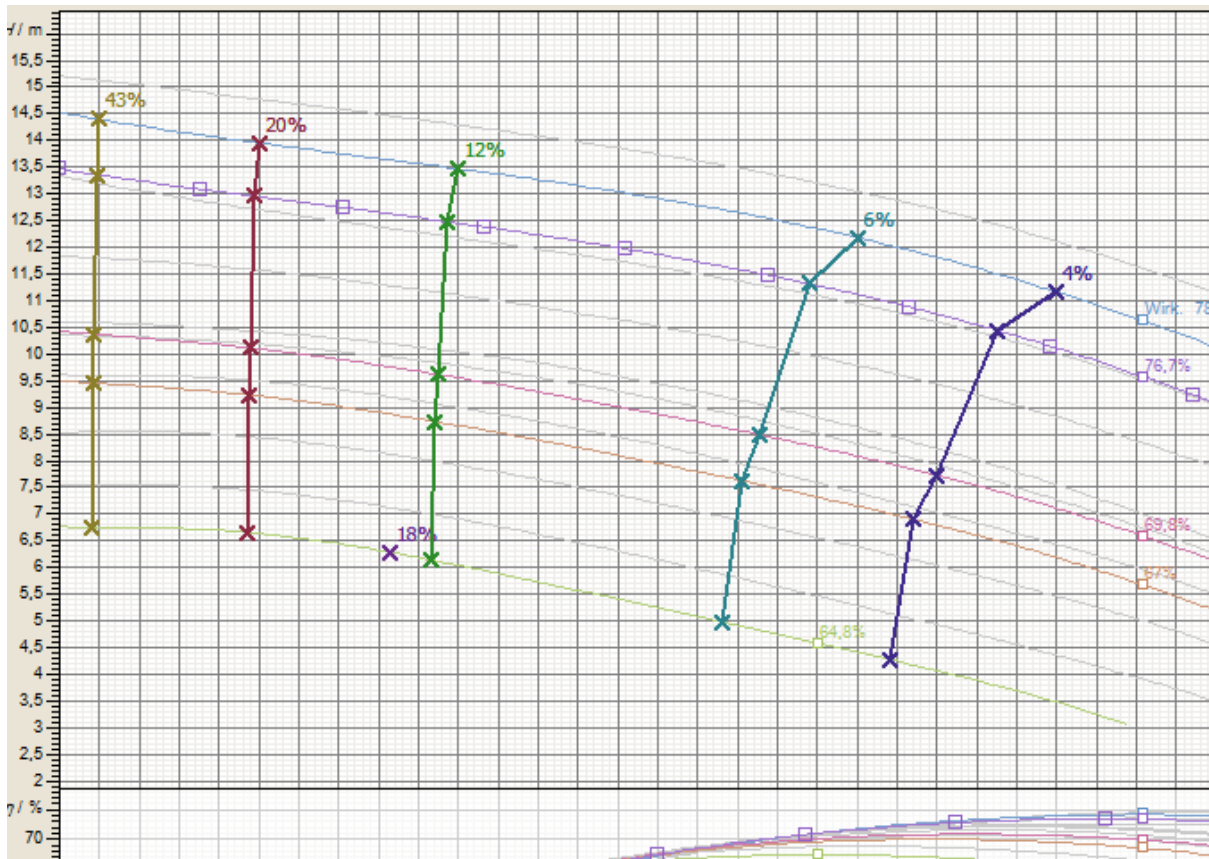
Available for platform(s): Web, Desktop



1.8 Spaix ConsistencyExtensions

In the hydraulic selection (or when entering the duty point), a given consistency can be stored in the selection program, which is then used to determine the right pumps.

Available for platform(s): Web, Desktop



1.9 Spaix PowerlossCalculator

This add-on allows performance curve correction depending on the installation type, the selected pump material or the bearing frame.

The module enables the correction of $H(Q)$, $P2(Q)$ and $\eta(Q)$ performance curves, either by a factor (constant) or by an overlay curve (variable). If the $H(Q)$ curve is constant, only $P2(Q)$ or $\eta(Q)$ can be corrected, since they both influence each other.

For the installation type, the $H(Q)$, $P2(Q)$ and $\eta(Q)$ curves can be corrected. It must be specified whether $H(Q)$ and $P2(Q)$ should be adjusted to ensure consistent pump performance curves. In case of power correction, it is imperative to select the installation type in front of the motor in the configuration order.

For the pump and shaft seal material, $P2(Q)$ and $\eta(Q)$ can be corrected.

The resulting curve is shown in the selection program as a dashed line in addition to the original performance curve.

Available for platform(s): Web, Desktop

1.10 Spaix TestnormConverter

The modules allow the conversion of the pump performance curve to another acceptance tolerance. With which acceptance tolerance the curves were measured is stored in the database. Furthermore, the conversion factor is defined for each pump model to upgrade the curve according to the BEP. Moreover, in the database has to be defined if

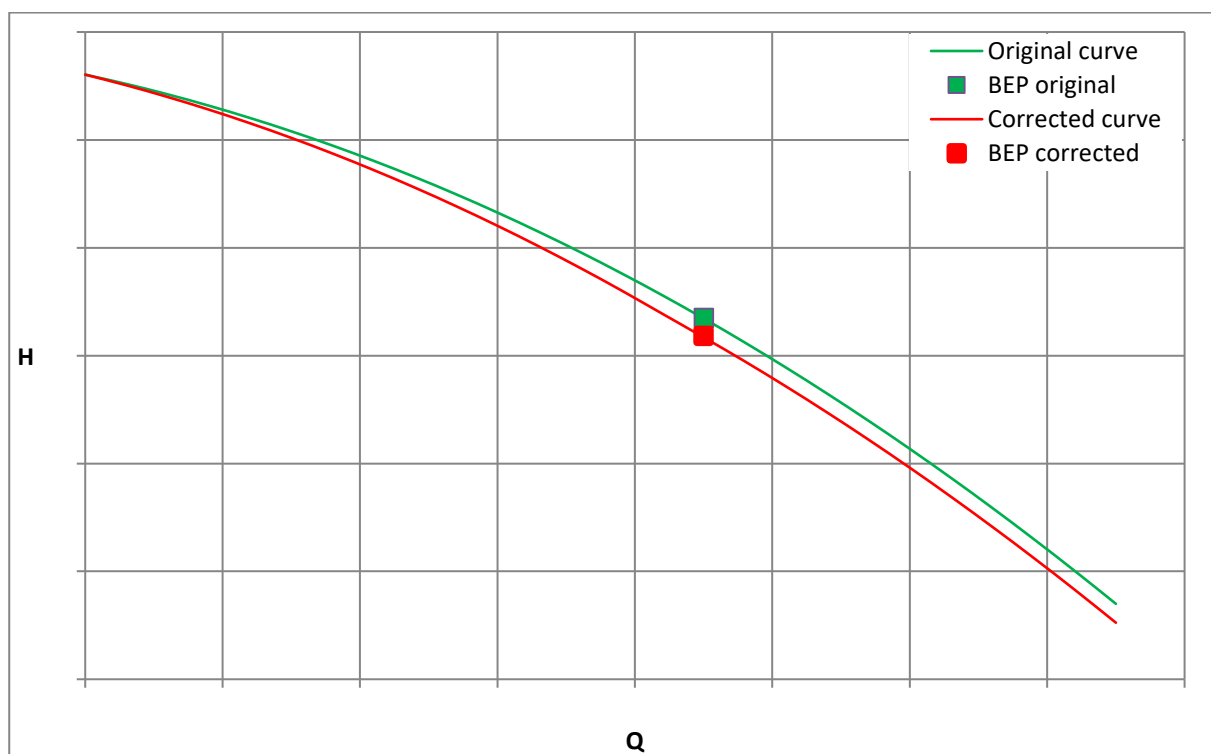
- $H(Q)$ and $\eta(Q)$ OR
- $P(Q)$ and $\eta(Q)$

should be converted.

In the selection program, it is possible to select the required acceptance tolerance under **Extended View** when entering the duty point. If the required acceptance tolerance for the current pump is not defined, the standard acceptance tolerance is used. There is no conversion for $Q=0$; the conversion factor increases linear until the BEP and remains constant after that.

It is possible to show the used acceptance tolerance on the data sheets and in texts by using keywords.

Available for platform(s): Web, Desktop

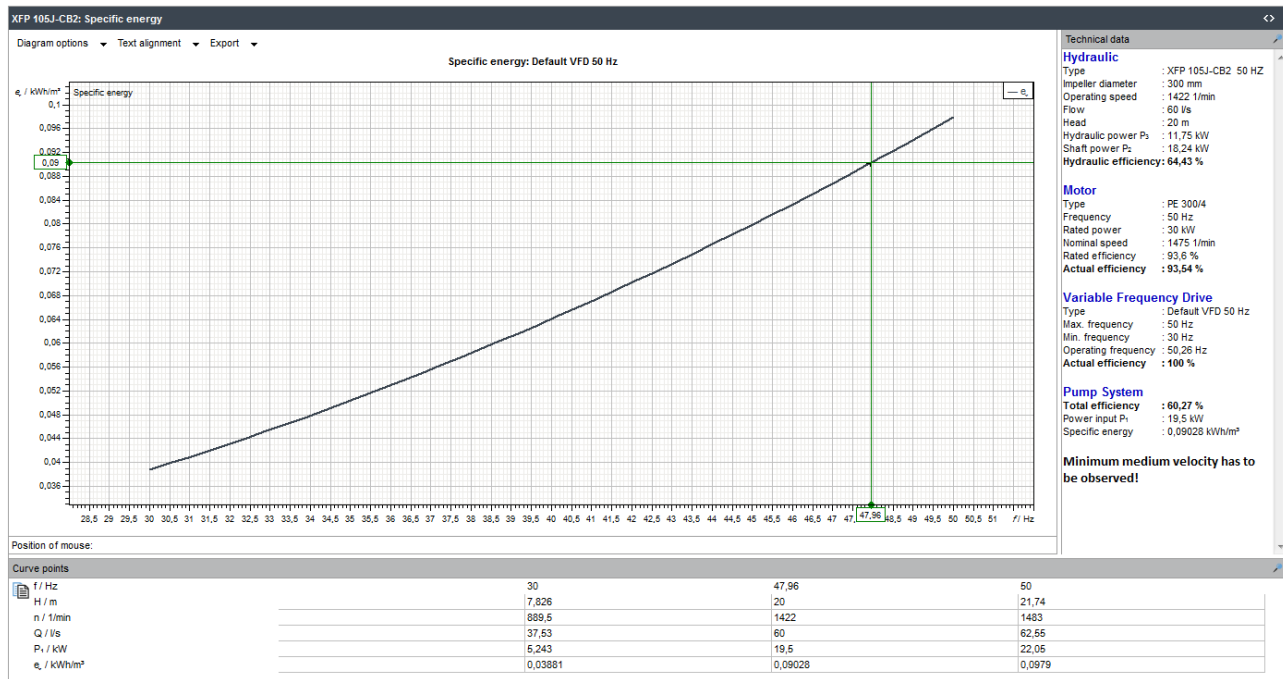


1.11 Spaix VfdAnalyzer

When using frequency converters, the module calculates the specific energy as function of the frequency and displays it as table and as curve. Thus, an energetic optimized sizing of frequency converters is enabled, especially when it comes to a static head component.

All relevant influence quantities can be considered during calculation including the efficiency of the frequency converter, the efficiency reduction for speed conversion as well as motor curves.

Available for platform(s): Desktop



1.12 Spaix ProductSearcher

This search option enables the locating of a product via the item number or pump name. Alternatively, the search can also be carried out via a local item number or the EAN.

Available for platform(s): Web, Desktop

1.13 Spaix Historic ProductSearcher

This module allows to search for historical products by name or item number, whereby the product properties are displayed. In order to define a different status for different markets, products per user group can be marked as a historical product in the database.

Available for platform(s): Web, Desktop

1.14 Spaix NfpaSizer

This additional module enables sizing of fire-fighting pump systems according to NFPA 20 including

- Verification of NFPA 20 limits during selection process,
- Marking of NFPA 20 specific points in diagram,
- Automatic curve cut according to runout head,
- Motor sizing to cover curve range until 1.5 Q.

It is to be activated in the database through the input filter function at Area of Application.

Available for platform(s): Web, Desktop

1.15 Spaix TurbinePumpSizer

The calculation module considers the pressure losses in the rising pipe as well as the power losses of the bearing frame while sizing and dimensioning vertical line shaft pumps, including the sizing of the drive as well as the required components.

Available for platform(s): Web, Desktop

2 MODULES FOR SOFTWARE CUSTOMIZATION

2.1 Spaix LayoutCustomization

This service allows to customize the user interface of the Spaix 5 PumpSelector and Spaix 5 PipeCalc (if licensed) to the layout of existing web documents.

Available for platform(s): Web

2.2 Spaix TranslationManager

This module enables the pump manufacturer to define manufacturer-specific program translations. In addition, it is possible for external translation agencies to enter data and text translations via a separate program. For this purpose, deposited RTF text (with formatting) are shown in an Editor.

Available for platform(s): Web, Desktop

3 MODULES FOR DATA MAINTENANCE

3.1 Spaix DataMigrator

The data migration tool creates databases, tables and indexes automatically while transferring data between MS SQL and Access databases.

3.2 Spaix ImportFramework Basic

This tool enables the data transfer of basic pump data, performance curves, motors and materials from a third party system via a given relational database structure.

3.3 Spaix ExportFramework Basic

This module allows the data transfer of basic pump data, performance curves, motors and materials into a relational database structure.

3.4 Spaix UpdateManager

Via the integrated Internet update function, program files as well as data, can be updated. Obsolete data or old products can be deactivated through the update.

The application searches automatically for available updates when starting the program. To update, add or delete program files, administrative privileges in accordance with Windows' security policies are necessary.

Available for platform(s): Desktop

3.5 Spaix DeploymentHelper

The module creates installation media for costumers. Datasets, for one or more users, can be pulled out of the master database. The released main dataset is ascertained with the help of the user permissions. Through the language selection, the number of documents as well as the size of the translation tables is reduced.

The result is a significantly reduced amount of data. Alternatively, a data extraction to a SQL Server database is possible.

Available for platform(s): Desktop

3.6 Spaix CurvePublisher

Module for the generation of duty chart graphics for further processing in printing material, such as catalogs.

The diagrams are displayed in a selected individual diagram layout as well as in a given size and graphic resolution.

Supported export formats: EPS, EMF, PNG, BMP, TIF, AI

Available for platform(s): Database

4 MODULES FOR PROJECTS/OFFERS

4.1 Spaix ProjectAdapter RTF

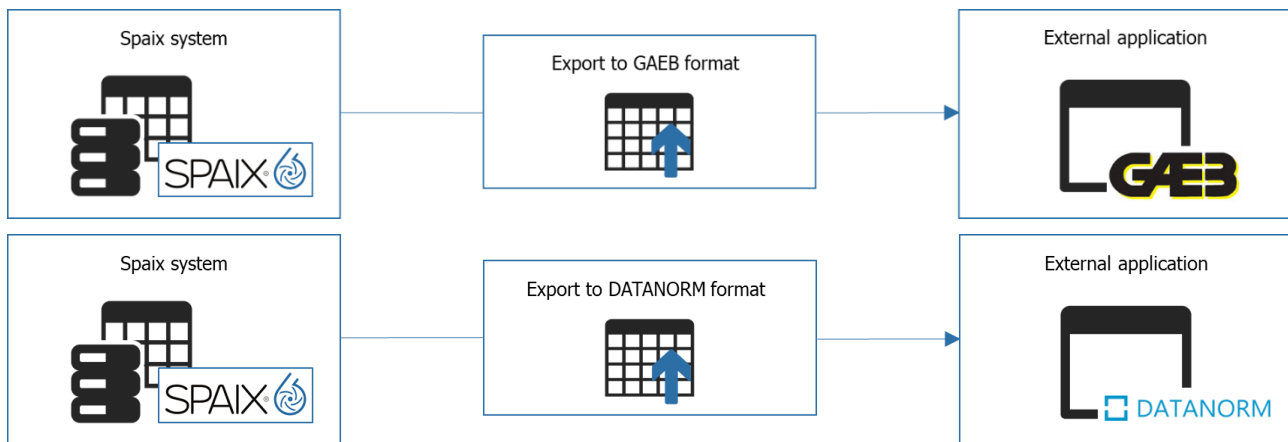
The Spaix ProjectExporter RTF is an interface for exporting tender texts and project data to a word processing system (e.g. Microsoft Word) via the RTF format.

Available for platform(s): Web, Desktop

4.2 Spaix TextExporter

The Spaix TextExporter is used to export the current project and prices in GAEB or DATANORM format.

Available for platform(s): Web, Desktop



4.3 Spaix DeliveryTimeCalcualtor

This module supports the possibility to enter and display standard delivery times for products. A standard delivery time can be specified for each article in the database. The link is created by the article number. In this way, the standard delivery time can be stored for each element that has a price.

The selection program is extended by the display of this standard delivery time in the product selection dialog. It is possible to display the standard delivery time on the data sheet.

Available for platform(s): Web, Desktop

4.4 Spaix PricelistHandler

The Spaix PricelistHandler is an additional module for and exporting price lists as well as the extension of the related permissions.

Price lists shall be imported and exported. Via this import authorized user shall be able to update prices for certain price groups. No item data sets are generated; only prices are updated.

Functionality:

- price export and import in the administrative interface of the Web Version
- extension of permissions, including the data maintenance module

Extended permission for price export and import:

- The user is only allowed to add prices for certain manufacturer.
- The user is only allowed to add prices for certain currencies.
- The user is only allowed to add prices for certain price groups.
- There is an update status in each price line in the database. Additionally, it is stored when the last import was done and by whom.

Available for platform(s): Web

4.5 Spaix Statistics

Via the statistic module it is possible to render comprehensive analyses of projects, user and selection processes which have been made in the web application. The relevant information for a given reference period can be exported to Microsoft Excel for reporting.

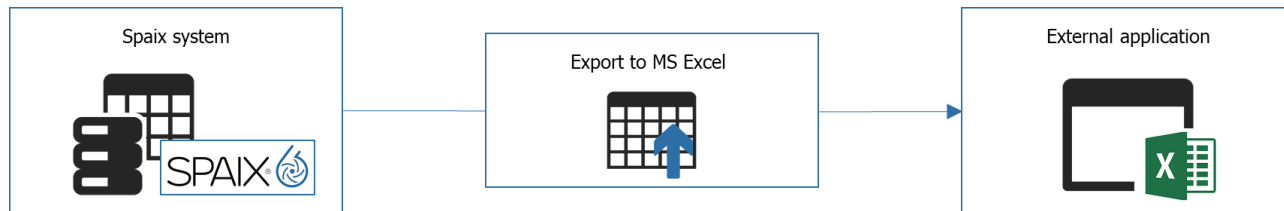
Available for platform(s): Web

5 MODULES FOR SOFTWARE INTEGRATION

5.1 Spaix ProjectAdapter XLS

This tool transfers project data from Spaix to Microsoft Excel tables. The data is then available for an automated processing in external applications.

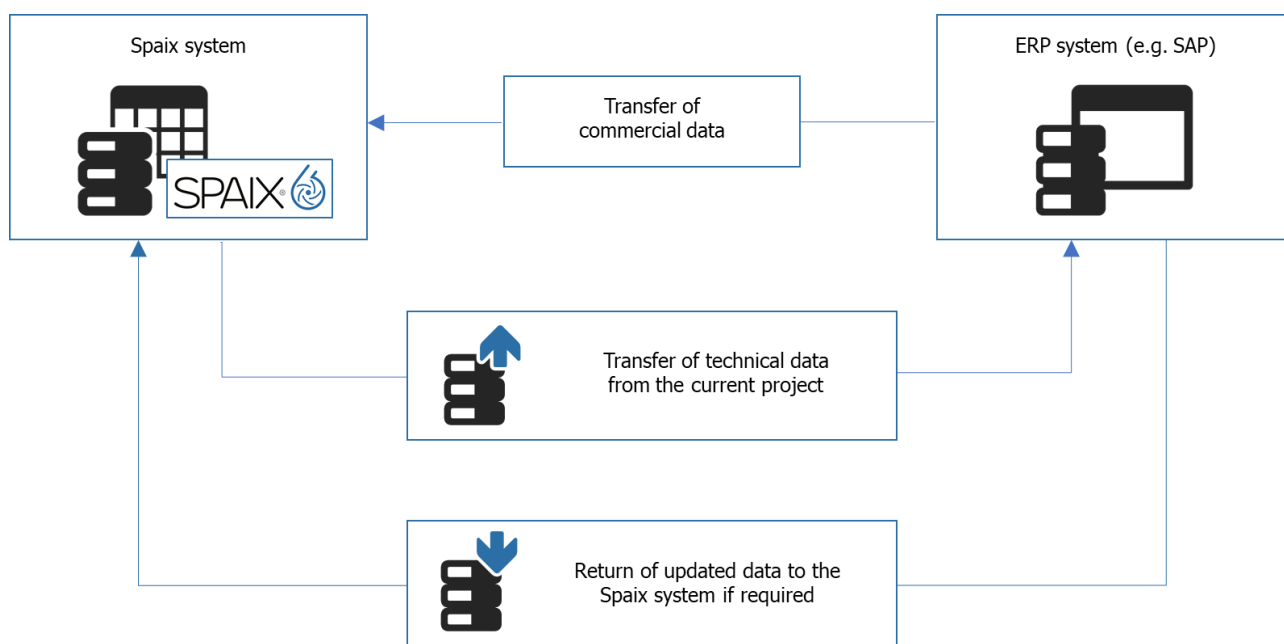
Available for platform(s): Web, Desktop



5.2 Spaix ProjectAdapter XML

The add-on is a module for exchanging data between the Spaix PumpSelector and any other software systems such as ERP systems. Through configuration files, the interface can be configured individually. In the process, the user can define which Spaix fields are to be assigned to the target application. Therefore, the same fields also used in Spaix data sheets or in the product descriptions are accessible.

Available for platform(s): Web, Desktop



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