

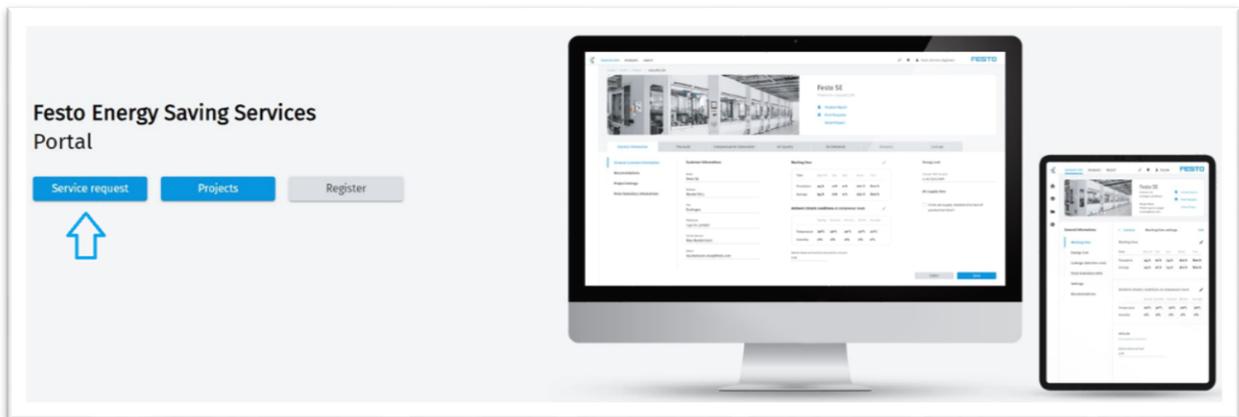
**Festo energy saving services Portal  
User manual**

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## 1 Service request creation

1. In the home page please press the service request button



2. Please fill in all the required contact information so Festo can contact you.
3. Select the desired service
  - You can select between a complete energy efficiency audit of your compressed air system (in this case every single service will be selected automatically) or you can select every single service module independently. You can see more information about every service by hovering your cursor over it.

### Customer information

Company name \*

Address \*

City \*

Country \*

Contact person \*

Phone number \*  
+49

E-Mail \*

### Select the desired service

- Compressed air energy efficiency audit
- Analysis of the compressed air generation
- Compressed air quality analysis
- Pressure drop analysis
- Machine analysis for energy efficiency
- Pneumatics sustainability check

Comments

### Analysis of the compressed air generation

Benefits

- Manufacturer-independent measurement
- Transparency about total energy consumption
- Awareness about output reserves



### Notes:

- With some services selected you might need to enter more information about your factory
  - If you are not able enter all the information, you can still create a request with just customer information. After you send you request, a FESTO service provider will contact you and help you finish the request.
4. Please fill in the atmospheric conditions at the compressor room.
    - Temperature
    - Humidity
    - Altitude above sea level

## Atmospheric conditions at the compressor room

|                              |             |             |             |             |
|------------------------------|-------------|-------------|-------------|-------------|
| Temperature [°C]             | Spring [°C] | Summer [°C] | Autumn [°C] | Winter [°C] |
| Humidity [%]                 | Spring [%]  | Summer [%]  | Autumn [%]  | Winter [%]  |
| Altitude above sea level [m] |             |             |             |             |

### 5. Fill in the working time and costs information

- If the air supply is switched off at the end of production time, please click the checkbox
- Currency symbol is taken from your country selection, if you wish to use a different currency you can change it.
- For working time in hours per day during the week from Monday to Friday please fill in the working hours for one typical day. For example, Monday-Friday – 8 working hours.

Is the air supply switched off at the end of the production time?

**Energy costs**

Costs per kWh [global/kWh]\*

**Working time in hours per day**

Monday - Friday\*      Saturday\*      Sunday\*

### 6. Please fill in the compressor details

Press the “+” icon to add a new compressor.

Please fill in the required information for every installed compressor:

- Nominal power
  - according the technical data
- Capacity
  - according the technical data
- Workload Monday-Friday
  - typical workload in % of the compressor per day during the week
- Workload Saturday
  - typical workload in % of the compressor per day at Saturday
- Workload Sunday
  - typical workload in % of the compressor per day at Sunday
- Full load pressure
  - according the technical data
- Operating pressure
  - outlet pressure adjusted. At load/unload compressors corresponds to the average pressure of these two stages
- Control type
  - “Load/Unload” or “Variable speed”

Compressors

| Nr. | Nominal power [kW]   | Capacity [m <sup>3</sup> /min] | Workload Monday-Friday [%] | Workload Saturday [%] | Workload Sunday [%]  | Control type         | Full load pressure [bar] | Operating pressure [bar] |
|-----|----------------------|--------------------------------|----------------------------|-----------------------|----------------------|----------------------|--------------------------|--------------------------|
| 1   | <input type="text"/> | <input type="text"/>           | <input type="text"/>       | <input type="text"/>  | <input type="text"/> | <input type="text"/> | <input type="text"/>     | <input type="text"/>     |

7. To create a service request, you must agree with Festo privacy policy

8. Press save

I have read and agree with the [Festo privacy policy](#)

You must agree with FESTO privacy policy otherwise our employees can not contact you.

9. If you do not have an account, you will be contacted by a Festo employee during the next 48 hours.

## 2 Register

If you don't have an account at Festo, please register giving your login information, user information, company data.

Automation | Didactic | Corporate

Products Solutions Support Technical education Journal About Festo Careers

Login Cart United States

Search for products, topics, or downloads

### Registration

Please choose your account type

**Express Account**  
For those who only need access to CAD data and product lists. Registration confirmation is immediate.

**Corporate Account**  
For those who need pricing, delivery times, order management, or full account features. Registration confirmation may take up to two business days.

**Only business customers**

**Your benefits with a Corporate Account.**

- Download CAD files in all common formats
- Create, upload, share & purchase BOMs & parts lists
- Check pricing & delivery information
- Place new orders online
- Create quotes & convert existing quotes into orders
- Check order status & view your quote & order history
- Download invoices, delivery notes & tracking info
- Create & view product repair requests & warranty claims

**Login information**

User ID (business e-mail)\*

Password\*

Repeat password\*

**User information**

Salutation\*

## 3 Licensing

The FESS Portal distinguish between service consumers and service providers (executors).

- Service consumers  
Users that have bought the execution of one or more modules of the Energy Saving Services. The results of the executed services will be available at the Portal. The service consumers will have read-only access and don't need a license to access to the results of the executed services
- Service providers (executors)  
Companies that execute one or more modules of the Energy Saving Services. These companies can be end users or can be service providers as a service product. The service executors require a license in order to be able to generate service projects.

Festo offers two type of licenses for companies that execute the services. The licenses are company related and not users related. It means, that unlimited number of users can have access to the Portal. Following are the two type of licenses that Festo offers:

- a. Project based license – 1 project per license  
With one license, the service executor can execute one service project
- b. Time based license – 1 year with undefined number of projects per license  
With the license for one year, the service executor can do unlimited number of projects in this period of time.

The application app for mobile devices is available for all users in read only mode. With the licenses, the users will have write access for the on-site data acquisition.

The licenses are available at the Festo App World platform.

Licensing information can be viewed in “**Service provider**” options.

## 4 Service provider settings

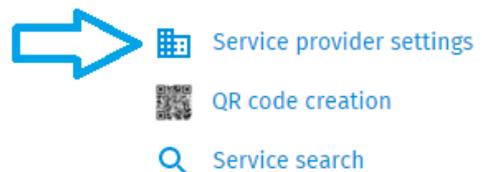
To create a service request a service provider must be selected  
Each country has its FESTO service provider, but individual users can also create their own service executors.

### 4.1 Creating or editing a service provider

1. To create a new Service provider (an executor) press the Service provider settings button in the main page:

## Become an executor!

You do not need to be assigned to an executor  
Become an executor yourself by creating one in the  
executor settings page and audit your factory yourself!  
Please contact FESTO for more information



2. In the service provider settings either select a service provider you wish to edit or create your own personal service provider.

**Notes:**

- You are only able to see service providers that are assigned to you
- Only FESTO admins can delete Festo service providers



If you are editing an already existing service provider skip to step 4.

3. Fill in the required information to create your new service provider and press save:

- Company name (service provider)
- Country
- Address
- City
- Telephone number
- Contact person
- E-mail

4. Select your newly created service provider and start to fill in the required information:

- Print Size
- Service type
- Co2 emissions factor
- Currency symbol

**Leakage detection costs**

For the calculation of the total costs of a leakage detection of every project, the following basic information is required:

- Leakage detection costs per day
- Labor costs per hour
- Travel time costs per hour
- Replacement parts costs
- Costs per distance
- Lump sum (Hotel and expenses costs)

**Payback time**

- Service lifetime of the equipment in years
- Tax on profit %

**Restricted settings**

- Leakage volume per day
- Average repair time per leakage
- Savings per 1 bar reduction
- Nr. of leakages detected per day and per technician
- Total working hours per day

## Add/Edit service provider user

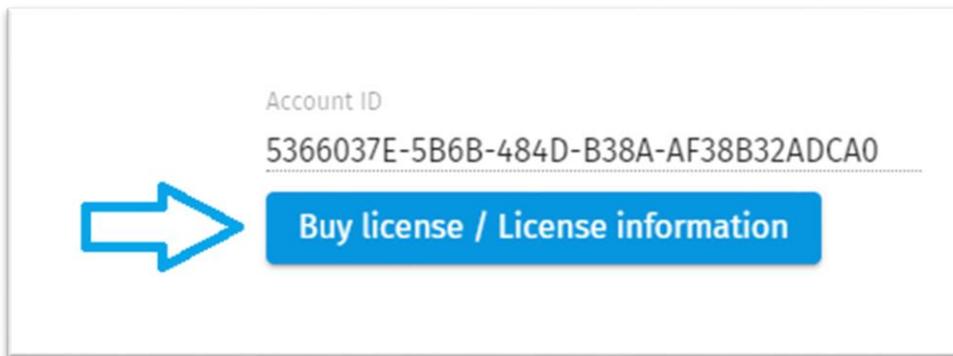
You may add one or more users for service provider and define the user's role. User's role will influence the user's accessibility to the projects created for that particular service provider. The following basic information is required for service provider user creation:

- First name
- Last name
- E-Mail
- User role

When all required information is filled in, press save button at the end of the page. These settings will now be used on all new projects that are created for that particular service provider.

## 4.2 Service provider licensing information

1. To view a specific service provider's available licenses go to Service provider settings
2. Select a specific service provider
3. Press the Buy license / License information button



In this form you can see the following information:

Account ID - Your id used to purchase licenses in app world

### Licenses per project

In the bellow table you can see the available licenses:

- Leakage detection – number means how many single use licenses are still available
- Full audit - number means how many single use licenses are still available

### Subscriptions

- Leakage detection – checkbox and date shown if the subscription is still valid and when it will expire
- Full audit - checkbox and date shown if the subscription is still valid and when it will expire

## Buy license / License information

Gloabl Executort

Account ID  
5366037e-5b6b-484d-b38a-af38b32adca0

---

[Buy license](#)
[Activate license](#)
[Add licenses](#)

### Licenses per project

| Service type      | Availability |
|-------------------|--------------|
| Leakage detection | 0            |
| Full audit        | 1            |

### Subscriptions

| Service type      | Availability | Expiration date |
|-------------------|--------------|-----------------|
| Leakage detection |              |                 |
| Full audit        |              |                 |

## 5 Service request/Project view

Notes:

To view this page user must have a FESTO account!

This is the Service request/projects overview page

In this page you can:

- Create new service request
- Edit service requests
- Transform service request into projects
- Edit available projects
- Create QR codes (more about QR codes in chapter 5.3 Creating QR codes ([reference](#)))
- Find components by their Id. Code or QR code

This chapter will go over each of the above-mentioned features

Home > Projects and requests



**Festo Global**  
 Zeppelinstraße 111  
 Esslingen am Neckar1  
 Ignas1  
 +12121  
 sarunas.urlakis@festo.com

- Service provider settings
- QR code creation
- Service search

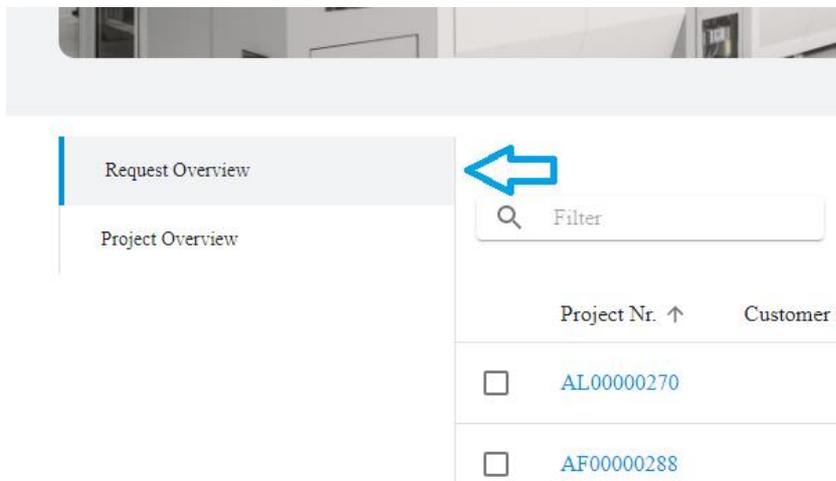
Request overview  
 Project overview

Filter

| Project Nr.                         | Service provider | Customer number | Company name          | Customer city | Customer country | Service type | Contact person              | Created date | Last change date ↑ | Status      |
|-------------------------------------|------------------|-----------------|-----------------------|---------------|------------------|--------------|-----------------------------|--------------|--------------------|-------------|
| <input type="checkbox"/> DE00002789 | Festo Global     |                 | ProjectComponentsTest | city          | DE               |              | testas@testas.com           | 6/16/2023    | 6/16/2023          | In progress |
| <input type="checkbox"/> AX00002780 | Festo Global     |                 | Festo                 | asd           | AX               |              | ignas.leonavicius@festo.com | 6/16/2023    | 6/16/2023          | In progress |

## 5.1 Creating or editing a new service request

1. Go to Request overview by pressing the Request overview button



Request Overview  
 Project Overview

Filter

Project Nr. ↑ Customer r

AL00000270

AF00000288

2. To create a service request press on the “+” icon in the service request list

| Customer country | Service type | Contact person  | Created date |
|------------------|--------------|-----------------|--------------|
| AL               |              | Tessa@the.teste | 2020-10-13   |
| AF               |              | asd@asd.it      | 2020-10-16   |

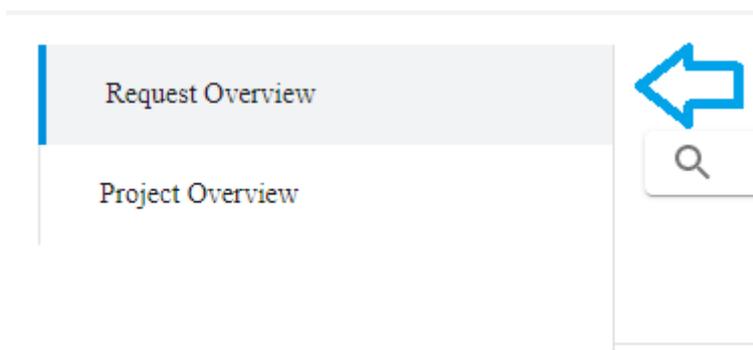
3. Go over all the steps described in [chapter 1](#) steps 2-8
4. There are two additional fields that are only available after a service request is created:
  - Leakage level + static air consumption level during production time [%]  
Input the leakage level of the plant in % that the customer observes based on the air consumption during the production time (this leakage level is not the total leakage level because it doesn't consider the leakages during the non-production time)
  - Leakage level during production time [%]

By pressing save, the system calculates the estimated days required for a leakage detection and displays the result at Nr. of days for the leakage detection field

5. Press the save button

## 5.2 Creating a project

1. To create a request into a project select the "Request overview" tab



2. Select a service request by clicking on their number

| Request Overview                    |                 |
|-------------------------------------|-----------------|
| Project Overview                    |                 |
| <input type="text" value="Filter"/> |                 |
| Project Nr. ↑                       | Customer number |
| <input type="checkbox"/>            | AL00000270 ←    |
| <input type="checkbox"/>            | AF00000288      |

- You will be directed to the service request page. If all the information is correct press the start project button at the bottom of the page



Cancel
 Save
Start project

- You will automatically be directed to your newly created project

To continue editing a project please go to [Chapter 6 - "Projects – full audit"](#)

### 5.3 Creating QR codes

QR or Id. Codes are used to identify specific components in the system  
The creation tool can be found in the main project selection pages header

- To start generating QR codes press the "QR code creation" button

## Festo Global

Zeppelinstraße 111  
Esslingen am Neckar1

Ignas1  
+12121  
sarunas.urlakis@festo.com



-  Service provider settings
-  QR code creation
-  Service search

- In the new form type in how many new QR codes do you need and press "Generate"

### QR code creation

Enter number of QR codes you want to create (per page: 24 codes in A4 format / 21 codes in letter format)

[Download labels template](#)

Quantity\*  
15

[Generate](#)

3. A pdf file named "FESS\_QRCODES.pdf" with your generated QR codes will be downloaded to your computer.



4. These Qr. codes can now be used for projects.
5. An option to download an empty labels template is also available and can be found after pressing "QR code creation" button in the QR code creation popup window. Press Download labels template button and a pdf file named "QrCodeTemplateA4.pdf" will be downloaded.

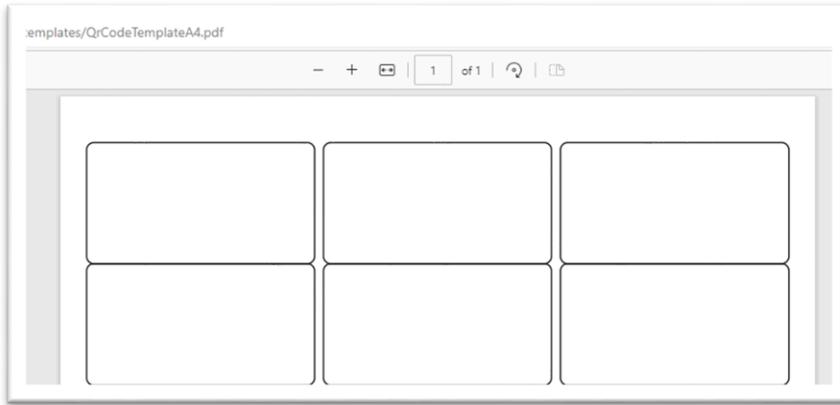
### QR code creation

Enter number of QR codes you want to create (per page: 24 codes in A4 format / 21 codes in letter format)

[Download labels template](#)

Quantity\*  
15

[Generate](#)



**Notes:**

- Each detected dryer, compressor, leakage and other components must have an Id. Code.
- Id codes cannot be assigned randomly, first they must be created in the system and only then they can be used
- A maximum of 1000 QR codes can be generated at once.
- The QR codes will be printed based on the size of the page that you have selected (A4 or US-Letter)

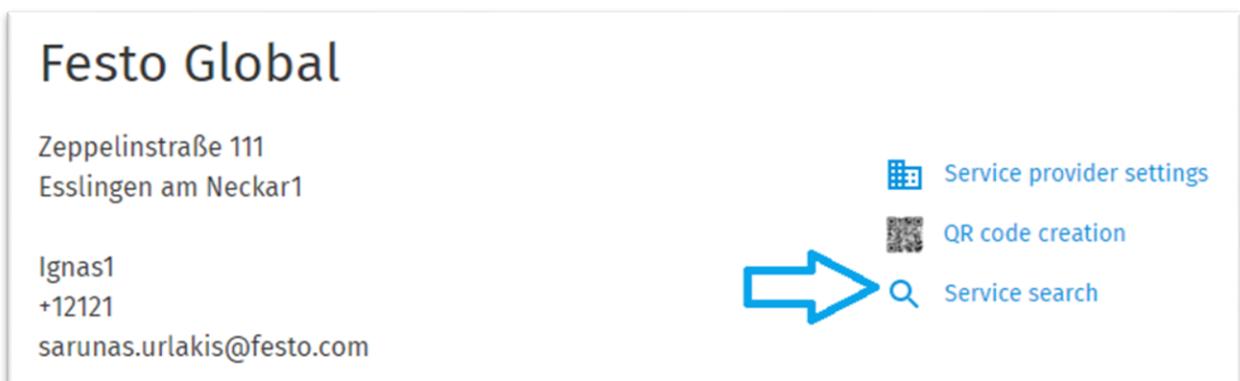
#### 5.4 Service search (Components search)

Users are also able to search for specific components in the system without having the trouble of searching for them in the FESS portal manually.

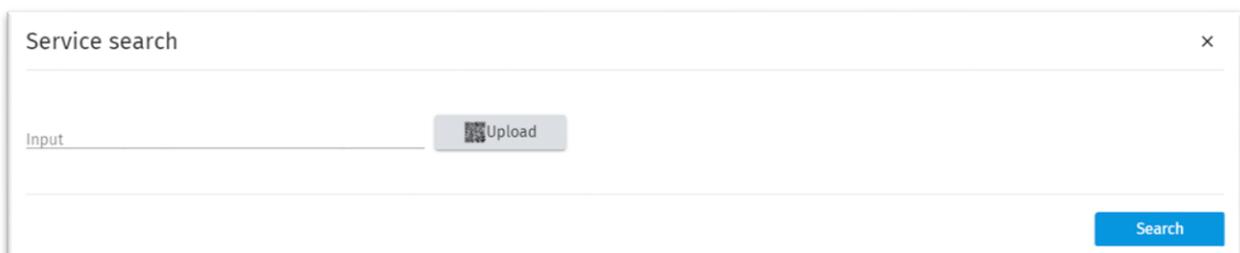
As mentioned in [Chapter 5.3](#) every created component has a unique Id. Code

To search for these components simply input the components id code or upload it as a QR code in the FESS component search tool:

1. Press the “Service search” button



2. Type in the Id. Code or upload a QR code of the component and press “Search”



- If you are able to access the project with the required component you will be directed to that page.

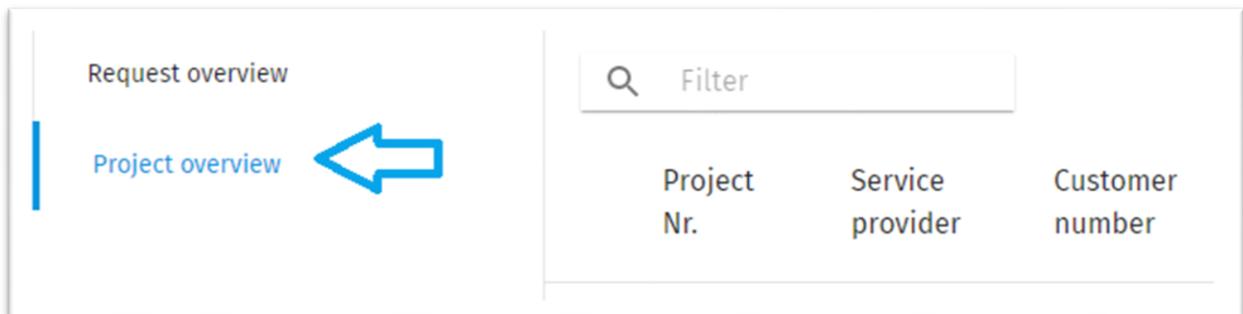
Notes:

- User can only search for the component that he/she is allowed to see
- If you should be able to access that component but the system says that you don't have permission to view that item, please contact your system administrator.

## 6 Projects – full audit

In this chapter it will be explained how to correctly fill in the project information and what each project tab is for.

Go to the Project overview window and filter the project you wish to edit. Click on the desired project's number:



| Project Nr.                         | Service provider | Customer number | Company name | Customer city | Customer country | Service type | Contact person  | Created date | Last change date | Status      |
|-------------------------------------|------------------|-----------------|--------------|---------------|------------------|--------------|-----------------|--------------|------------------|-------------|
| <input type="checkbox"/> AL00002207 | Festo Global     | No123456987     | Testompany   | Testy         | AL               |              | Test@tester.com | 5/8/2023     | 6/21/2023        | In progress |

### General notes for filling out all forms:

- Each of the mentioned component requires a valid and unique Id. Code created in [chapter 5.3](#)

- Compressors
- Dryers
- Air quality measurements
- Air Networks
- Air receivers
- Pressure drop analysis
- Optimization of applications
- Leakages

Further we will get more into each form specifically

- All forms allow you to add comments. All comments and pictures will be considered to the generation of the printed report of results

## Comments

🗑️
+

There are no uploaded images!

3. All forms allow you to add up to 5 pictures. These pictures can be used to upload pictures of your analyzed components or uploading QR codes.

To upload a picture press the "+" icon at the end of every form.

🗑️
+

**FestoEnergySavingServices**

**Measurementpoint**

[FestoEnergySavingIndex](#)  
[FestoEnergySavingApp](#)  
[FestoEnergySavingPortal](#)  
[FestoContactPerson](#)



QR code

Cancel
Save
Save and copy
Save and insert New

4. All forms allow you to add Replacement parts. To add a replacement part press the "+" icon located at the right corner of every Replacement parts table. Required information to fill in for Replacement parts is: Component, Manufacturer and Quantity.

### Replacement parts

☰
🗑️
+

| Nr.                          | Part number | Type code | Component | Manufacturer | Quantity | Order spare part |
|------------------------------|-------------|-----------|-----------|--------------|----------|------------------|
| Rows per page: 10   0-0 of 0 |             |           |           |              |          |                  |

#### Replacement parts

| Nr.                      | Part number |
|--------------------------|-------------|
| <input type="checkbox"/> | 1 5677      |
| <input type="checkbox"/> | 2 94\]]5    |

#### Defect part

Component \*

Manufacturer \*

Replace with a different replacement part

Order spare part

Cancel
Save
Save and insert new

5. In each form you can choose how you want to proceed with filled in information after the form is completed:

- **Cancel** – brings you back to the main tab
- **Save** – saves all your changes
- **Save and copy** – saves all your changes and creates another component with the same information except for Id. Code
- **Save and insert new** – saves all your information and opens up a window to create a new component

## 6.1 Project settings

The information of this tab is automatically taken from your service provider settings upon project creation. Additionally, new information should be added here to fully complete the form:

- Project name – the name of your specific project
- Service order number – SAP order number
- Customer number – your customer number
- Travel time – The time it takes to travel to the customer and back
- Travel distance – the distance to the customer and back

You can also add read only access to the project to other users in the system  
To do this add a new email address in the Customer access table:

### Customer access (read-only mode)

|                          | Nr. | E-Mail        |   |
|--------------------------|-----|---------------|---|
| <input type="checkbox"/> | 1   | <u>E-Mail</u> |  |

The added user will now have read only access to the project.

The project can be transferred to a different provider as well:

To do this select a wanted service provider from the dropdown list in the “Transfer the project to:” field:

**Transfer the project to:**

Service provider 



Additional information is available for service provider admins – Project user access log, which allows to see what user and when logged in into particular project:

- Press a button “Print project user access log” located at the bottom of the Project settings page
- A csv file named “project-user-access-log” will be downloaded to your computer
- A file contains information of the user’s name, e-mail address and the time stamp of when the project was accessed

[Print project user access log](#) 

## 6.2 General information



The information that was entered during service request creation shall be displayed here. There is additional information that must be filled to complete this form:

- Utilization of the compressed air – Pneumatic tools, Pneumatic machinery and Process all together should add up to 100%
- When was the last maintenance done? – the date of when the last maintenance was done
- How often is the maintenance done? – how frequently is the maintenance done
- When was the last leakage detection done? - the date of when the last leakage detection was done

Air supply time and Heat of the compressors options can be marked as well (not mandatory) according to the customer's needs. If Heat of the compressors is checked, additional information of where the heat can be used should be provided:

### Air supply time

Is the air supply switched off at the end of the production time?

### Heat of the compressors

Is it possible to recover and use the heat of the compressors?

Where can it be used?

At least one processing option must be selected

Heating

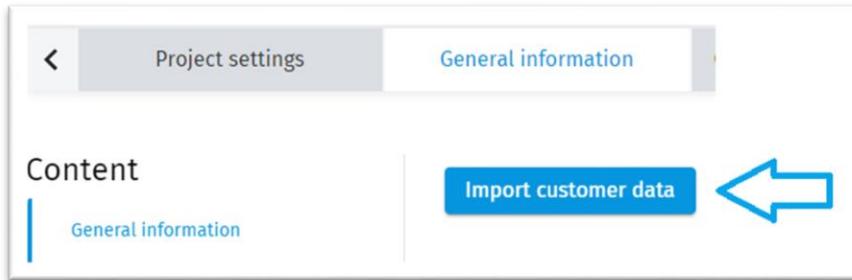
Hot water generation

### 6.2.1 Import customer data

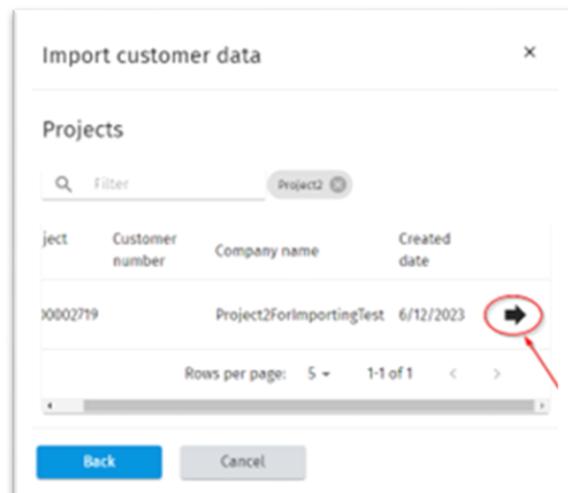
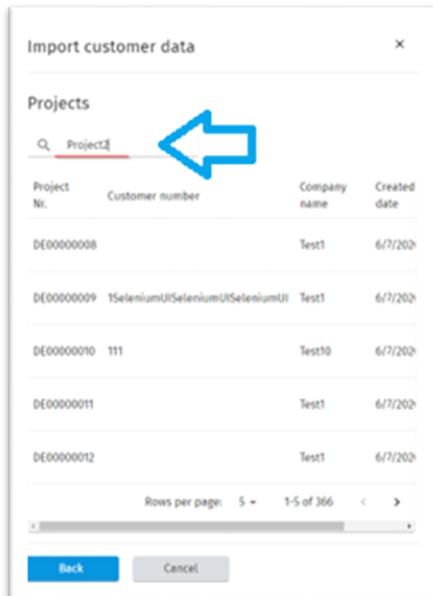
Customer data can be imported from one project to another by pressing Import customer data button located at the top left corner of General information window.

In order to import customer data, following steps should be completed:

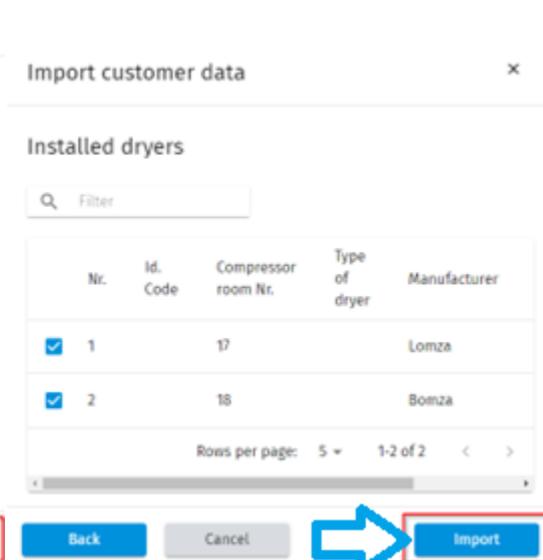
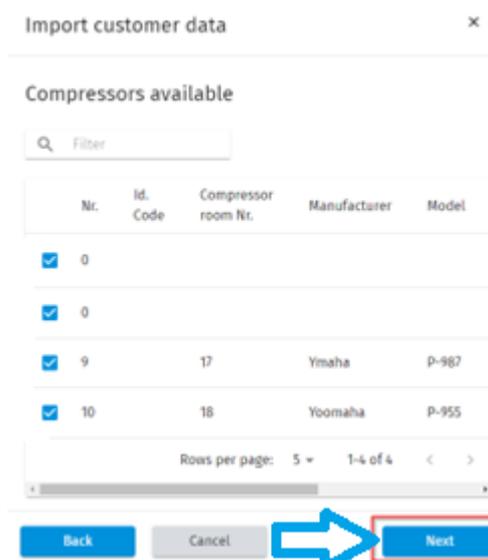
1. Press "Import customer data" button



2. Enter in Filter field a reference of the project from which you want to import the data into your present project and press "Enter"



3. Click an arrow shaped button, located on the right in the filtered project row
4. Click button "Next" and then button "Import"



After customer data importation all general information of your current project should be changed according to the project you imported the data from including the company name, the number of compressors, dryers etc.

Press save button located at the bottom of the General information window after all desired changes are made.

## 6.3 Compressed air generation

Compressed air generation tab consists of all the information that is required to analyze your factories compressors activity.

### 6.3.1 Add Individual compressor

1. To add a new individual compressor, press the “+” icon at the “Compressors available” table

Compressors available

⌵ ⊕

| Nr.                      | Id. Code | Compressor room Nr. | Manufacturer | Model | Year | Compressor type | Control type                                     |
|--------------------------|----------|---------------------|--------------|-------|------|-----------------|--|
| <input type="checkbox"/> | 0        |                     |              |       |      |                 | Load/Unload <span style="float: right;">✎</span> |

Rows per page: 10 ▾ 1-1 of 1 < >

2. You will be redirected to the compressor creation page
3. Enter the Id. Code of the newly created compressor. You can manually put in the number or press “Generate Id. Code” button and let the system to generate it for you.

### Compressors available

Id. Code \*

Generate Id. Code

4. Please fill in all the required information in the form

### Location

Compressor room Nr – the room number of where the specific compressor is located

### Technical data

Manufacturer - the manufacturer of the compressor

Model - the model of the compressor

Year - The make year of the compressor

Compressor type - screw, piston, turbo or rotary Vane

Control type - Load/Unload or Variable speed

Nominal power – Power of the compressor based on the technical data

Capacity at full load pressure – air flow capacity at the rated full pressure

Full load pressure – rated full load pressure

Operating pressure – average pressure at which the system runs-

Last maintenance – the last maintenance date for this compressor

### Workload of the compressors

Monday – Friday - workload of this compressor during Monday – Friday. Should be entered as a percentage

Saturday - workload of this compressor during Saturday. Should be entered as a percentage

Sunday - workload of this compressor during Sunday. Should be entered as a percentage

5. If needed there is a possibility to attach multiple replacement parts to a specific compressor

Replacement parts

⌵ ⊕

| Nr.                      | Part number | Component | Manufacturer | Replacement                                     |
|--------------------------|-------------|-----------|--------------|---|
| <input type="checkbox"/> | 1           | 6412      | Fitting      | FESTO 6412 <span style="float: right;">✎</span> |

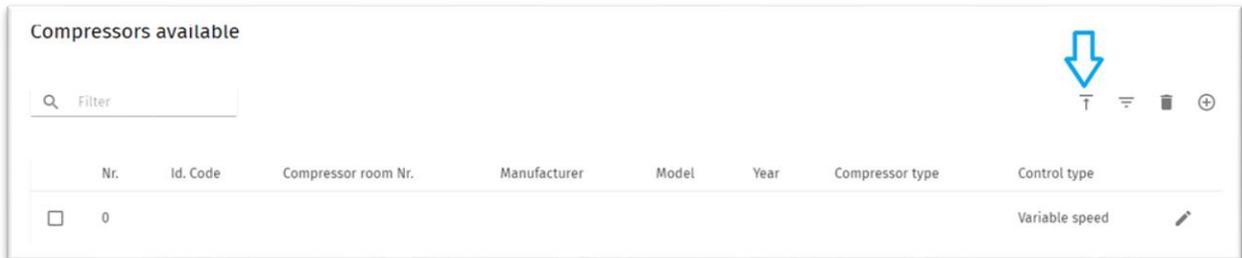
Rows per page: 10 ▾ 1-1 of 1 < >

- When the form is completed, you may proceed with pressing either Cancel, Save, Save and copy or Save and insert new button ([reference](#): 6 Projects – full audit, General notes for filling out all forms)

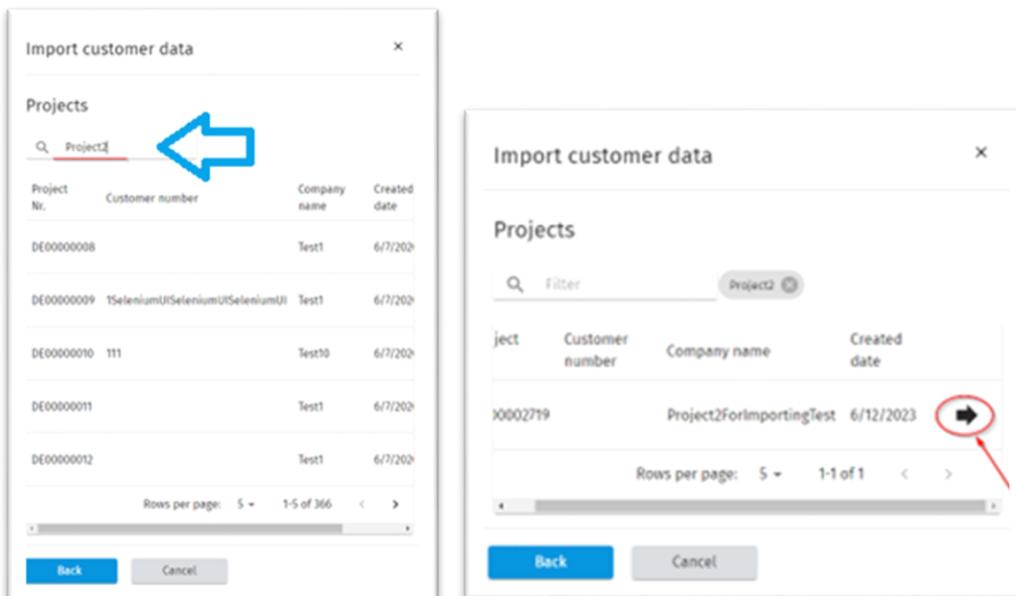
## 6.3.2 Import Individual compressor

Individual compressor can be imported to your current project from a different project.

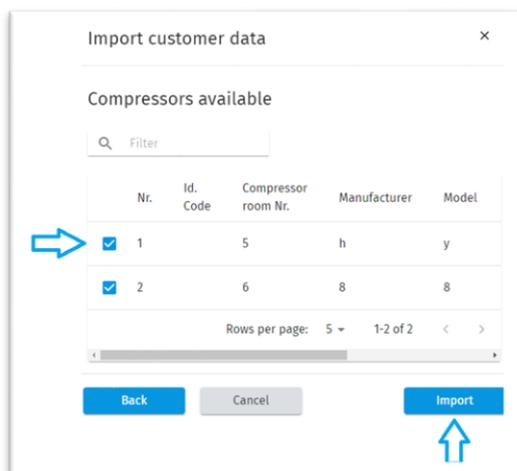
- To import an individual compressor from another project, press the up facing arrow button at the “Compressors available” table



- Enter in Filter field a reference of the project from which you want to import the data into your present project and press "Enter"

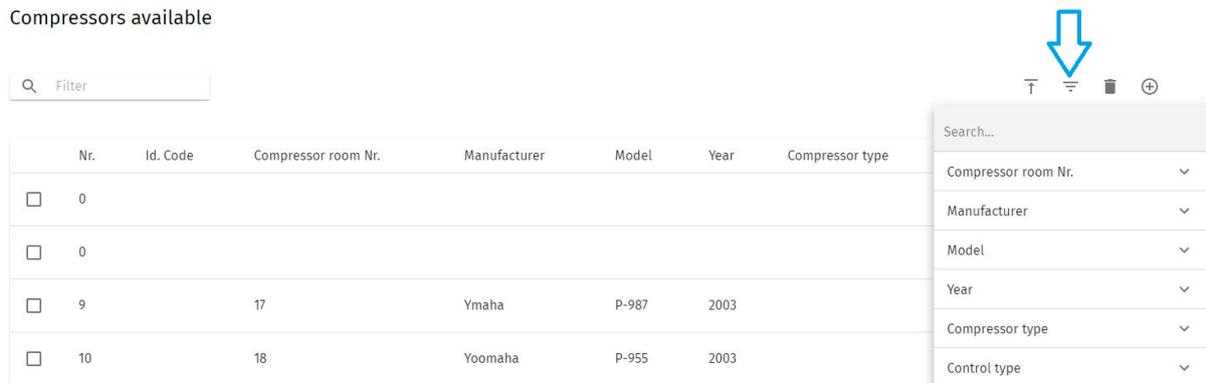


- Click an arrow shaped button, located on the right in the filtered project row
- Check the compressors you want to import into your current project and press “Import” button
- Imported compressors should appear in the Compressors available table in your current project



All compressors added to the Compressors available table can be filtered by: Compressor room Nr., Manufacturer, Model, Year, Compressor type, Control type. To filter the compressor press filter button at the “Compressors available” table:

Compressors available



The screenshot shows a table with the following columns: Nr., Id. Code, Compressor room Nr., Manufacturer, Model, Year, and Compressor type. The table contains four rows of data. A filter dropdown menu is open on the right side of the table, showing a search bar and several filter options: Compressor room Nr., Manufacturer, Model, Year, Compressor type, and Control type. A blue arrow points to the filter icon in the table's toolbar.

| Nr.                      | Id. Code | Compressor room Nr. | Manufacturer | Model | Year | Compressor type |
|--------------------------|----------|---------------------|--------------|-------|------|-----------------|
| <input type="checkbox"/> | 0        |                     |              |       |      |                 |
| <input type="checkbox"/> | 0        |                     |              |       |      |                 |
| <input type="checkbox"/> | 9        | 17                  | Yamaha       | P-987 | 2003 |                 |
| <input type="checkbox"/> | 10       | 18                  | Yoomaha      | P-955 | 2003 |                 |

## 6.4 Air quality

In this tab the air quality of the air will be analyzed. For the analysis the installed dryers will be considered as well as the installation of them to the compressors. To correct the technical data of the dryers to the operating conditions of the system, the summer temperature and the operating pressure of the system are considered.

### 6.4.1 Installed dryers

Please give the location and technical data and the number of the compressors that are connected to the dryer:

#### Location

- Compressor room nr.

#### Technical data

- Manufacturer
- Type of dryer
- Model
- Year
- Capacity dryer
- Inlet air temperature

### Assigned compressors

Please select the compressors that are assigned to that dryer

When the form is completed, you may proceed with pressing either Cancel, Save, Save and copy or Save and insert new button ([reference](#): 6 Projects – full audit, General notes for filling out all forms)

Dryers can be imported and filtered the same way Compressors can. Dryers can be filtered by: Type of dryer, Manufacturer, Model, Year, Inlet Air temperature. How to filter or import dryers refer to the chapter [6.3.2](#) and perform the steps defined in this section.

### 6.4.2 Air quality measurement

In this table everything should be selected according to the provided table Particle, Dew point, and Oil content will be selected automatically depending on your class selections

| ISO 8573-1:<br>2010 | Solid particles   |            |           |                    | Water                        |                  | Oil  |
|---------------------|---|------------|-----------|--------------------|------------------------------|------------------|--|
|                     | Maximum number of particles per m <sup>3</sup>                          |            |           | Mass concentration | Vapour pressure dew point °C | Liquid           | Total oil content (liquid, aerosol and mist) |
|                     | 0.1 – 0.5 µm  | 0.5 – 1 µm | 1 – 5 µm  | mg/m <sup>3</sup>  |                              | g/m <sup>3</sup> | mg/m <sup>3</sup>                            |
| 0                   | As stipulated by the equipment user, stricter requirements than class 1 |            |           |                    |                              |                  |  |
| 1                   | ≤ 20,000  | ≤ 400      | ≤ 10      | –                  | ≤ -70                        | –                | 0.01   |
| 2                   | ≤ 400,000   | ≤ 6,000    | ≤ 100     | –                  | ≤ -40                        | –                | 0.1  |
| 3                   | –   | ≤ 90,000   | ≤ 1,000   | –                  | ≤ -20                        | –                | 1  |
| 4                   | –   | –          | ≤ 10,000  | –                  | ≤ +3                         | –                | 5  |
| 5                   | –   | –          | ≤ 100,000 | –                  | ≤ +7                         | –                | –  |
| 6                   | –   | –          | –         | ≤ 5                | ≤ +10                        | –                | –  |
| 7                   | –   | –          | –         | 5 – 10             | –                            | ≤ 0.5            | –  |
| 8                   | –   | –          | –         | –                  | –                            | 0.5 – 5          | –  |
| 9                   | –   | –          | –         | –                  | –                            | 5 – 10           | –  |
| X                   | –   | –          | –         | > 10               | –                            | > 10             | > 10   |

0 – Allows you to input free text

1-5 – automatically assigns the values according to the table

“Measured” and “Result” inputs are always free text

Please fill in the inputs:

- Location
- Particle
- Dew point
- Oil content

Then press either of these buttons: Save, Save and copy, Save and insert new ([reference](#): 6 Projects – full audit, General notes for filling out all forms)

After all desired information is filled in in Air quality window press the button “Save” located at the end of the page.

## 6.5 Pressure drop analysis

In this tab the air network of the system will be analyzed. For that the layout of the air network will be considered, as well as the total air storage capacity including the piping. To determine the reasons of possible pressure losses the point of use, a pressure drop analysis can be done installing several pressure sensors at the output of the compressors room and the critical points of use.

### 6.5.1 Air network

### Air network

Generate Id. Code

Please add the required information about the air network:

- Name – the name of the specific air network
- Building – the building in which the air network is located
- Pipe diameter – diameter of the air network

- Layout of the air network – open layout or close or ring layout
- Pipe material – the material of which the pipe is made of
- Length of the air network – The physical length of the air network

You will also be shown the pipe volume after you save the information. “Save and copy”, “Save and insert new” options are also available ([reference: 6 Projects – full audit, General notes for filling out all forms](#)). Air networks can be filtered in the table by: Name, Building, Layout of the network, Pipe material after “Filter” button located at the top right corner of the table is clicked.

## 6.5.2 Air receivers

### Air receivers

Generate Id. Code

Please add the required information about the air receiver

### Location

- Building – the building where the receiver is located
- Department – the department where the air receiver is located
- Machine – the name of the machine

### Technical data

- Volume air receiver – volume of the air receiver
- Working pressure – the working pressure of the air receiver
- Year – The make year of the air receiver
- Last inspection – date of when the air receiver was last inspected

When the form is completed, you may proceed with pressing either Cancel, Save, Save and copy or Save and insert new button ([reference: 6 Projects – full audit, General notes for filling out all forms](#))

## 6.5.3 Pressure drop analysis

### Pressure drop analysis

Generate Id. Code

Date \*

06/20/2023

Detected by \*

Business Fox

Add the required information

- Id code
- Name of the air network

Note: At least one compressor must be selected in Assigned compressor rooms table

### Pressure drop analysis

- Setpoint pressure at the outlet of the compressor, Average pressure that the compressor has to achieve
- Before dryer and filter – absolute (Minimal pressure, Maximal pressure, Average pressure) Pressure obtained at the inlet of the dryers. If it is not possible to obtain this pressure, type-in the setpoint pressure at the outlet of the compressor
- After dryer and filter – absolute (Minimal pressure, Maximal pressure, Average pressure) Pressure at the outlet of the compressor room. Typically measured at the air tank of the compressor room
- After dryer and filter – relative (Expected pressure drop)
- Production – absolute (Minimal pressure, Maximal pressure, Average pressure)
- Production – relative (Expected pressure drop)

### Pressure level analysis

- Setpoint pressure at the output of the compressor
- Suggested setpoint pressure at the output of the compressor

When the form is completed, you may proceed with pressing either Cancel, Save, Save and copy or Save and insert new button ([reference](#): 6 Projects – full audit, General notes for filling out all forms)

## 6.6 Machine analysis for energy efficiency

Compressed air applications (points of use) are analyzed with respect of the air consumption. With this tab is possible to quantify the actual air consumption and the yearly costs of selected applications as well as to estimate the yearly savings (air consumption, costs and CO2 emissions) that can be obtained optimizing the solution of the application.

### 6.6.1 Application

This table summarizes the savings in air flow and air volume as well as the monetary savings. With the total cost for the implementation of the optimizations is possible also to calculate the payback time. This figure is important for the prioritization of the implementation of the optimizations.

Air consumption optimization at single applications

| Nr.                      | Id. Code | Building | Department | Machine | Savings Flow rate [Nm <sup>3</sup> /min] | Savings volume per year [m <sup>3</sup> ] | Savings costs per year [EUR] | Total investment [EUR] | Payback time in months |
|--------------------------|----------|----------|------------|---------|--|---|------------------------------|------------------------|------------------------|
| <input type="checkbox"/> | 1        |          |            |         | 7600                                     | 159600                                    | 2827                         | 130                    | 0.7                    |
| <input type="checkbox"/> | 2        |          |            |         | 175                                      | 88200                                     | 1562                         | 130                    | 1.2                    |
| <input type="checkbox"/> | 3        |          |            |         | 216                                      | 108696                                    | 1925                         | 130                    | 1.0                    |
| <input type="checkbox"/> | 4        |          |            |         | 50                                       | 25200                                     | 446                          | 20                     | 0.6                    |

Rows per page: 10 ▾ 1-4 of 4 < >

Please fill in the required information for every single application that will be improved:

Please fill in the id code

**Application Nr**

Id. Code \*

## Location

- Building
- Department
- Machine

## Actual and Future savings

- Pressure
- Flow per cycle
- Cycle time
- Nr. of cycles per minute
- Quantity of components
- Operating hours per day
- Operating days per week

## Investment costs

- Labor costs
- Travel time costs
- Replacement parts costs
- Travel costs
- Lump sum

When the form is completed, you may proceed with pressing either Cancel, Save, Save and copy or Save and insert new button ([reference](#): 6 Projects – full audit, General notes for filling out all forms)

## 6.7 Estimation of leakages in the plant

In this tab a detailed costs analysis of the leakages of a plant will be executed. Starting point of the analysis is **Costs per unit** - the calculated costs per m<sup>3</sup> based on the operating conditions of the installed compressors.

### Estimation of the leakages in the plant and their costs per year

- Yearly consumption  
Based on the installed compressors and consumption behavior, the yearly compressed air consumption is considered as basis for the quantification of the leakages
- Static consumption  
It considers the detectable and non-detectable leakages as well as the required permanent air consumption
- Leakage level  
Air consumption of leakages that can be detected. This air consumption is the basis for the savings
- Future static consumption  
It shows the reduction of the static consumption after the detectable leakages (leakage level) will be fixed.

### Estimation of leaks detection and repair costs

This table analyses the total costs incurred when a leakage detection abroad the plant will be executed

- Leakage detection costs  
The tool estimates the days required for a leakage detection based on the estimated air flow of the leakages
- Labor costs to repair the leakages  
The tool estimates the total time required to fix the leakages
- Replacement parts costs  
The tool estimates the number of leakages that would be detected and based on that it calculates the total costs or the replacement parts
- Lump sum  
The tool calculates the number of days required for the leakage detection and for the repair and based on that it calculates the hotel and expenses costs

- Travel time costs  
Based on the travel time given in the “project settings” tab, the costs will be calculated
- Travel costs  
Based on the distance given in the “project settings” tab, the travel costs will be calculated
- Estimation of leaks detection and repair costs  
Is the sum of all the costs

## Estimation of annual after-tax savings

The tool calculates the payback time considering the taxable savings that will be obtained.

## 6.8 Pneumatics sustainability check

In this tab will be documented every single leakage that will be detected, and all the relevant information required to fix efficiently the detected leakage. For the prioritization of the leakages, the flow of the leakage will be estimated based on the ultrasonic device used as well as the yearly costs and CO2 related emissions.

It is possible to view and download the registered leakages in Excel or PDF formats.

You can do this by pressing one of the 2 buttons at the bottom of the Pneumatics sustainability check tab

- Print leakage list – Opens up your list of leakages in PDF format
- Leakage excel – opens the list of leakages in Excel format



## Costs and savings

This table summarizes the total detected leakages and the repair progress of them. It shows in general the following information

- Flow rate - Leakages
- Air consumption per year
- Leakage level
- Energy consumption per year
- CO2 emissions per year
- Costs per year

## Results

This table is for the prioritization of the repair of the leakages. Every leakage is classified in three categories depending on the estimated air flow losses: high, medium and low. It shows also the so called “optimizations”, products that are not relevant for the quantification of the leakages but that have to be considered to be fixed

## List of leakages

This table shows all the single leakages that have been detected. With the filter and search function it is very easy to find the desired leakages

List of leakages and inspections



## 6.8.1 Leakage detection / pneumatic inspection

This tab is used to identify specific leakages in the system.

To add a new leakage, press the “+” icon in the List of leakages and inspections table

List of leakages and inspections

REPAIRED

| Nr.                      | Id. Code | Classification | Repairable during production time? | Action required | Repaired? | Costs per year [global] | Building | Department | Machine | Date       |
|--------------------------|----------|----------------|------------------------------------|-----------------|-----------|-------------------------|----------|------------|---------|------------|
| <input type="checkbox"/> | 1        | 12151646 High  | No                                 | Revision        | No        | 939.852                 | Annex    | Packing    | Pusher  | 06/01/2023 |

Rows per page: 10 1-1 of 1

In the newly opened form please fill in the required information:

Leakage detection / pneumatic inspection

Nr. \_\_\_\_\_

Id. Code \* \_\_\_\_\_

### Location

- Building
- Department
- Machine

### Technical data

- Leakage detection device
- Action required
- Input value
- Repair time in minutes

## 6.9 Saving potentials

This tab shows a summary of all the analyzed areas of the compressed air system divided in savings activities. Every table shows in general the numeric results of the actual situation, the expected future situation if the proposed optimizations expressed as savings will be implemented.

Every table has 7 columns. The first column is specific for each saving activity. This specific column to the saving activity is not available at the last table “Cumulated total savings”. The other 6 columns quantifies the following figures:

- Energy consumption per year
- Air consumption per year
- CO2 emissions per year
- Energy costs
- Total costs
- Level

The costs savings are analyzed through the following activities:

- Eliminate the leakages

- Shut-off the air supply at non-production time
- Reduce the pressure drop
- Reduce the pressure level
- Optimization of the air consumption
- Cumulated total savings (not added)

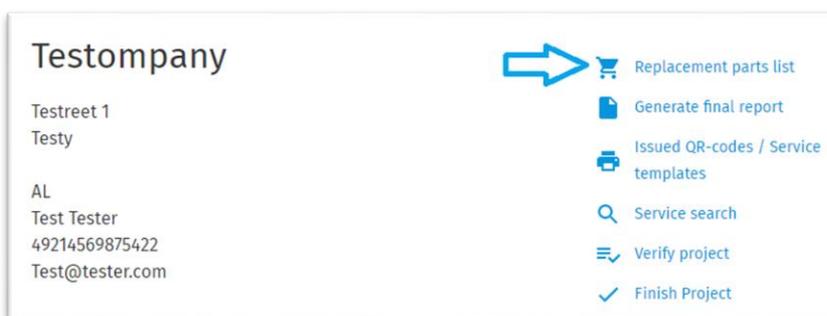
The table “Cumulated total savings” quantify the savings assuming that they have been implemented in the same sequence as they are presented in the table (cumulated). The savings obtained by the first saving activity affects the results of the next saving activity and so on. Due to that, the results of this table doesn’t corresponds to the sum of the results of the other tables. The results are much less as the sum of all of them.

## 7 Projects – Additional features

### 7.1 Replacement parts

Replacement part functionality is a powerful tool for you to control and gather up all your replacement parts in one place. This functionality also allows you to directly order your needed parts from FESTO according to your findings in the portal or to just create a list of the needed replacement parts if they should not be ordered from FESTO directly

1. To use the replacement parts tool, go to your project
2. In the top right corner press the replacement parts list button



3. Inside you will see a table that contains the following information about the project’s replacement parts:

- Service – which component the part belongs to
- Nr – number of the component in its individual list
- Id. Code – the Id code assigned to the specific component
- Location
  - Building
  - Department
  - Machine
- Defect part
  - Part number
  - Type code
  - Component
  - Manufacturer
- Replacement part
  - Part number
  - Type code
  - Component
  - Manufacturer
  - Quantity
  - Order spare part option

Replacement parts overview

Filter

| Service      | Nr. | Id. Code | Location |            |         | Defect part |           |                      |              | Replacement part |           |                      |              |          |                                     |
|--------------|-----|----------|----------|------------|---------|-------------|-----------|----------------------|--------------|------------------|-----------|----------------------|--------------|----------|-------------------------------------|
|              |     |          | Building | Department | Machine | Part number | Type code | Component            | Manufacturer | Part number      | Type code | Component            | Manufacturer | Quantity | Order spare part                    |
| Air receiver | 1   | 12151641 | 33       | handling   | pusher  | 12          | 123       | On-off valve         | kilop        | 12               | 123       | On-off valve         | kilop        | 1        | <input checked="" type="checkbox"/> |
| Air receiver | 1   | 12151641 | 33       | handling   | pusher  | 123         | 585       | Filter               | polku        | 123              | 585       | Filter               | polku        | 1        | <input checked="" type="checkbox"/> |
| Compressor   | 3   |          | 11       |            |         | 5155        | 5646      | On-off valve         | hnj          | 5155             | 5646      | On-off valve         | hnj          | 1        | <input checked="" type="checkbox"/> |
| Compressor   | 3   |          | 11       |            |         | 5353        | 65466     | Manometer            | hjj          | 5353             | 65466     | Manometer            | hjj          | 1        | <input checked="" type="checkbox"/> |
| Compressor   | 3   |          | 11       |            |         | 656         | 556       | Pressure regulator   | hmjk         | 656              | 556       | Pressure regulator   | hmjk         | 1        | <input checked="" type="checkbox"/> |
| Compressor   | 4   |          | 11       |            |         | 4545        | 45412     | Valve/valve terminal | hbmj         | 4545             | 45412     | Valve/valve terminal | hbmj         | 1        | <input checked="" type="checkbox"/> |
| Compressor   | 4   |          | 11       |            |         | 1525        | 545       | Fitting              | hmjm         | 1525             | 545       | Fitting              | hmjm         | 1        | <input checked="" type="checkbox"/> |
| Compressor   | 18  |          | 11       |            |         | 5155        | 5646      | On-off valve         | hnj          | 5155             | 5646      | On-off valve         | hnj          | 1        | <input checked="" type="checkbox"/> |
| Compressor   | 18  |          | 11       |            |         | 5353        | 65466     | Manometer            | hjj          | 5353             | 65466     | Manometer            | hjj          | 1        | <input checked="" type="checkbox"/> |
| Compressor   | 18  |          | 11       |            |         | 656         | 556       | Pressure regulator   | hmjk         | 656              | 556       | Pressure regulator   | hmjk         | 1        | <input checked="" type="checkbox"/> |

Rows per page: 10 1-10 of 23

[Cancel](#)
[Buy replacement parts](#)
[Copy to clipboard \(QuickSearch\)](#)
[Generate replacement parts list](#)

- Press the **“Buy replacement parts”** button to create an order in the FESTO parts store.
  - Only the parts that have FESTO as manufacturer will be added to your order
- **“Copy to clipboard (QuickSearch)”** button provides a CSV file export function. If the button is pressed a csv file of replacement parts list is generated and downloaded to the user’s computer. The file contains information of replacement parts quantity and part number.
- If the parts that are in this list should not be ordered in the FESTO store a list of required parts can be created in excel by pressing the **“Generate replacement parts”** list button
  - This button responds to your applied filter on the list.

## 7.2 Generate final report

Final report is used to summarize all the information that has been gathered in the project and is displayed in the FESTO corporate design format.

To generate a final report for your project:

1. Select your required project in the project’s selection page
2. In the top right side of the project header press the **“Generate final report”** button

## Testompany

Testreet 1  
Testy

AL  
Test Tester  
49214569875422  
Test@tester.com

 Replacement parts list  
 Generate final report  
 Issued QR-codes / Service templates  
 Service search  
 Verify project  
 Finish Project

3. You may need to wait up to 3 minutes for the report to generate depending on the size of your project
4. Open your report as a pdf file

This is the final report of your project. Inside you will be able to see this information:

- Table of content
- All the images that were added to the project
- All the audit information that was provided in the project
- All required calculations
- Statistics about your project
- Replacement parts list

If the project is not yet finished on every page there will be a “DRAFT” watermark

|  |    |
|--|----|
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### 7.3 Issued QR-codes / Service templates

In cases that the auditors are not able to use the FESS app or portal on site they are able to use the audit forms in paper format.

To use this functionality the auditor should have access to the specific project he/she is working on.

1. Inside of the project header press the Issued QR-codes / Service templates button

## Testompany

Testreet 1  
Testy

AL  
Test Tester  
49214569875422  
Test@tester.com

-  Replacement parts list
-  Generate final report
-  Issued QR-codes / Service templates
-  Service search
-  Verify project
-  Finish Project

➔

2. A form with all available templates will be shown to you. Please input the number of how many measurements are you going to do under every specific topic. If you wish to print issued QR-codes – press Print issued QR-codes button, select the desired components and then press Print button. If service templates should be printed instead – set the number of copies in each topic and then press Print button.

**Issued QR-codes / Service templates**
×

---

Print issued QR-codes

Cancel
Print issued QR-codes

Print service templates

Set number of copies

|  |                                    |
|--|------------------------------------|
| Compressed air generation *              | Installed dryers *                 |
| <u>20</u>                                | <u>20</u>                          |
| Air quality measurement *                | Air network *                      |
| <u>10</u>                                | <u>5</u>                           |
| Air receivers *                          | Pressure drop analysis *           |
| <u>10</u>                                | <u>3</u>                           |
| Machine analysis for energy efficiency * | List of leakages and inspections * |
| <u>5</u>                                 | <u>30</u>                          |
| Replacement parts list *                 |                                    |
| <u>20</u>                                |                                    |

Cancel
Print

## 7.4 Verify project

Project verification will often be needed if a project was created using the FESS mobile application. Before finishing a project, the auditor should verify the project. Project verification is used to check if there are any Id. Codes that are duplicated or if some components are missing Id. Codes

How to verify a project:

1. Inside of your project view click on the verify project button

## Testompany

Teststreet 1  
Testy

AL  
Test Tester  
49214569875422  
Test@tester.com

-  Replacement parts list
-  Generate final report
-  Issued QR-codes / Service templates
-  Service search
-  Verify project
-  Finish Project



3. In the new form a table will be displayed. The table contains 4 columns:
- **Service** - the name of the component which is missing some information
  - **Nr.** – the number of the component which is missing some information
  - **Id. Code** – the Id code of the component which is missing some information
  - **Reason** – what kind of information is missing, for example  
**Id code is empty** – indicates that the described component does not have an Id. Code filled in  
 Often correct id codes can be found attached as a picture to the specific component  
 Id Codes should be unique through out all the system.
  - **Empty table** – Your project has no problems with the Id. Codes and can be successfully completed.

Verity project

Q Filter ≡

| Service    | Nr. | Id. Code | Reason           |
|------------|-----|----------|------------------|
| Compressor | 10  |          | Id code is empty |
| Compressor | 11  |          | Id code is empty |
| Compressor | 12  |          | Id code is empty |
| Compressor | 13  |          | Id code is empty |
| Dryer      | 18  |          | Id code is empty |
| Dryer      | 19  |          | Id code is empty |
| Dryer      | 20  |          | Id code is empty |
| Dryer      | 21  |          | Id code is empty |
| Dryer      | 22  |          | Id code is empty |
| Dryer      | 23  |          | Id code is empty |

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[Cancel](#)

Verify project

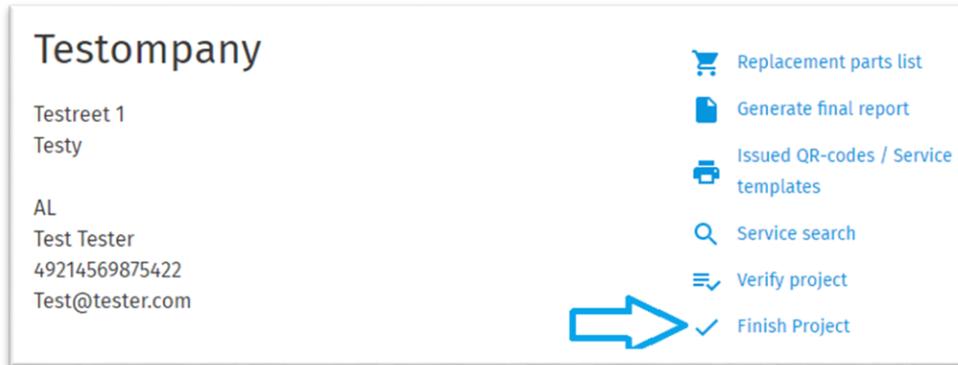
Q Filter ≡

| Service | Nr. | Id. Code | Reason |
|---------|-----|----------|--------|
|---------|-----|----------|--------|

[Cancel](#)

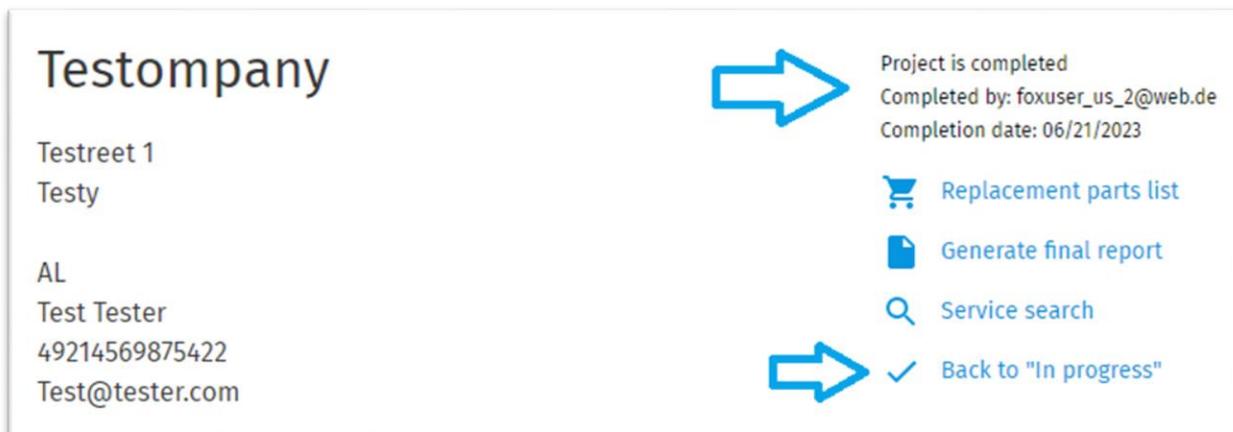
## 7.5 Finish project

To finish a project, press the “Finish Project” button



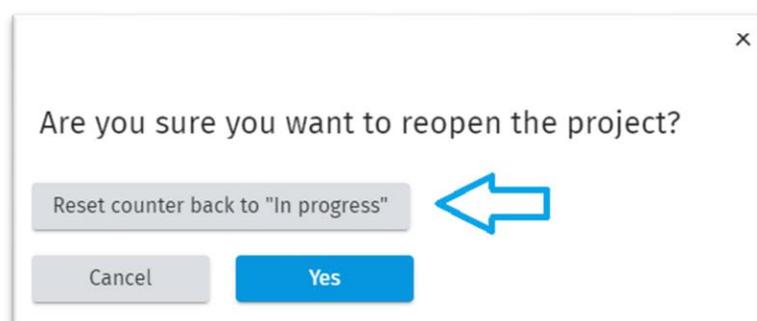
After pressing the finish project button, the following changes will be applied to your project

- Project status will be changed to Completed in the overview page
- In the header of the project additional information will be shown
  - Project status
  - Completed by:
  - Completion date:
- “Draft” watermark will be removed from the final report.
- All the information in the project will become read-only
- Button finish project will be replaced by the Back to “in Progress” button.



Note:

- The project can be reopened up to 3 times by pressing the Back to in progress button after that project can only be reopened by an admin
- An admin has a function to reset counter back for project re-opening, meaning that after pressing the button “Reset counter back to “In progress”” the amount of how many times the project has been re-opened will reset to zero.



## **8 FAQ**

### **Why am I only allowed to view a project in read only mode?**

It is because you were assigned to the project only as a reader. It can be checked in the “Project settings” tab, under “Customer access”

### **Why does my final report have a “Draft” watermark written over it?**

It is because the project is not marked as finished. Watermark is removed only on finished projects

### **Why can't I edit any of my projects?**

There are 2 possible reason why you are unable to edit a project

1. You are assigned to the project as a read only user.
2. The project status is “Finished”. Only projects with status “In Progress” are available for editing.

### **Is it possible to re-open expired projects?**

Yes, a project can be reopened by pressing the “Back to in progress” button. The project may be reopened up to 3 times.

### **Why am I unable to finish my project?**

If you receive any errors that prevent you from finishing a project it means that there is some missing information in the project that is mandatory. Please go through all the tabs and check if any information is missing or press the Project validation button in the header to see any Id. Code related errors.

### **Why don't some of my replacement parts appear in the FESTO online shop?**

There are 2 reasons why your replacement parts are no appearing in your basket:

1. The manufacturer assigned to the replacement part in the portal is not “FESTO”
2. The part does not exist in the FESTO parts store. Please check if you input the correct Part number in the portal.

### **I am unable to enter an Id. Code**

There are 2 reasons why you are unable to use an Id. Code:

1. Your id code is already used somewhere in the system. You will receive a Id. Code is already in use error message
2. Your Id code has not yet been generated in the system