FILTER SIZING SOFTWARE

USER GUIDE

EN

PASSION TO PERFORM

MP FILTRI®

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1 Product Description

The web-based software program will allow you to select the most suitable MP Filtri's Filters, as well as Bell Housing & Couplings, in accordance to your process design requirements. The program will automatically check your input design process prior to propose you the acceptable solutions and create an output in PDF report style format. The MP Filtri Selection Tool software program is easy to use with a flexible fast design method and provides improved layout formats with full descriptions.

2 Technical Features

2.1 Desktop version

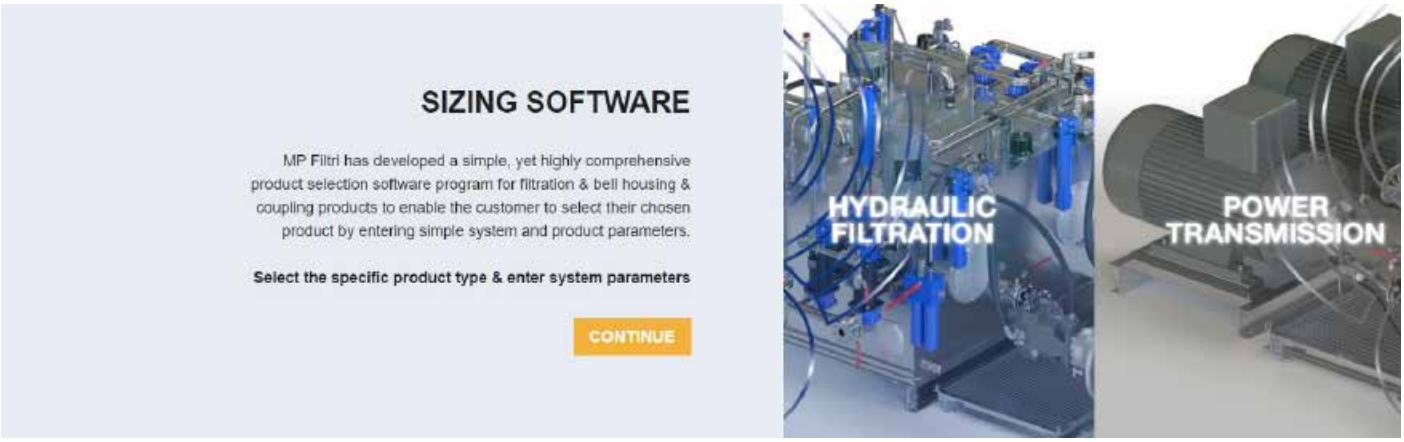
Compatible browsers: Internet Explorer or later versions; Microsoft Edge or later versions; Chrome; Firefox (suggested)
Any other browser will be suitable.
No specific additional software is required to enable the MP Filtri sizing software program to operate successfully.
Lists and reports will be generated as Microsoft Excel® files in .xls and .csv formats, available to be downloaded
Reports will be generated as .pdf files, available to be downloaded

2.2 Mobile version

Compatible browsers: Any

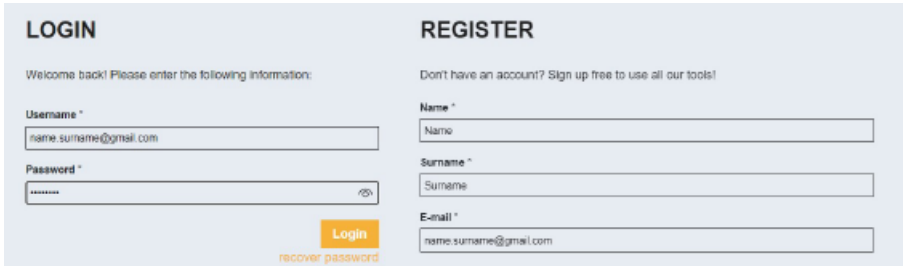
3 Web access links

The web-based is available at link: *https://www.mpfiltri.com/tools/*
by clicking on the button "**CONTINUE**" from the section "**SIZING SOFTWARE**":

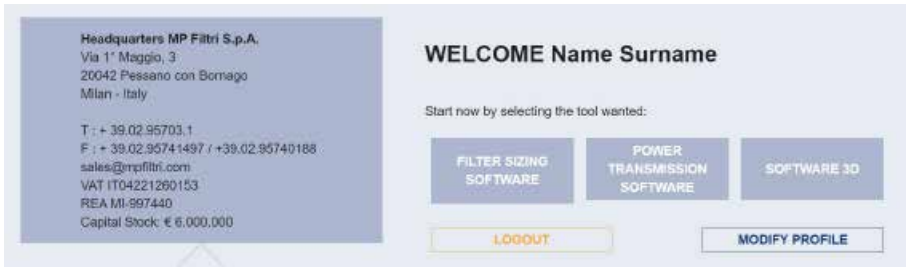


Then, a log-in page will appear, where non-registered users shall input their data to register, while already registered users shall access with their credentials

Registration | MP Filtri S.p.A.



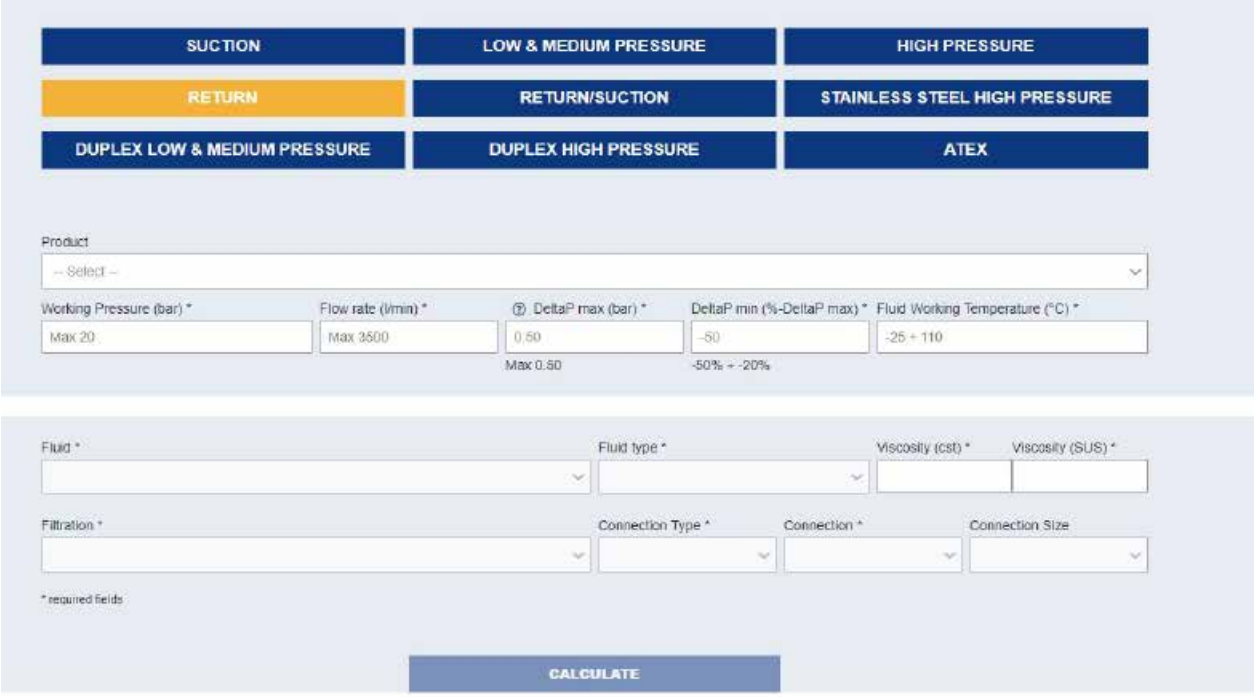
After registration with your data, or accessing with your credentials (for already registered users) you will be directed to the page where you could still select the desired software tool:



When Power Transmission sizing software or 3D software are chosen, you will be redirected to the desired software or 3D viewer web page. Viceversa, for filter sizing, a specific product selection page will appear, showing the different products that can be selected:

4 Hydraulic Filtration Sizing - Main process data input

If one of the filter types has been selected to be sized, a dedicated web page will appear, with pre-selected filter type (still modifiable) already defined.
In the following example, the various steps for the selection of a "**HIGH PRESSURE**" filter will be simulated.

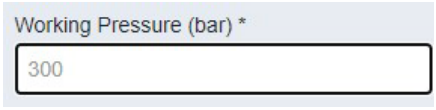


4.1 Type of product

In this optional field, it will be possible to directly choose the type of filter. The software will set the parameters based on the chosen filter. Obviously, this is an optional field. If not selected, the software will search all filter types within the selected macro category.

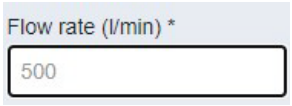
4.2 Working Pressure input

In this field, please input the desired fluid working pressure (max limit of pressure value is pre-indicated by the software in this field). Such a value is indicated in bar, for all websites with the only exception of US version, where values are in psi.



4.3 Flow rate input

In this field, please input the desired fluid flow rate (max limit of flowrate value is pre-indicated by the software in this field). Such a value is indicated in liters per minute (l/min), for all websites with the only exception of US version, where values are in gallons per minute (gpm).

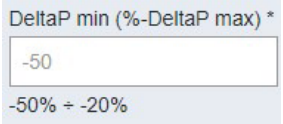


4.4 DeltaP max

In this field, please input the desired max DeltaP of the proposed filter solution (limit of max DeltaP value is pre-indicated by the software in this field). Such a value is indicated in bar, for all websites with the only exception of US version, where values are in psi.

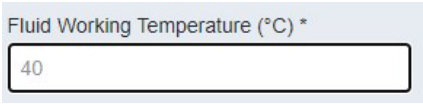
4.5 DeltaP min

In this field, please input the desired min DeltaP of the proposed filter solution, as reduction percentage of the max DeltaP previously defined **(lower limit of min DeltaP value, equal to: -50% of max Delta P, is pre-indicated by the software in this field; such a value can be increased up to: -20% of max Delta P).** Such a value is indicated as percentage, and will be then calculate in absolute values in bar for all websites with the only exception of US version, where values will be then calculated in psi.



4.6 Fluid Working Temperature

In this field, please input the desired fluid working temperature (range of acceptable temperature values is pre-indicated by the software in this field). Such a value is indicated in degrees Celsius (°C), for all websites with the only exception of US version, where values are in degrees Fahrenheit (°F).

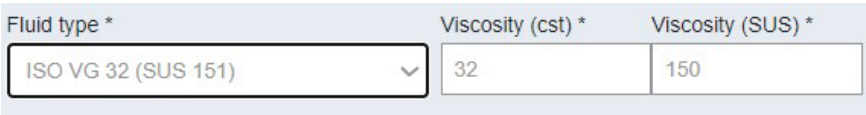


4.7 Fluid category

In this field, please choose the desired category for the fluid to be filtered (list of available fluid categories is indicated by the software as drop-down menu).

4.8 Fluid type with related viscosity

In this field, please choose the desired type for the fluid to be filtered (list of available fluid types is indicated by the software as drop-down menu, based on the pre-selected fluid category). Fields related to Viscosity (cst and SUS) will be automatically compiled by the software, based on the pre-selected Fluid Category and Fluid Working Temperature.

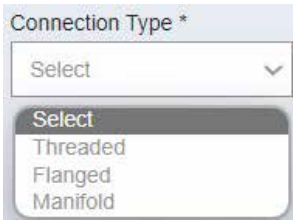


4.9 Filtration rating

In this field, please choose the desired filtration rating (list of available filtration rating is indicated by the software as drop-down menu).

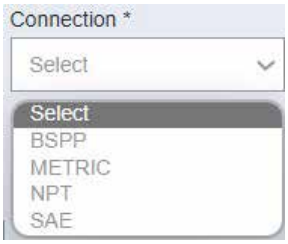
4.10 Connection type

In this field, please choose the desired filter connection type (list of available connection types is indicated by the software as drop-down menu).



4.11 Connection

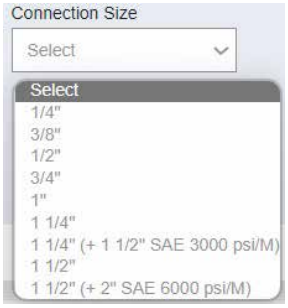
In this field, please choose the desired filter connection (list of available connection is indicated by the software as drop-down menu based on the pre-selected "**connection type**").



4.12 Connection Size (optional)

In this field, please choose the desired filter connection size (list of available connection sizes is indicated by the software as drop-down menu based on the pre-selected "**connection**"). Such a field is not mandatory to be filled.

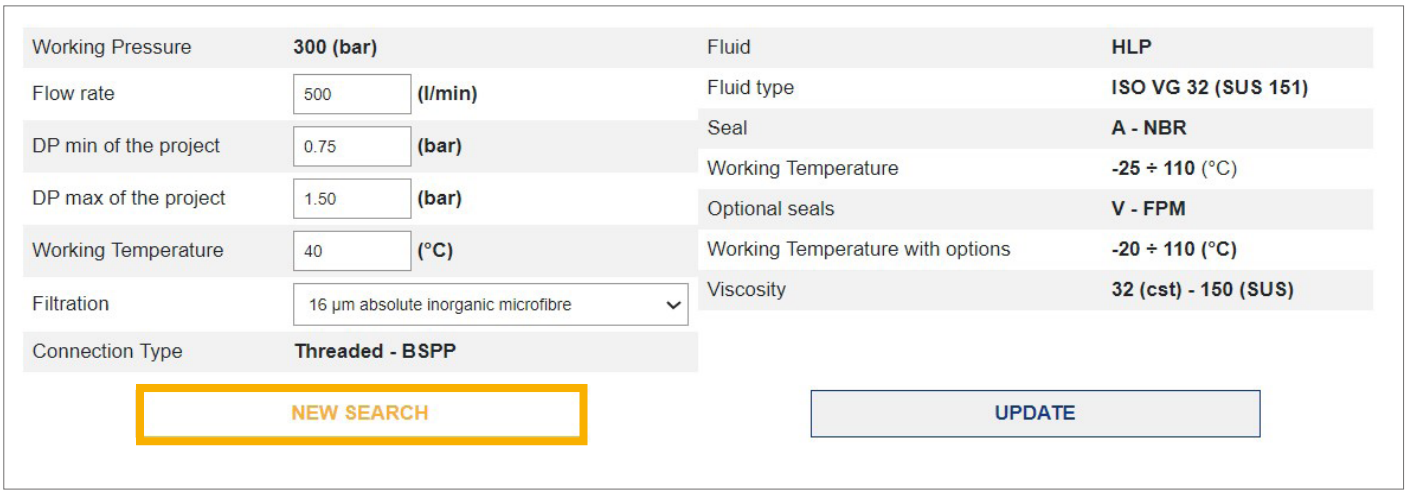
Now, by clicking on "**CALCULATE**" button, it is possible to check the filter solutions proposed by the software.



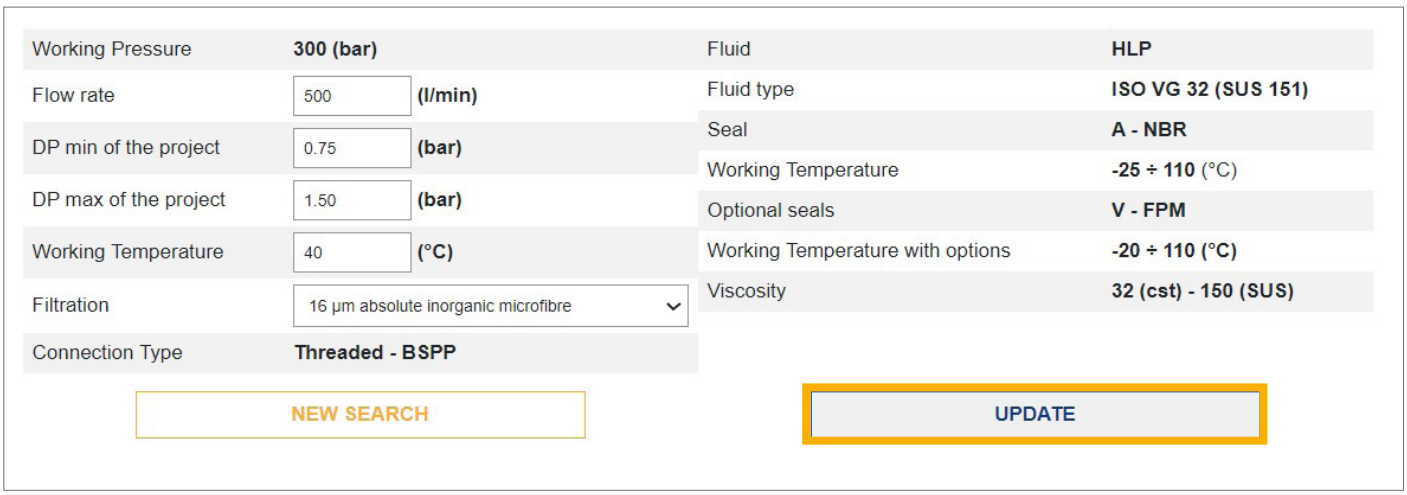
5 Hydraulic Filtration Sizing - Results management

5.1 Input Data resume and selection results

The new web page will show first a recap of the selected process parameters, with calculated absolute value of the min DeltaP based on input data.
Alf these input data or results are not satisfactory, or there are no results available, it is possible to restart the selection by clicking on the "**NEW SEARCH**" button.



It is also possible to modify a specific field by inputting new values, and update the results page by clicking on the "**UPDATE**" button



Results are shown, as default, by DeltaP in descending order, starting from the closest one to the max DeltaP set, and only within the selected DeltaP range.

Show 10 entries Search:

Image	Code	Pmax		Qmax		ΔP		Housing ΔP		Element ΔP		Connection	Seal	Link
		bar	psi	l/min	gpm us	bar	psi	bar	psi	bar	psi			
	FHP-350-4-B-A-A-2-A16P01	420	6090	503.50	133.2	1.49	21	1.07	15	0.42	6	G 1 1/2"	A	Adjustment Report
	FHP-350-4-B-V-A-2-A16P01	420	6090	503.50	133.2	1.49	21	1.07	15	0.42	6	G 1 1/2"	V	Adjustment Report
	FHP-500-3-B-A-F7-A16P01	420	6090	527.48	139.5	1.38	20	0.80	12	0.58	8	G 1 1/2" + 2" SAE 6000 psi/M	A	Adjustment Report
	FHP-500-3-B-V-F7-A16P01	420	6090	527.48	139.5	1.38	20	0.80	12	0.58	8	G 1 1/2" + 2" SAE 6000 psi/M	V	Adjustment

5.2 Results not found? Software can provide suggestions

In some cases, the software could not be able to provide suitable solutions because any configuration would have a calculated DeltaP lower than the set range. In these cases, as suggested by the software in a red-marked suggestion, to find available solutions it could be sufficient (if possible) to reduce the min DeltaP project input value, or to decrease the Fluid Working Temperature input value to increase viscosity and so increase accordingly the calculated DeltaP within the acceptable range. In this case, the software is able to provide you the maximum calculated DeltaP, to allow you to estimate how lower calculated DeltaP is from project input data.

Product	**FMM 050**	Fluid	**HLP**
Working Pressure	**100 (bar)**	Fluid type	**ISO VG 32 (SUS 151)**
Flow rate	20 **(l/min)**	Seal	**A - NBR**
DP min of the project	0.75 **(bar)**	Working Temperature	**-25 ÷ 110** (°C)
DP max of the project	1.50 **(bar)**	Optional seals	**V - FPM**
Working Temperature	40 **(°C)**	Working Temperature with options	**-20 ÷ 110 (°C)**
Filtration	25 µm absolute inorganic microfibre	Viscosity	**32 (cst) - 150 (SUS)**
Connection Type	**Threaded - BSPP**		

NEW SEARCH UPDATE

Calculated DeltaP **(max 0.47)** < Project DeltaP min: if possible, it is recommended to decrease the DeltaPmin value and/or decrease the fluid temperature.

Viceversa, the software could not be able to provide suitable solutions because any configuration would have a calculated DeltaP bigger than the set range. In these cases, as suggested by the software in a red-marked suggestion, to find available solutions it should be necessary (if possible) to increase the max DeltaP project input value, or to increase the Fluid Working Temperature input value to reduce viscosity and so reduce accordingly the calculated DeltaP within the acceptable range.
In this case, the software is able to provide you the minimum calculated DeltaP, to allow you to estimate how higher calculated DeltaP is from project input data.

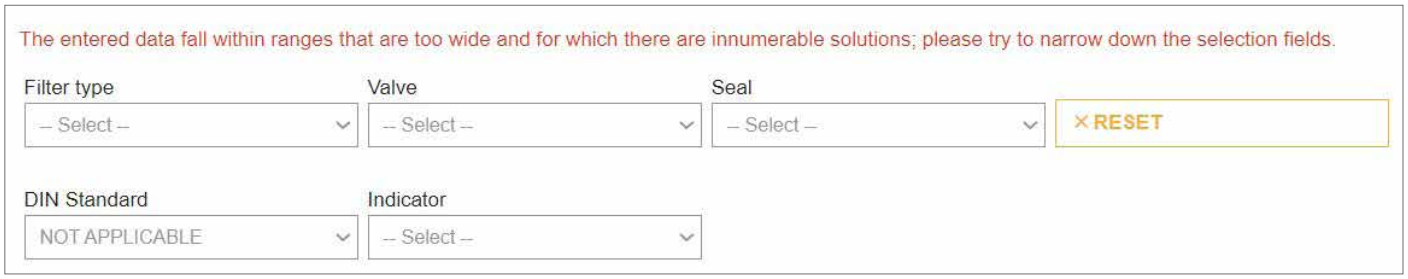
Product	**FMM 050**	Fluid	**HLP**
Working Pressure	**400 (bar)**	Fluid type	**ISO VG 32 (SUS 151)**
Flow rate	150 **(l/min)**	Seal	**A - NBR**
DP min of the project	0.25 **(bar)**	Working Temperature	**-25 ÷ 110** (°C)
DP max of the project	0.5 **(bar)**	Optional seals	**V - FPM**
Working Temperature	40 **(°C)**	Working Temperature with options	**-20 ÷ 110 (°C)**
Filtration	25 µm absolute inorganic microfibre	Viscosity	**32 (cst) - 150 (SUS)**
Connection Type	**Threaded - BSPP**		

NEW SEARCH UPDATE

Calculated DeltaP **(min 1.67)** > Project DeltaP max: if possible, it is recommended to increase the DeltaPmax value and/or increase the fluid temperature.

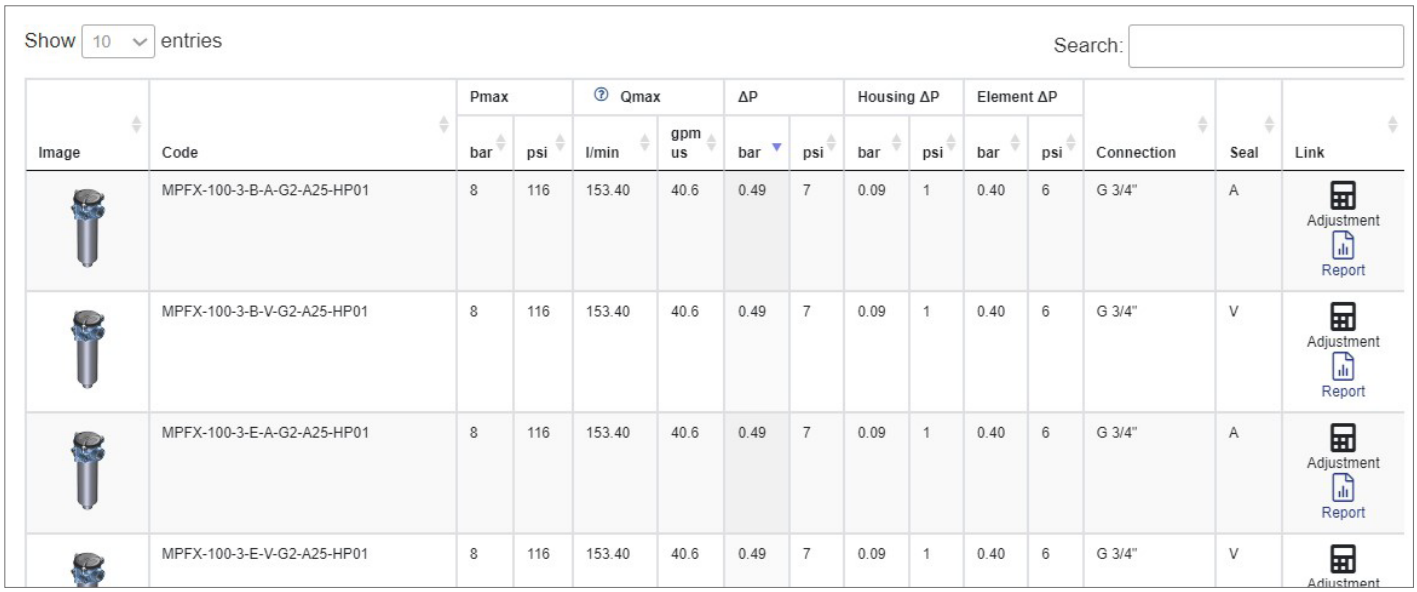
5.3 Results export and fine tuning

When available: result list, shown in the web page, can be exported as Microsoft® Excel .xls or .csv file.
If the number of available solutions is bigger than 400, the software automatically recommends to fine-tune results; anyway, independently from the number of available results, there is always the possibility to fine-tune them by choosing one (or more) of the proposed values from the drop-down menu within the fields:



- Filter Type (if not already previously selected)
- Valve
- Seal
- DIN Standard
- Indicator

The results list will be then reduced according to the selected parameters.



5.4 Single result adjustment

Every single result of the proposed solution list can be manually adjusted by clicking on the "**Adjustment**" button at its right.

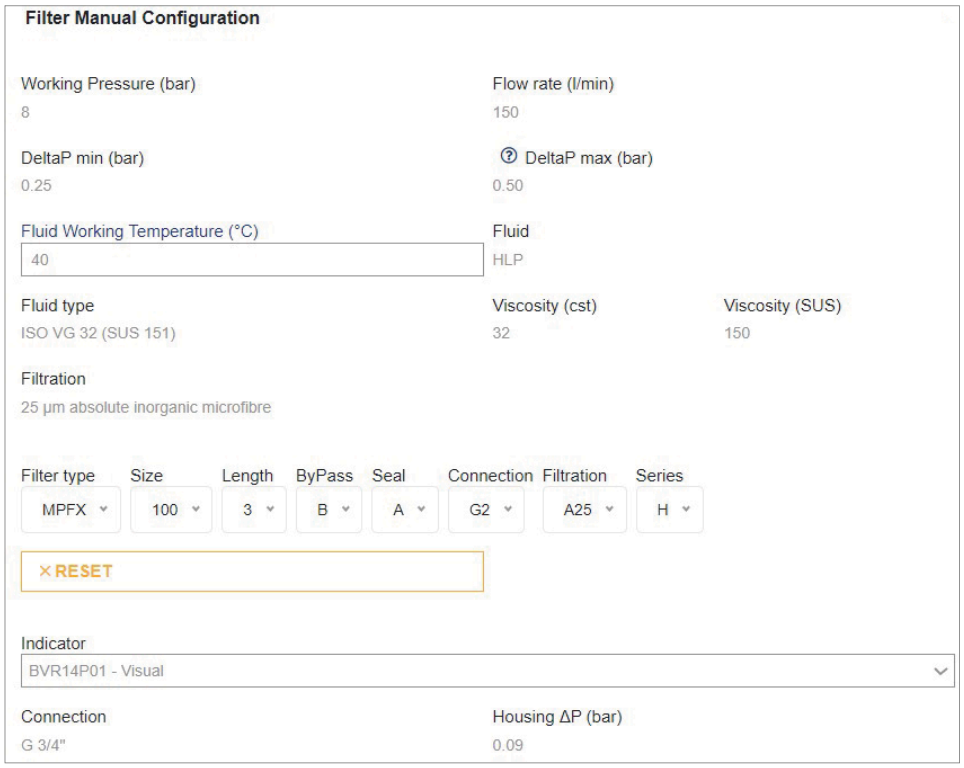
Image	Code	Pmax		Qmax		ΔP		Housing ΔP		Element ΔP		Connection	Seal	Link
		bar	psi	l/min	gpm us	bar	psi	bar	psi	bar	psi			
	MPFX-100-3-B-A-G2-A25-HP01	8	116	153.40	40.6	0.49	7	0.09	1	0.40	6	G 3/4"	A	Adjustment Report

By selecting such an option: a new window will appear, where user could manually modify

- Fluid Working Temperature

as well as one (or more) of the following fields from the proposed drop-down menu:

- Filter Size
- Filter Length
- Bypass
- Seal
- Connection
- Option1 (if available)
- Filtration
- Filter Element series (if available)
- Clogging Indicator



5.5 Report Generation and Saving

Result technical data can be created as .pdf file, featuring selected solution performance graphs, data summary and – if available – technical drawing in two ways:

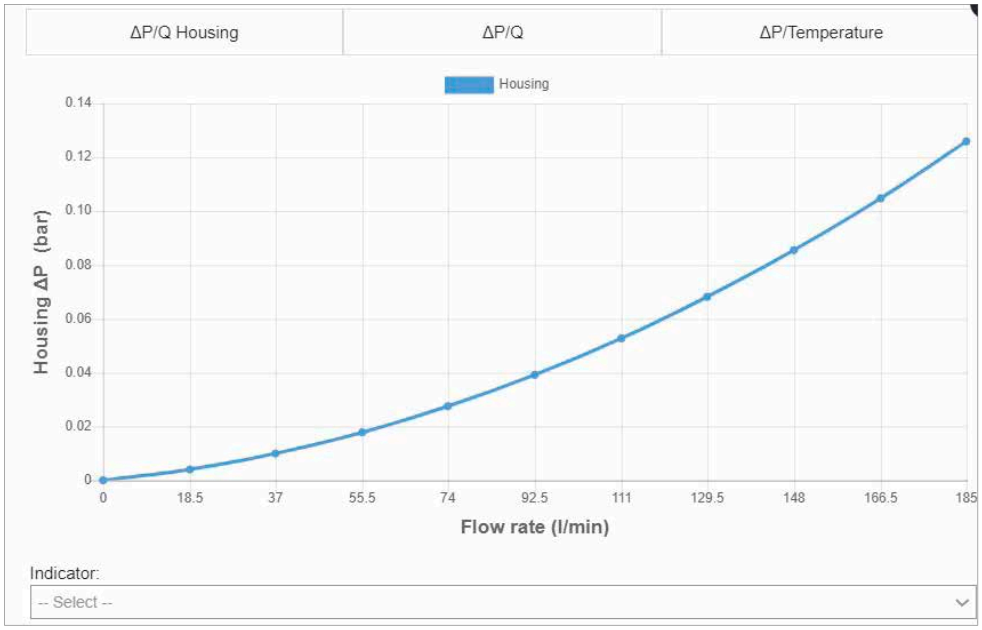
- Directly after results calculation (see 4.2)

or

- after result manual adjustment (see 4.3)

Image	Code	Pmax		Qmax		ΔP		Housing ΔP		Element ΔP		Connection	Seal	Link
		bar	psi	l/min	gpm us	bar	psi	bar	psi	bar	psi			
	MPFX-100-3-B-A-G2-A25-HP01	8	116	153.40	40.6	0.49	7	0.09	1	0.40	6	G 3/4"	A	Adjustment Report

Example of a report page:



Result report file can be exported by clicking on "**SAVE PDF**" button, or even saved in a specific path of the user dedicated area, with information about: Customer reference, Application and Description, by clicking on "**SAVE SELECTION IN YOUR ARCHIVE**" button.

NOTES

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