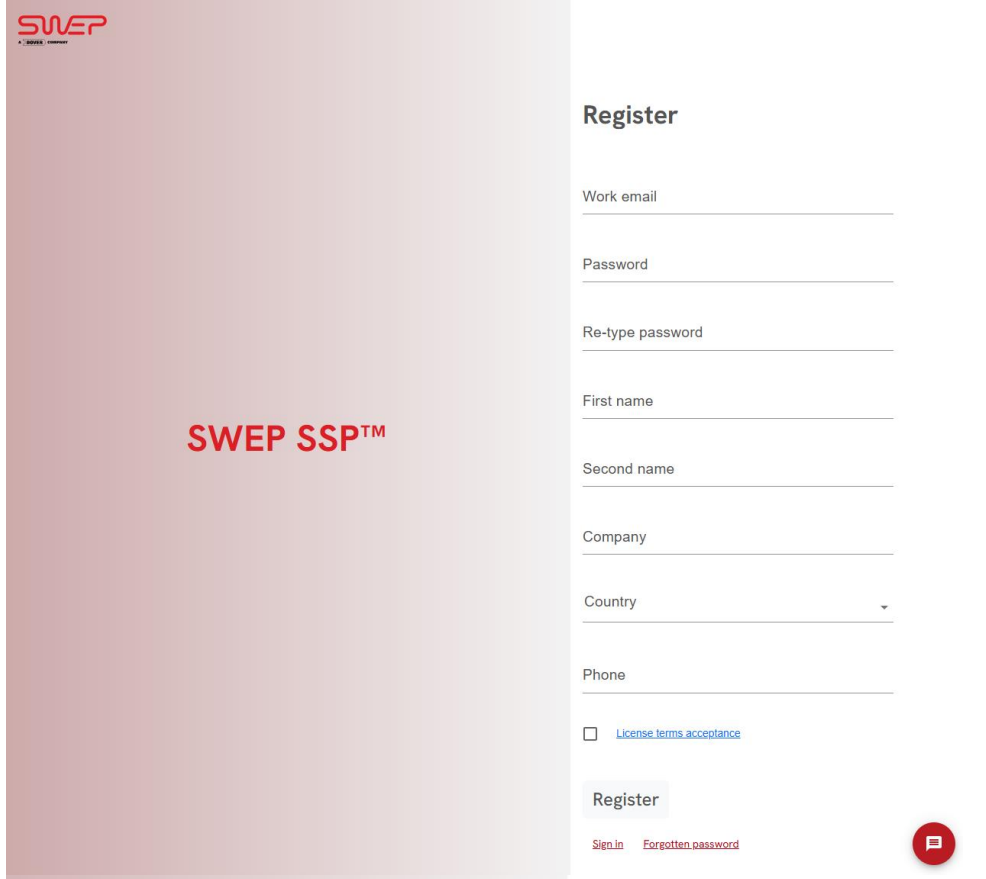
SWEP SSP™

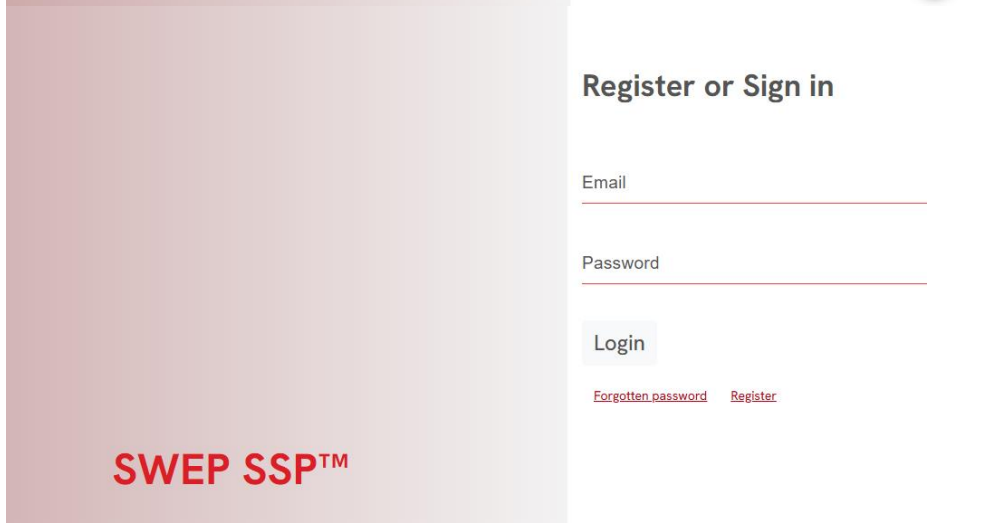
Introduction package - 2026

Content

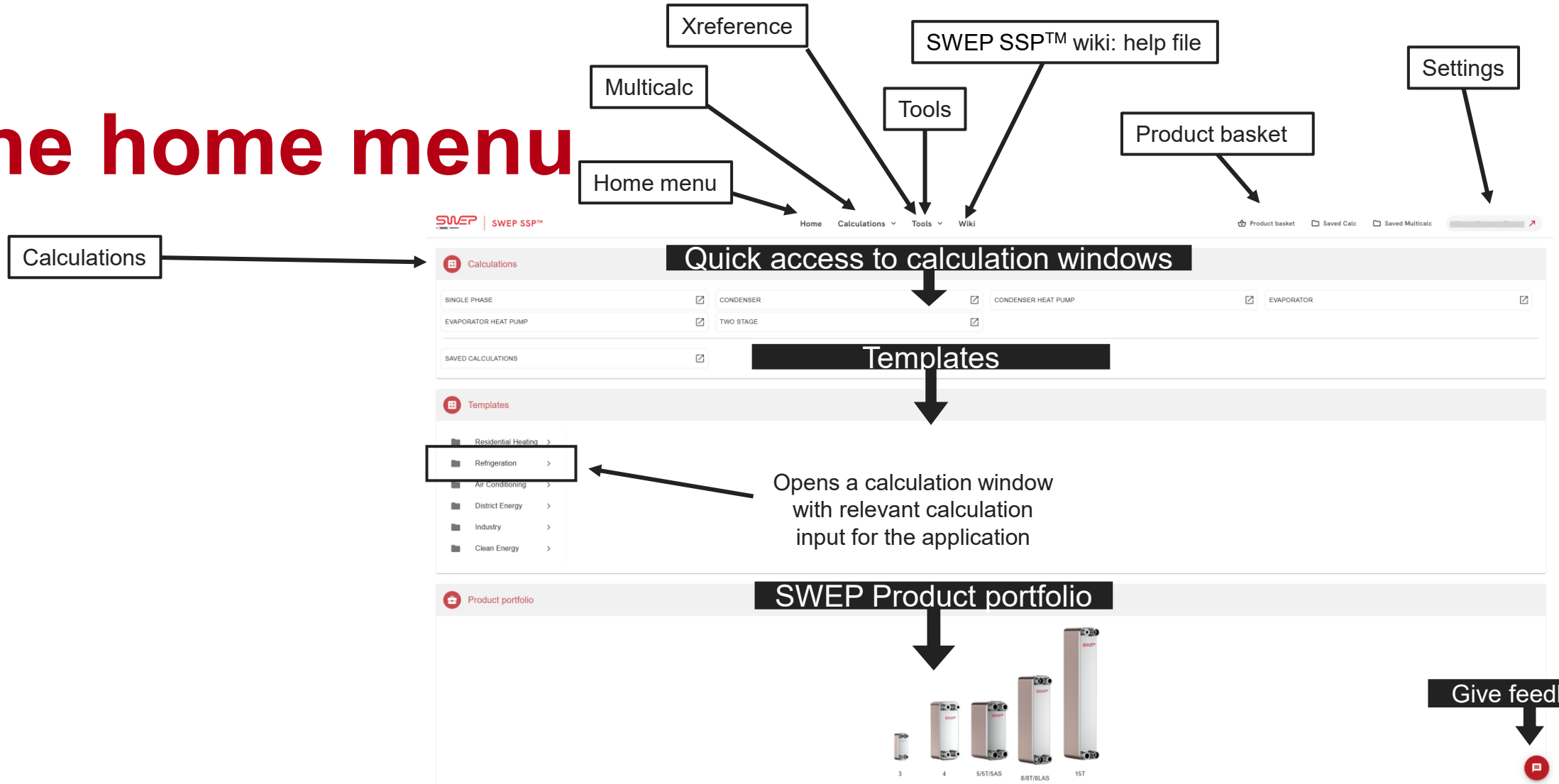
How to access SWEP SSP™ and register

1. The start page can be reached at: https://ssp.swepgroup.com/login
2. If you have an account you can login by using e-mail and password. Otherwise you need to register by pressing the “register” button.
3. Fill in the necessary information and at the bottom of the registration, read and approve the terms of conditions.
4. It is important that you state an authentic e-mail address that you have access to.
5. You will receive a link sent in an e-mail in which you need to activate your account.
6. If you register with same e-mail that has been used for SSP G8 the license information will be retrieved.
7. Now you should be able to login to SWEP SSP™
8. With Demo license you have very limited functionality. To upgrade your license follow below steps.
9. Verify your e-mail address within 7 days by clicking on the received link to your e-mail account.
10. Your SWEP representative will handle your inquire and grant you the applicable license.
11. If you have used SSP G8 with the same e-mail as you registered with, you will retain the former license level.

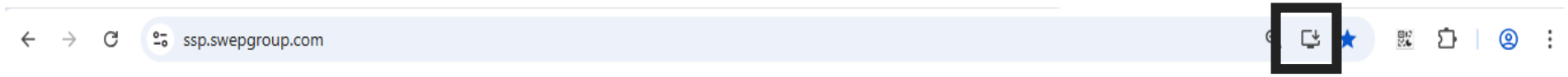


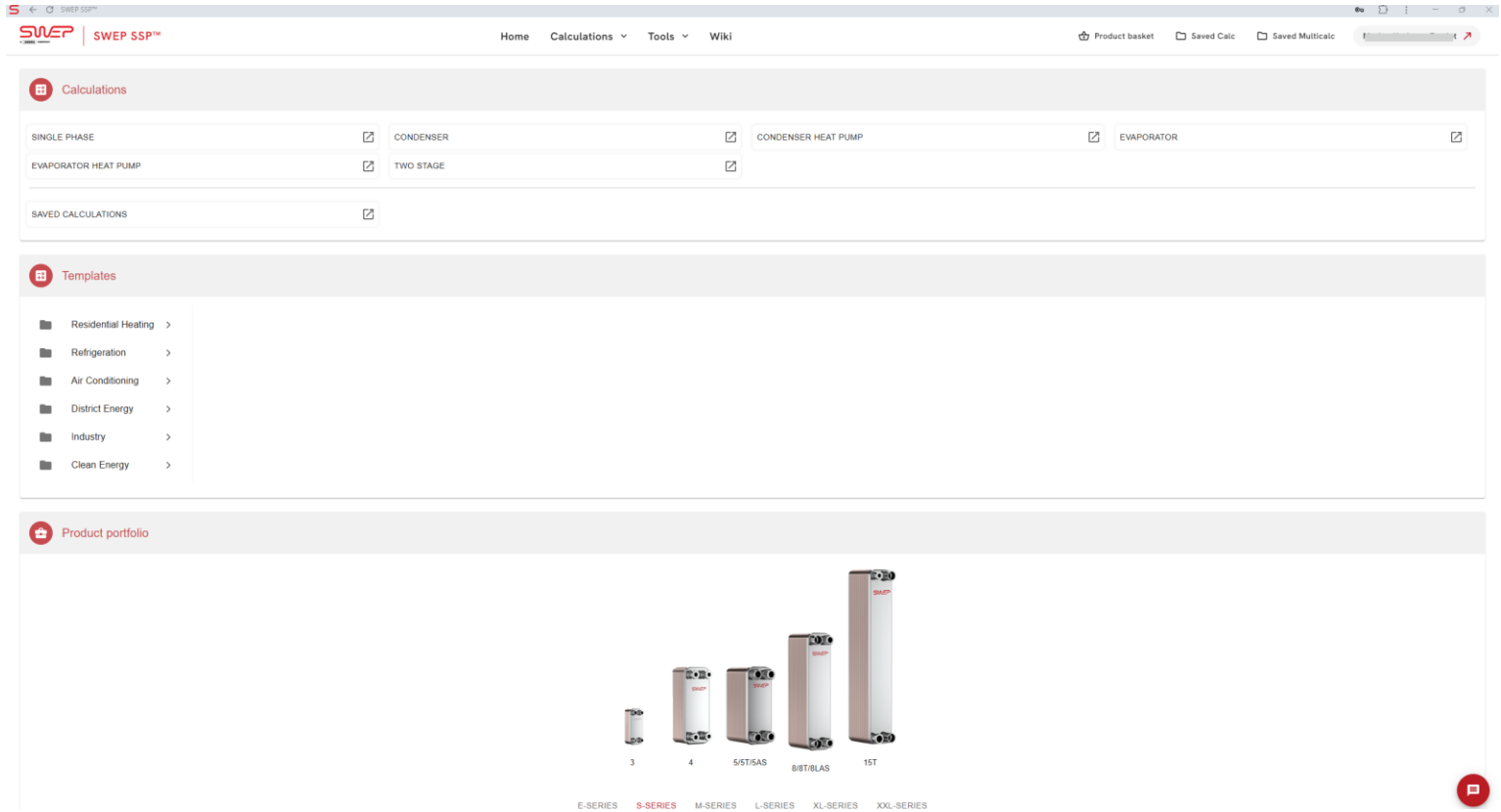


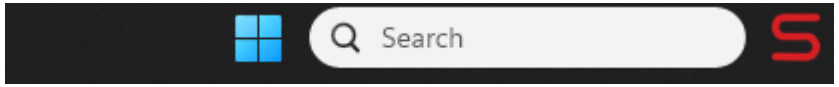
The home menu



Installing SWEP SSP™ as a desktop app

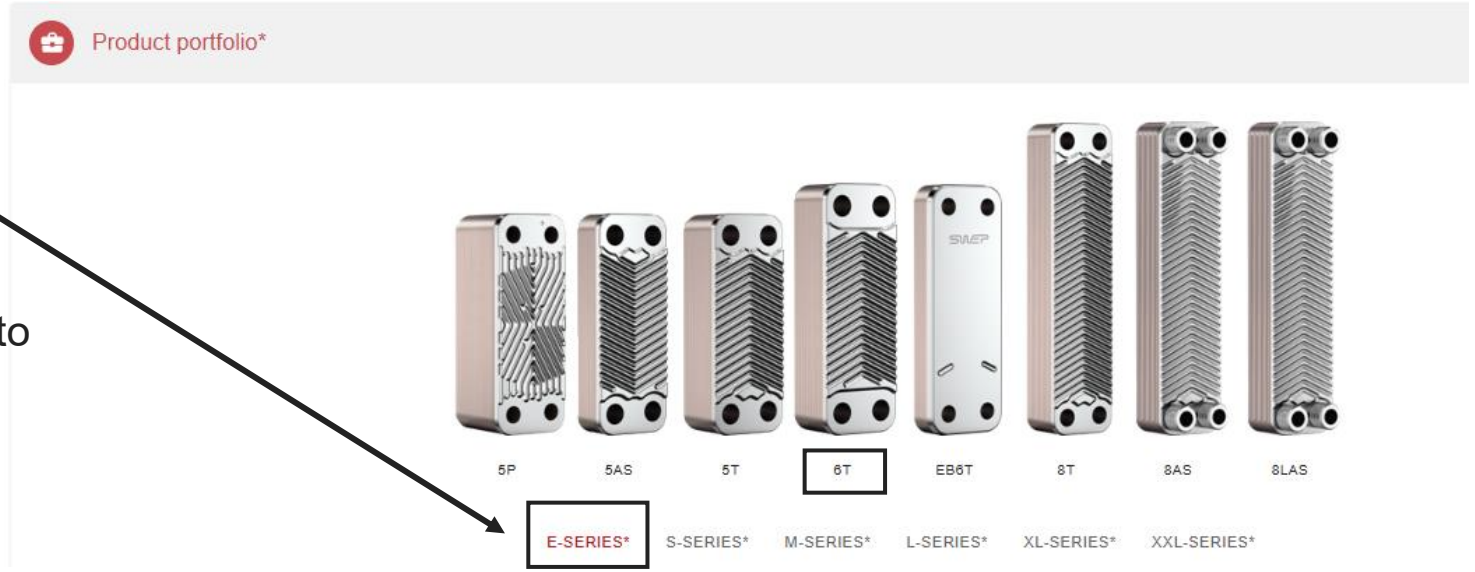






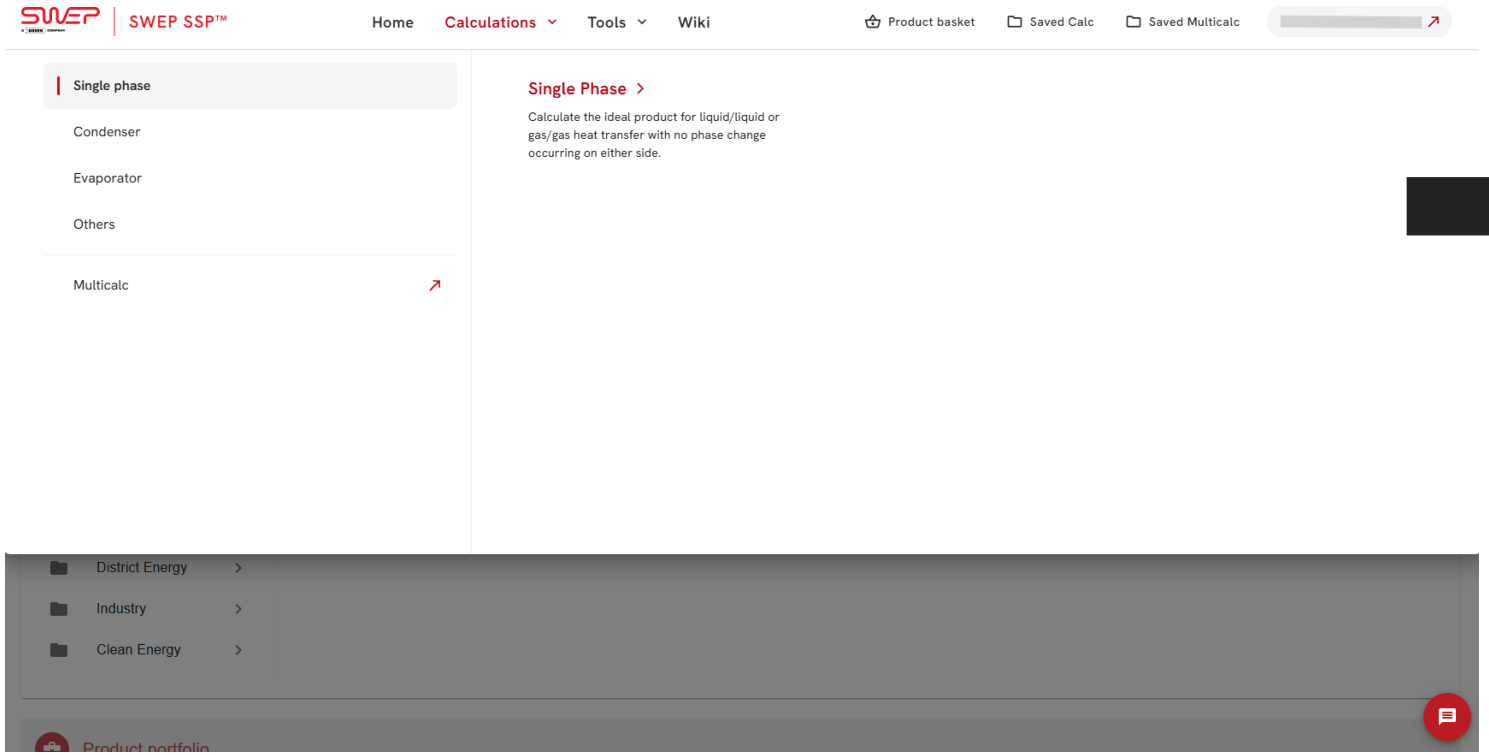
Product portfolio

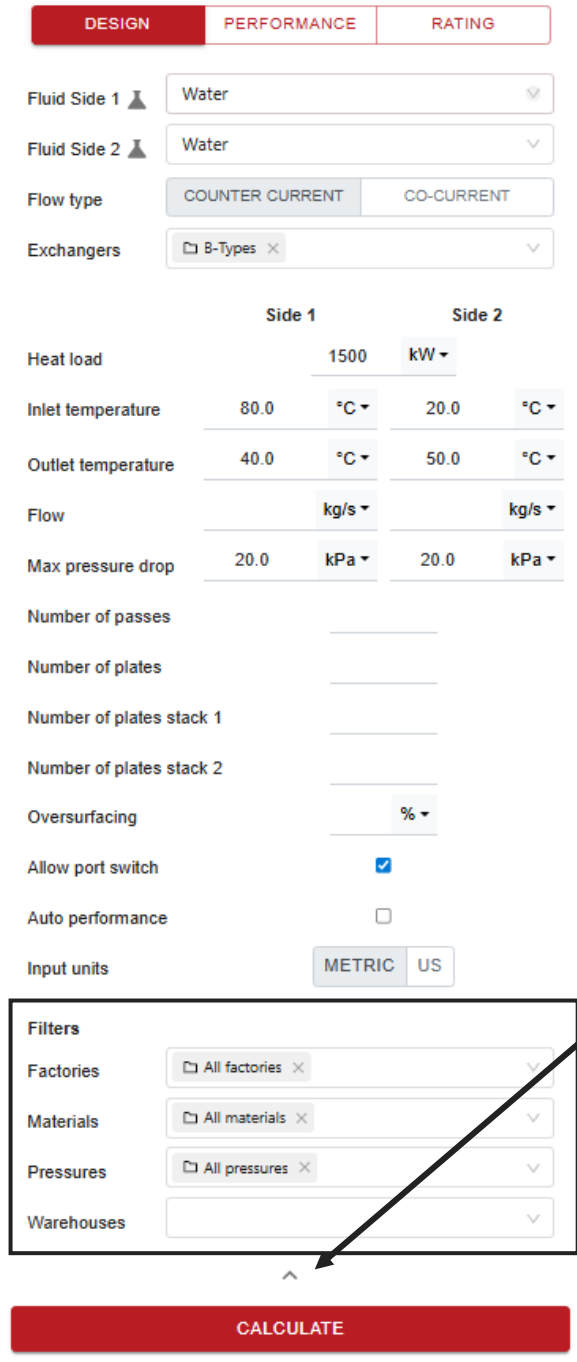
- The product portfolio by sizes is presented per range.
- Clicking on the heat exchangers leads you to the product range page on swepgroup.com



How to reach calculation

- After deciding which kind of calculation window that should be used the user will be presented with a window showing input parameters for calculating the performance for chosen heat exchangers. The input data vary depending on what window has been selected.

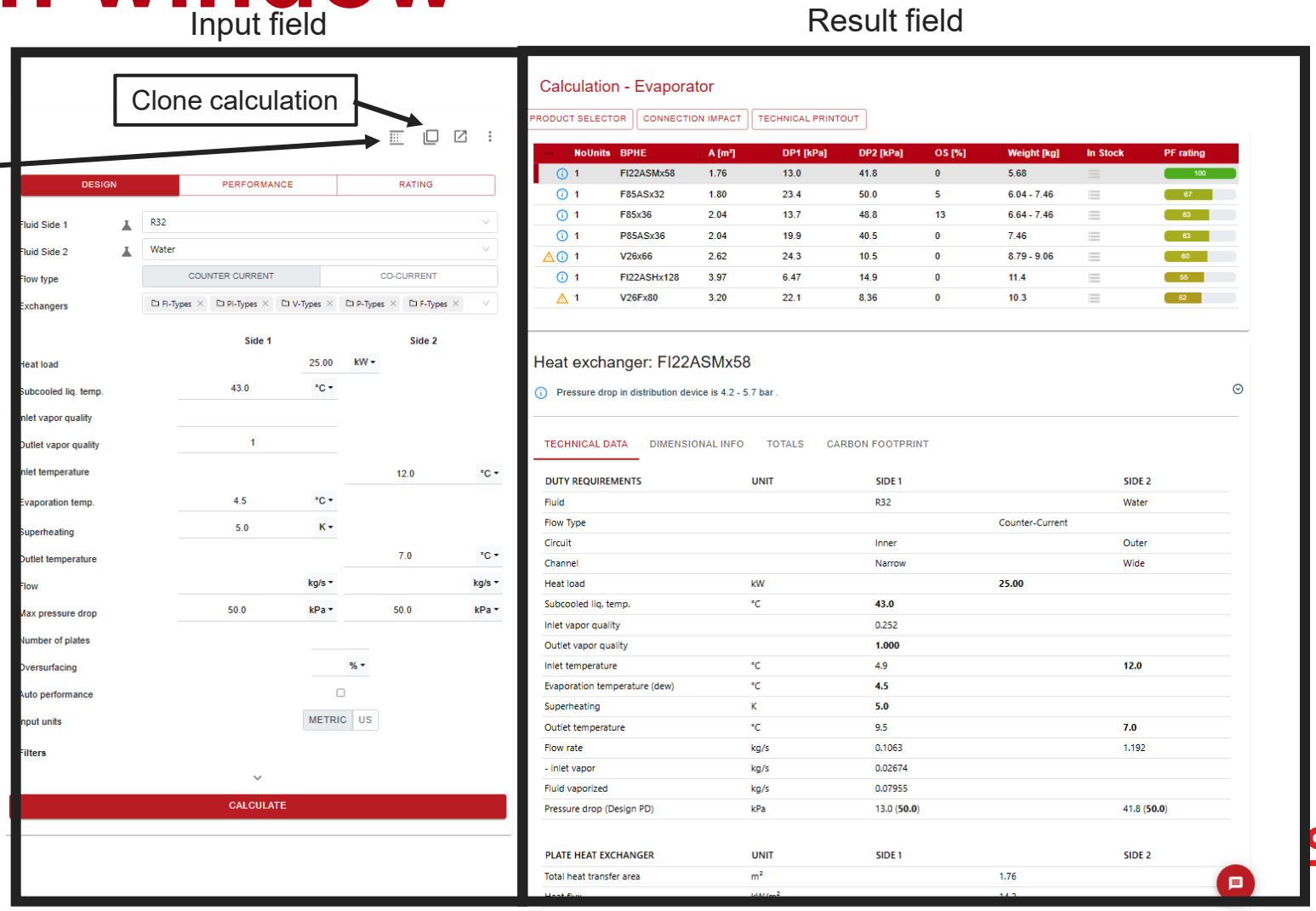




Content

Calculation window

- Keyboard shortcut to calculate: alt + C or

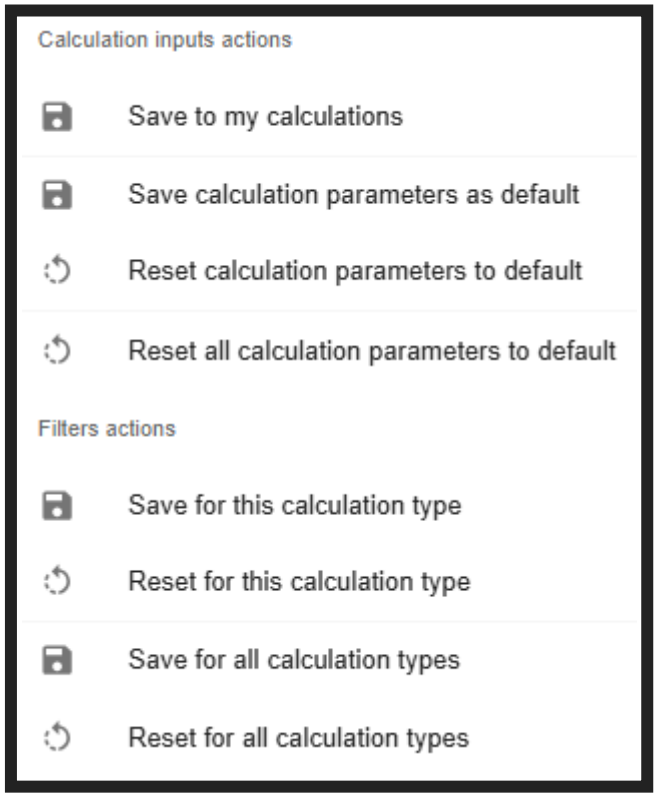


Calculation window

Input field

Open in new tab

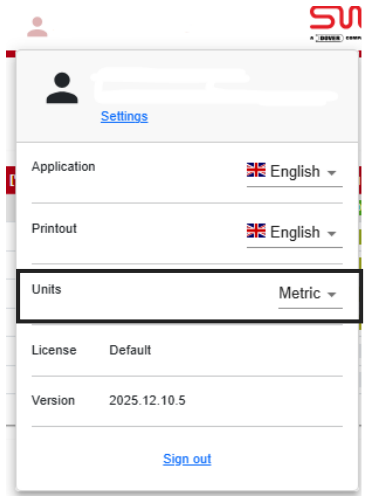
Save function



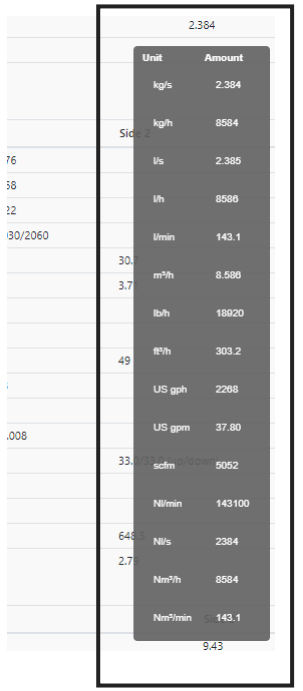
Units

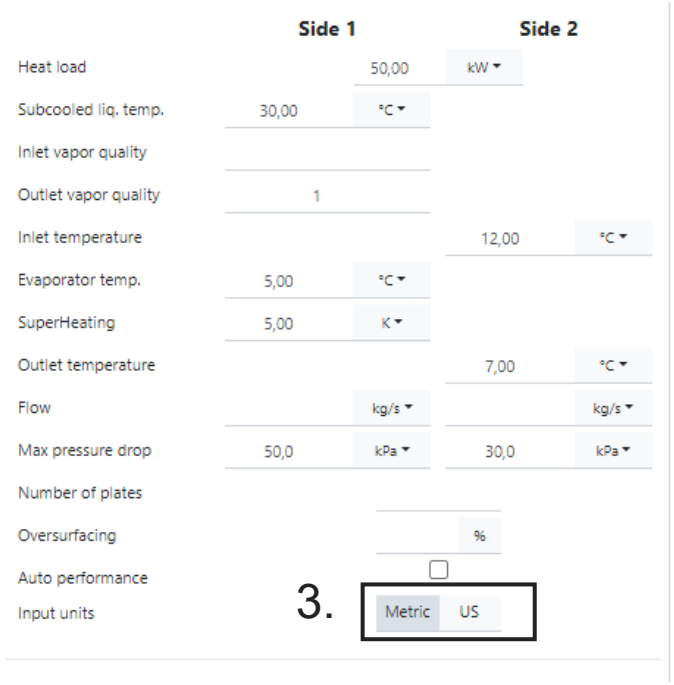
1. Overall units are changed in “Settings”
   - This affects the result values and values used in printouts
2. Input units can be specifically switched using the button in input window.
   - This does not affect the result values. They will still be according to “Settings”.
3. To see a specific unit conversion, it is possible to hover the numbers in results and all possible units will be shown.

1.



2.



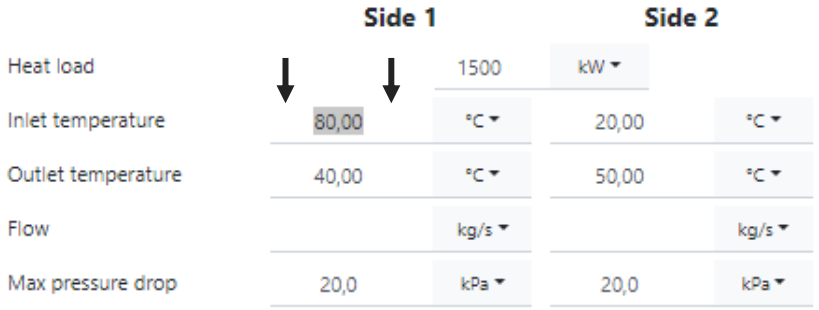


3.

Enter input values

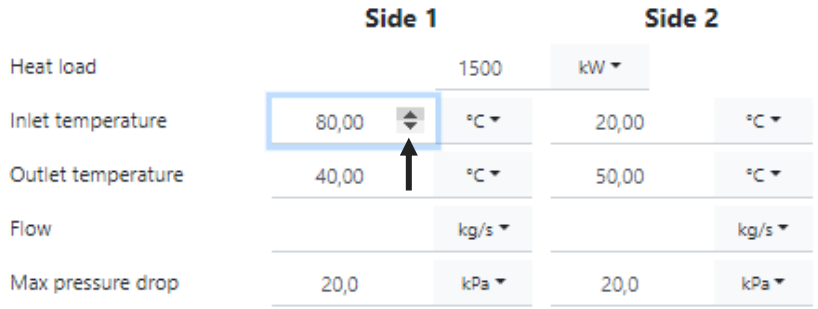
Click on the value to place cursor on specific place.

Double click outside the value to mark entire input field.

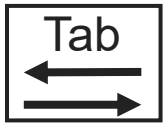


Enter input values

Use toggle buttons or arrow keys to increase or decrease value.

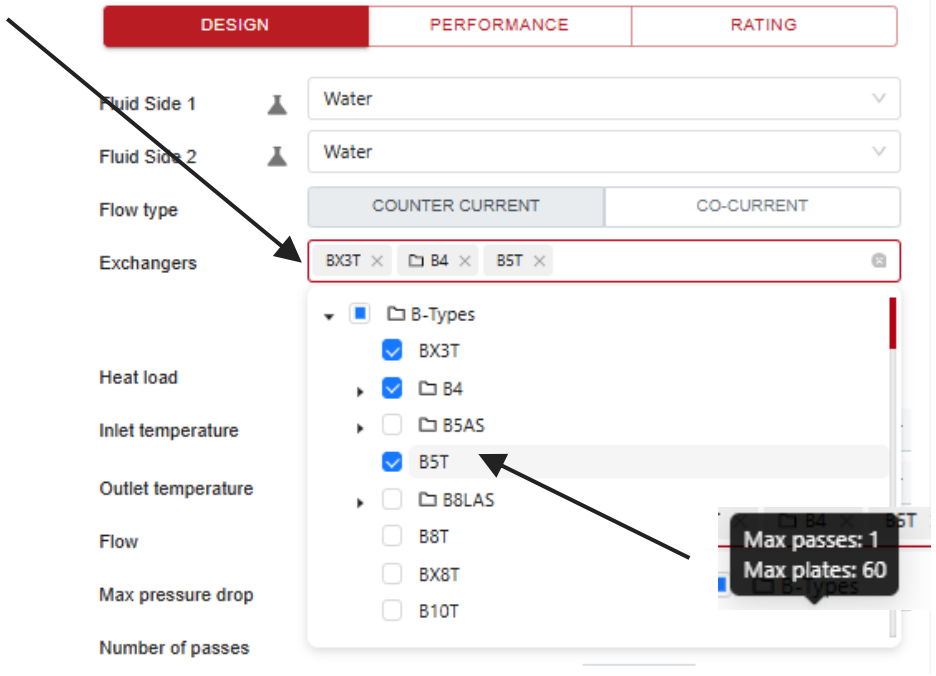


Switch between selected fields by using Tab-button

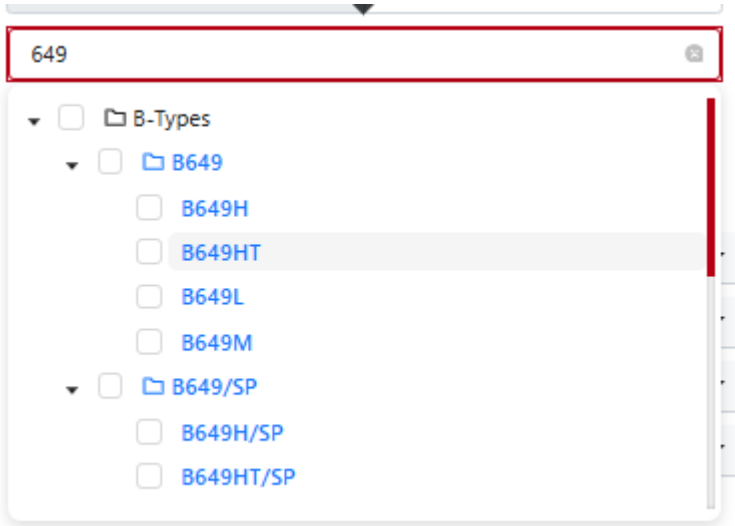


Choosing Heat Exchangers

Choose exchangers from the drop down list by simply pressing the Exchangers field



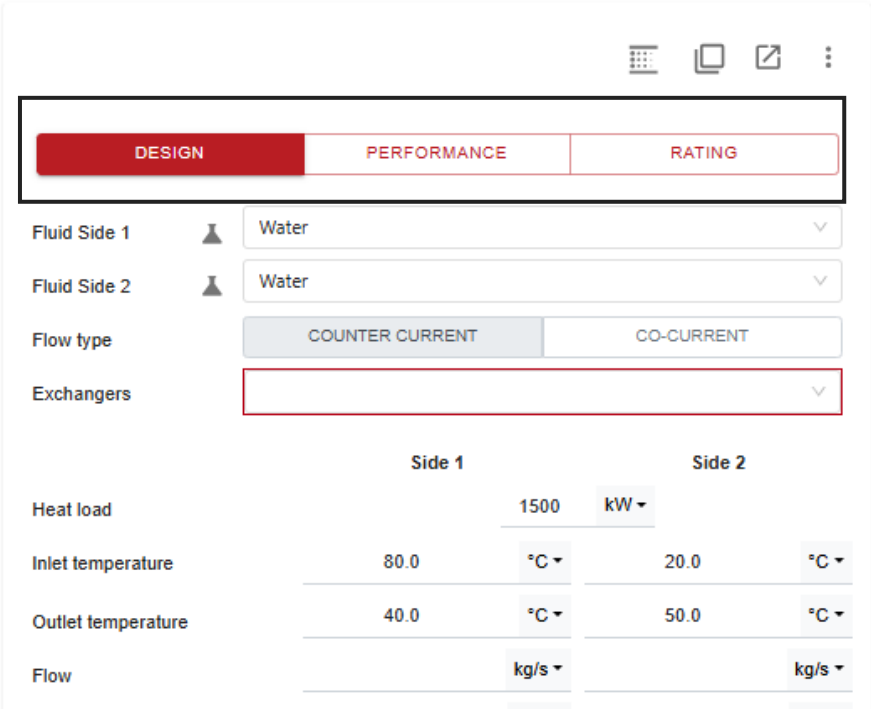
By entering letters the selection can be filtered and the exchanger on top is selected when pressing Enter-button

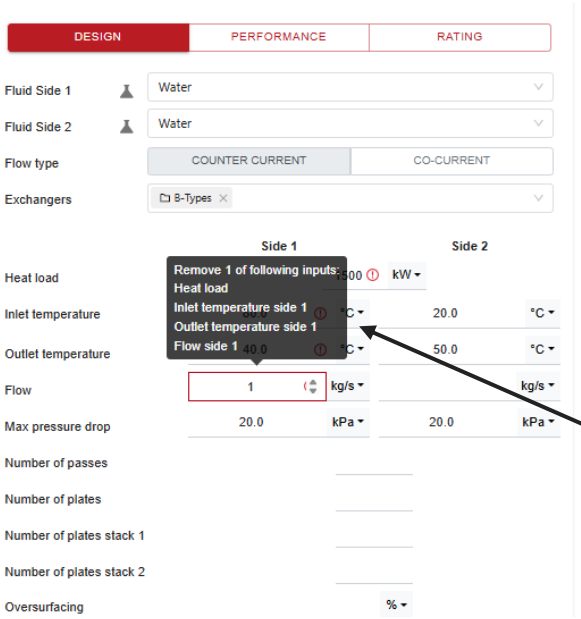


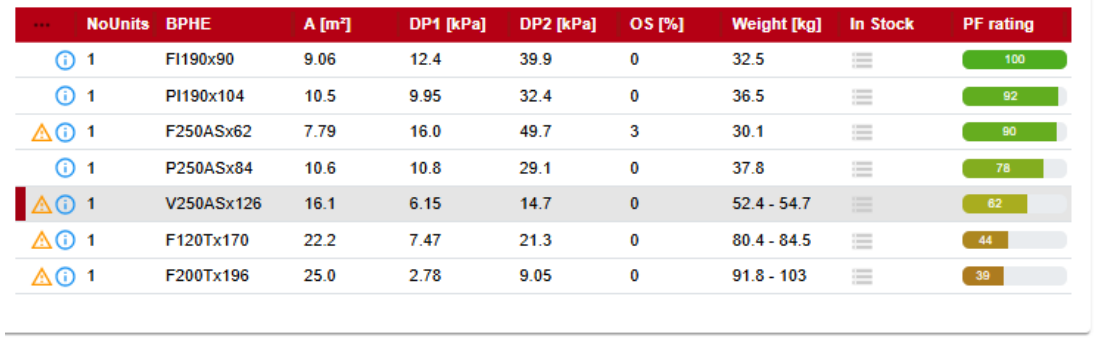
By hovering above the exchanger a pop up showing information about the unit will be displayed

The 3 calculation modes

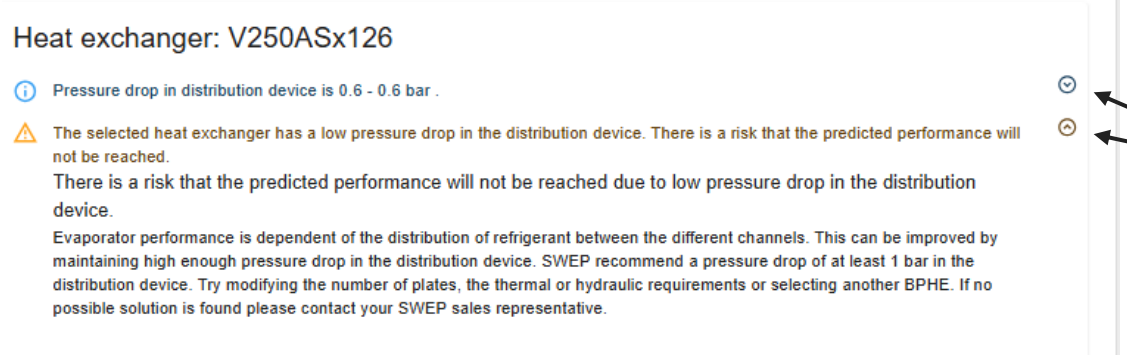
- Design
  - Gives best solution based on parameters given
  - Max pressure drop considered (OS% possible)
  - Several BPHE evaluated simultaneously
- Performance
  - Calculates specific unit under given inlet conditions.
  - Number of passes and number of plates must be specified
  - Result show last temperature to fulfil the heat balance
  - In two-phase it calculates the resulting dew temperature
- Rating
  - Calculates OS% of specific unit for given design case
  - Number of passes and number of plates must be specified







...	NoUnits	BPHE	A [m²]	DP1 [kPa]	DP2 [kPa]	OS [%]	Weight [kg]	In Stock	PF rating
	1	FI190x90	9.06	12.4	39.9	0	32.5		100
	1	PI190x104	10.5	9.95	32.4	0	36.5		92
	1	F250ASx62	7.79	16.0	49.7	3	30.1		90
	1	P250ASx84	10.6	10.8	29.1	0	37.8		78
	1	V250ASx126	16.1	6.15	14.7	0	52.4 - 54.7		62
	1	F120Tx170	22.2	7.47	21.3	0	80.4 - 84.5		44
	1	F200Tx196	25.0	2.78	9.05	0	91.8 - 103		39



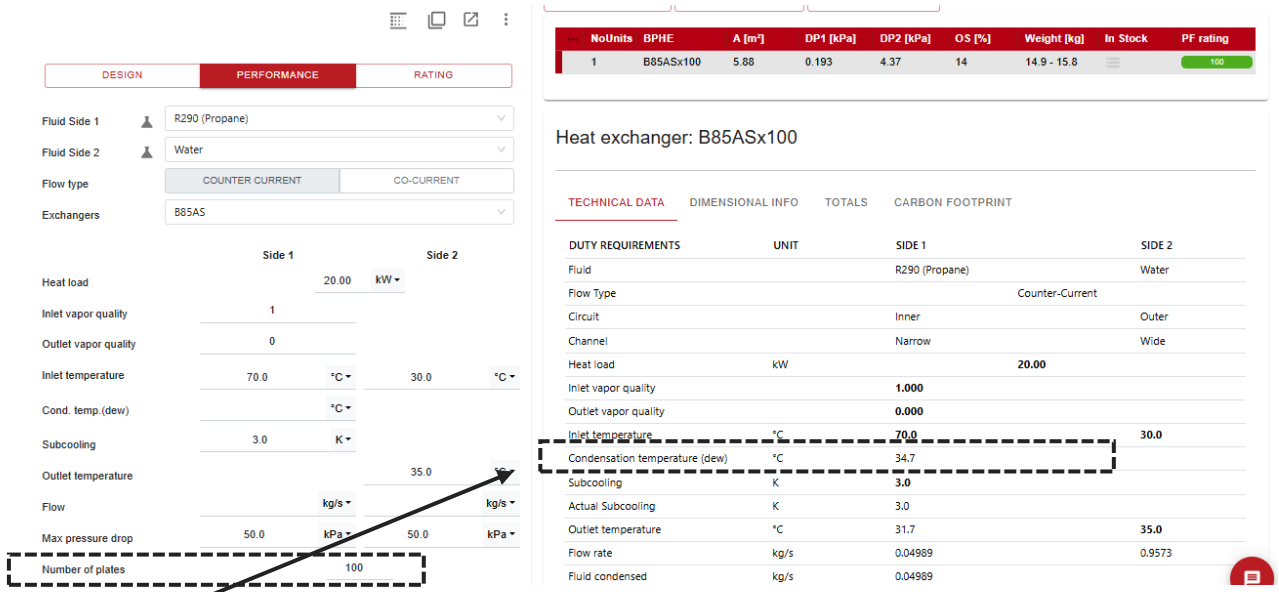
Design mode

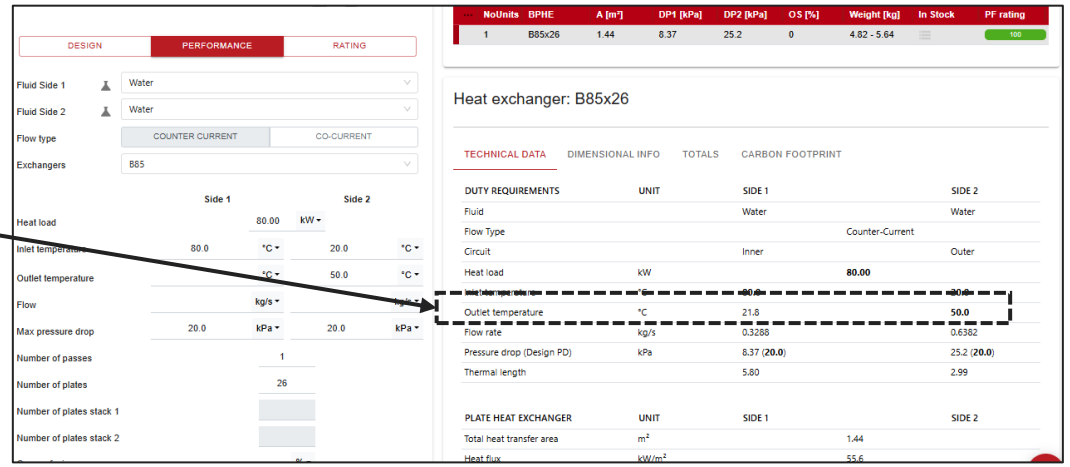
- Fill out required data for the temperature case.
- You can combine temperatures, mass flows and heat load as long as the case specifies a unique heat balance.
- If you over specify the case, the box will turn red and can not be calculated.
- If you hold the pointer at the red box you will be given an explanation on why the system is over determined.
- Press Calculate or alt+c to receive results.
- Based on the input, SSP will propose the most cost-efficient solution available
- To help the user evaluate the selection SSP uses “Warnings” and “Notifications” markings to remind the user that there might be things to consider. To receive more information about the warning the arrow can be clicked.

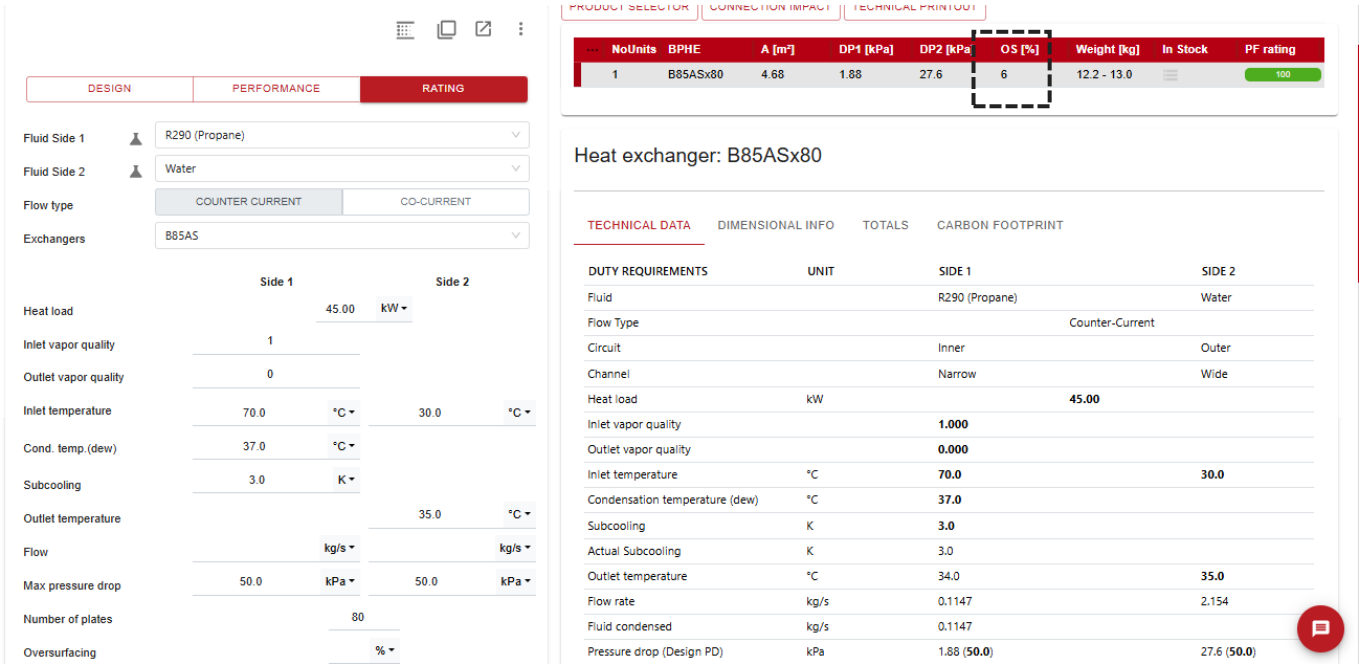
Performance mode

- Specify one (1) BPHE+NoP that you want to evaluate.
- SSP will calculate the performance based on the thermal case and BPHE.
- Max pressure drop will not be considered.

- In two-phase calculation windows SSP will retrieve the condensing or evaporation temperature.
- In single phase it is possible to calculate any of the inlet/outlet temperatures as long as the rest of the heat balance is specified.







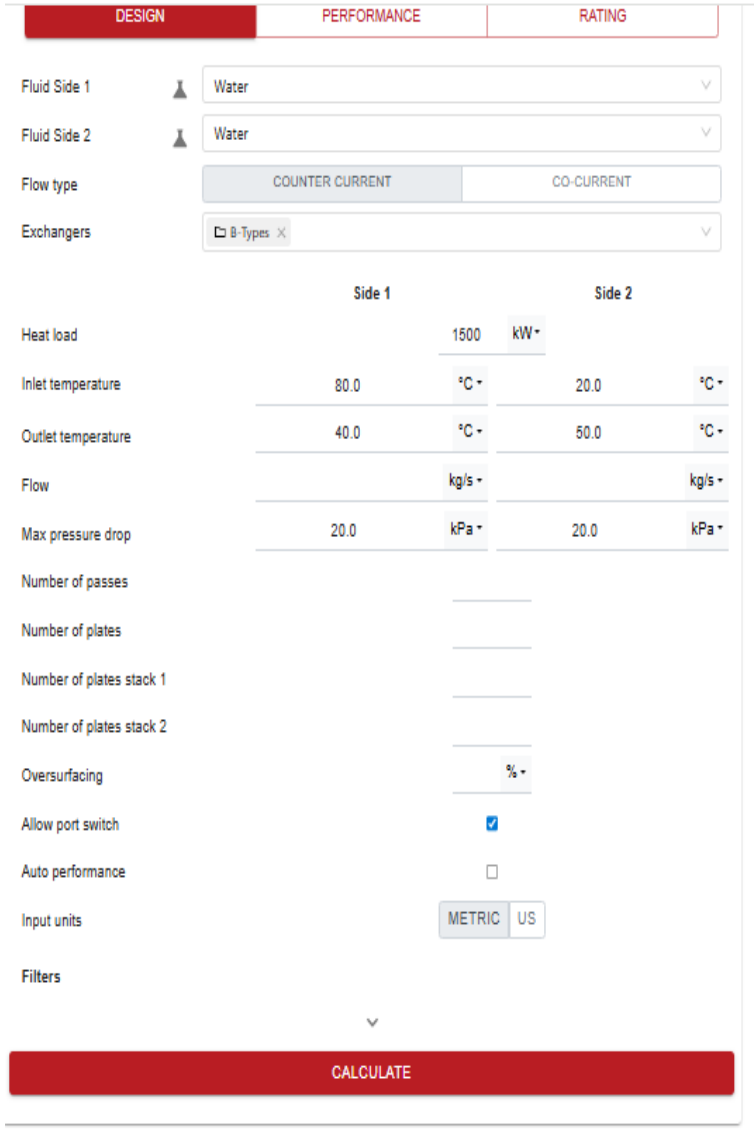
Rating mode

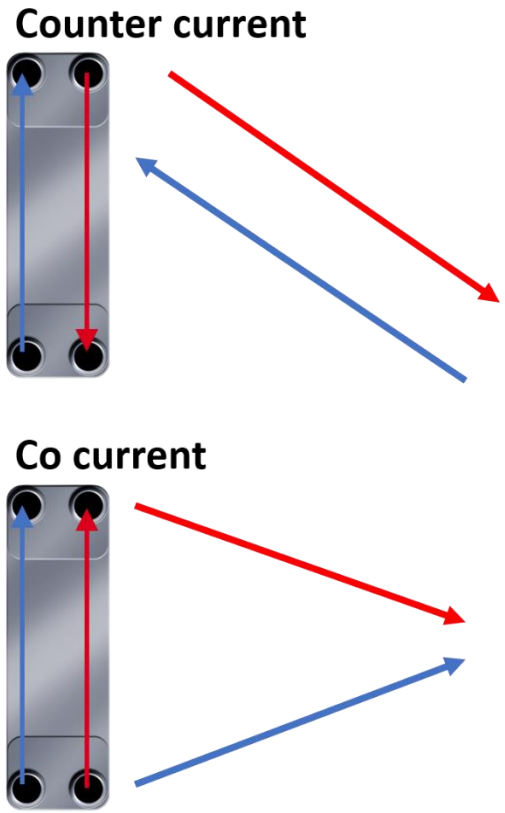
- The thermal case must be specified as in design mode. You can combine temperatures, mass flows and heat load as long as the case specifies a unique heat balance.
- Specify one (1) BPHE+NoP that you want to evaluate.
- SSP will calculate the oversurface (OS) based on the thermal case and BPHE.
- Oversurface is a fictive value and will result in another outlet temperatures and thus other resulting heat load than in the inputs (for OS ≠0).
- Oversurface is defined as OHTC (Overall Heat Transfer Coefficient) available/required.
- The resulting OS is not to be mixed up with ”Extra area”.

Content

Single phase

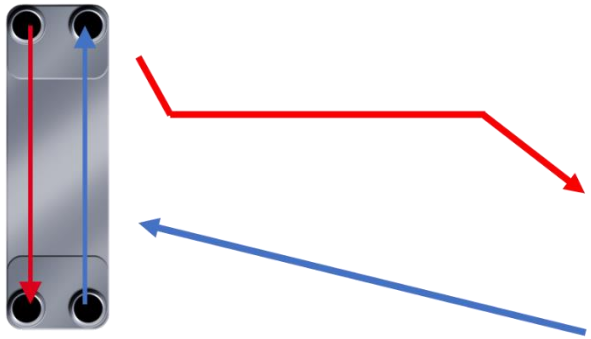
- For applications where none of the fluids in the heat exchanger go through any phase change it is required to use the “Single phase” calculation window.
- In single phase calculations, energy is transferred by changing temperature (sensible heat).
- No phase change occurs and thus entering liquid leaves as liquid and entering gas leaves as gas.
- Available heat exchanger models are B-types, E-types and Minex.



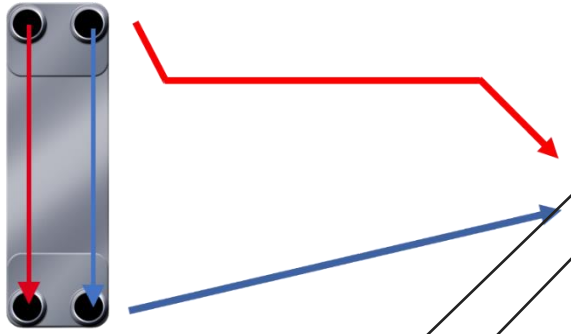


Condenser

Counter current



Co current



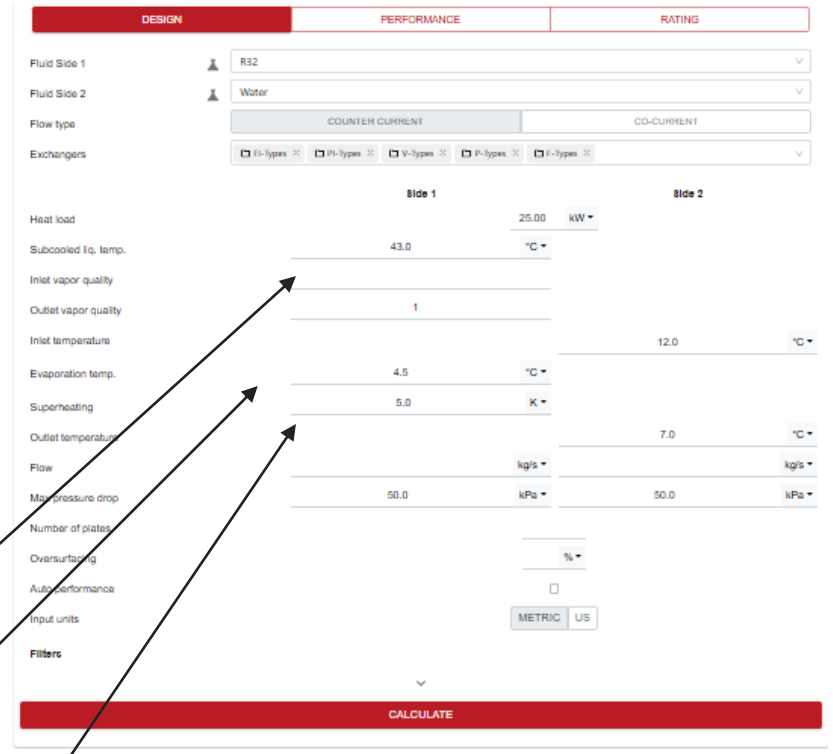
Dew point

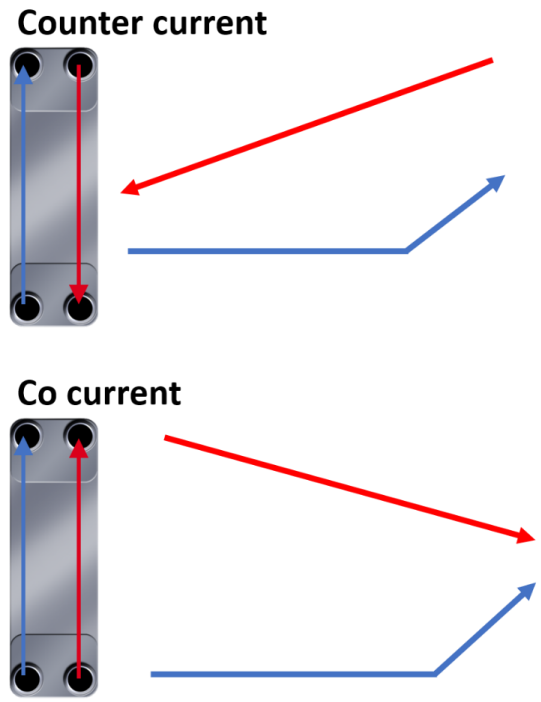
Subcooling from bubble point

- Condensers reject latent heat to the secondary fluid by the phase change from vapor to liquid.
- The secondary fluid is heated up by the rejected heat from the condensing fluid.
- Available heat exchanger models are B-types.
- In reversible systems, where a BPHE with distribution device is physically installed, the condenser shall be calculated as a B-type.
- For example, a P80 shall be calculated as a B80 in the condenser window.

Evaporator

- Evaporators gains heat from the secondary fluid in order to achieve phase change on evaporator side from liquid to vapor.
- The secondary fluid is cooled down by the absorbed heat from the evaporating fluid.
- Available heat exchanger models are B-types and BPHE types with distribution device (V, P, F, S, VH, Q, FI, PI).
- Distribution device is recommended when inlet vapor content is >0 and plate count is >30.



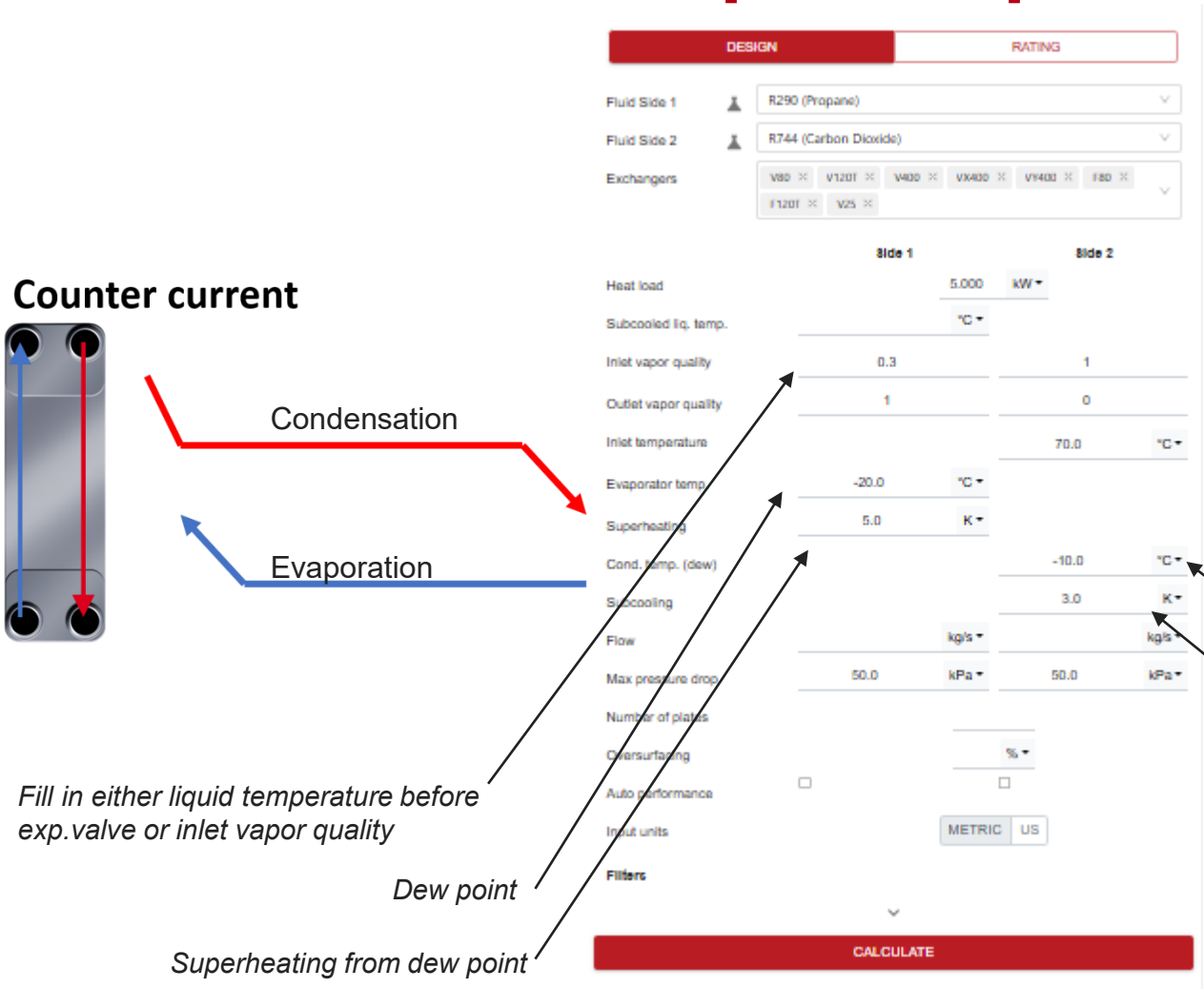


Fill in either liquid temperature before exp.valve or inlet vapor quality

Dew point

Superheating from dew point

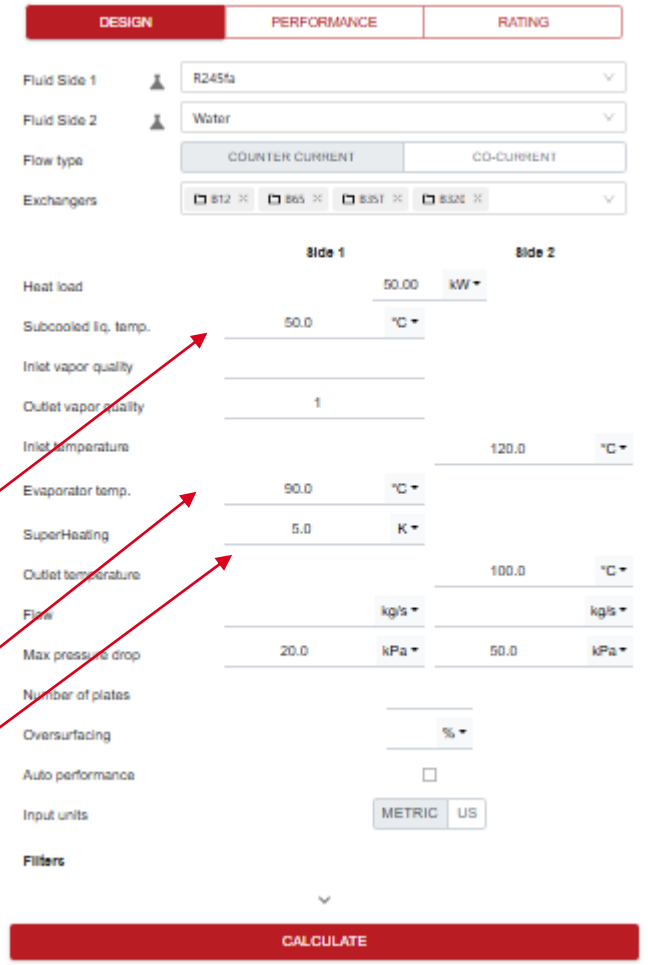
Cascade – Requires special license to access



- Cascade calculation enables phase change on both sides in shape of condensing and evaporation.
- Available heat exchanger models are B-types and BPHE types with distribution device (V, P, F, S, VH, Q, FI, PI).
- Distribution device is recommended when inlet vapor content on evaporator side is >0 and plate count is >30.

Liquid evaporator - Requires special license to access

- Evaporators gains heat from the secondary fluid in order to achieve phase change on evaporator side from liquid to vapor.
- Liquid Evaporator allows subcooled liquid enter the evaporator to be preheated before the evaporation.
- Available heat exchangers are B-types.
- No distribution device is needed since inlet is pure liquid.

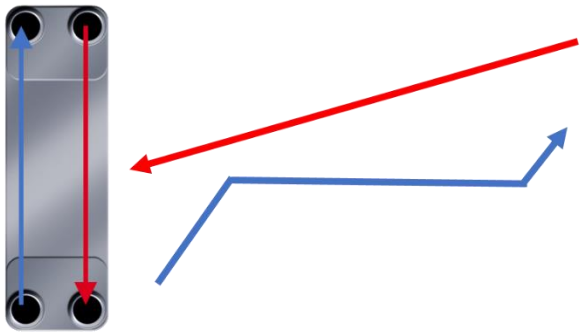


Fill in either inlet liquid temperature before evaporator or inlet vapor quality

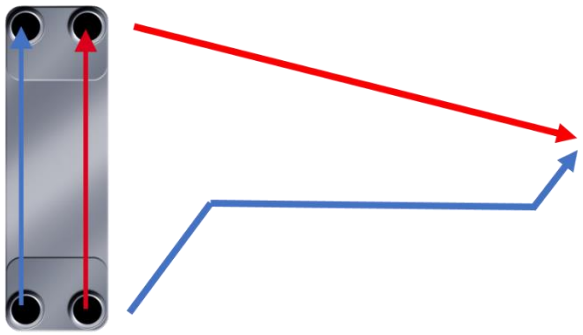
Dew point

Superheating from dew point

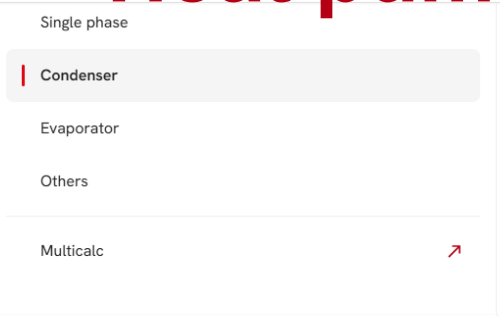
Counter current

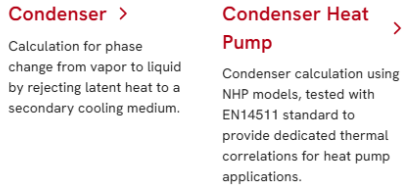


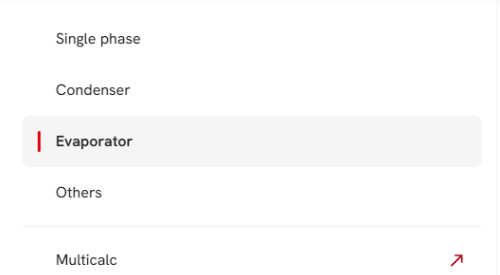
Co current

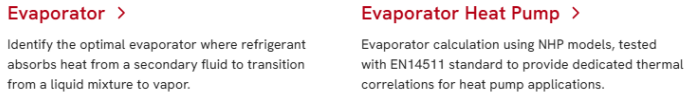


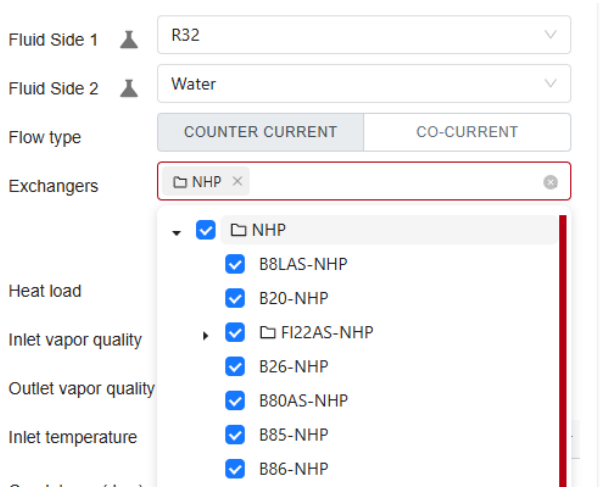
Heat pump calculations



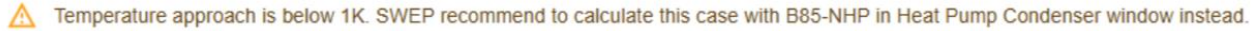








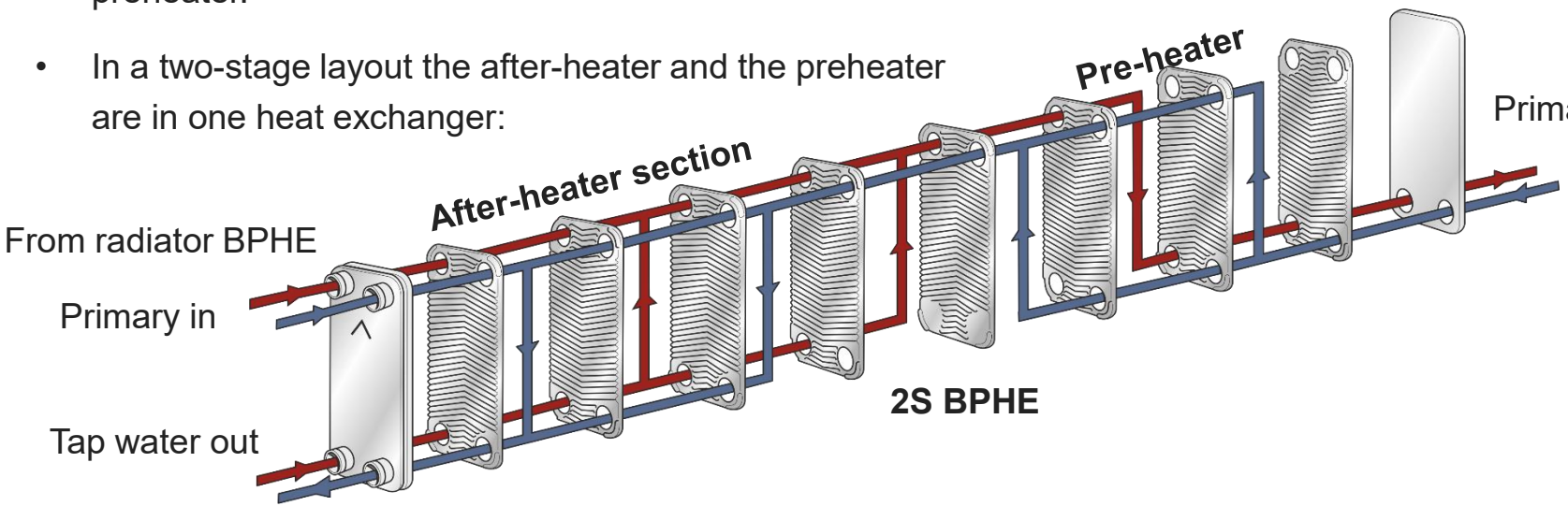
- Heat pump calculations differ in the sense that correlations have been implemented altering the input based on standard heat pump data to reach more accurate results.
  - Parameters that are optimized are e.g. tighter temperature approach as a result from lower heat fluxes.
  - This results in slightly different selections in the dedicated heat pump window as compared to Condenser/Evaporator window.
  - Use the heat pump calculation windows if temperature approach is ≤2K or when you see this information in the standard Condenser/Evaporator calculation window:

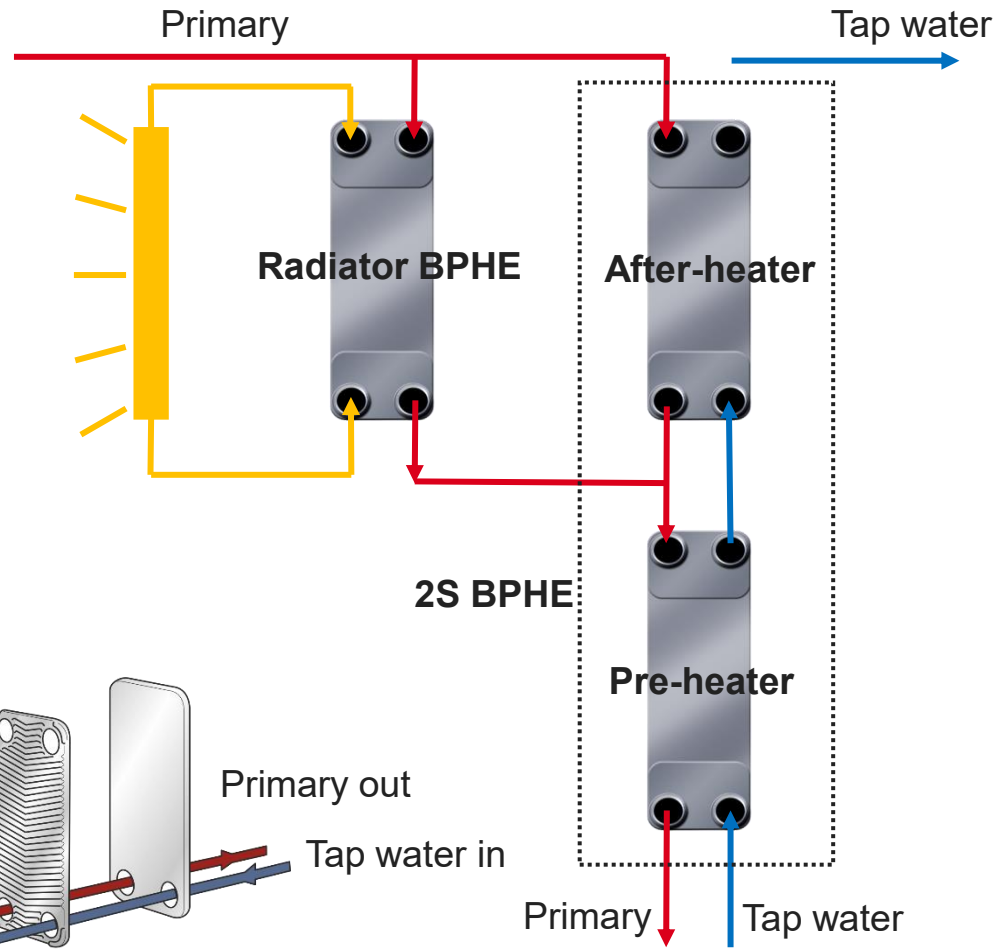


  - The BPHE are **exactly the same** but are equipped with the suffix “NHP” in order to distinguish them from the ones based on normal data.

Two stage

- In a two-stage layout the space and tap water heating are combined in order to making use of the energy in space heating return flow for tap water heating.
- The primary return flow from the radiator heat exchanger is mixed with primary flow from the so-called after-heater.
- The mixed flow then enters a third heat exchanger, the preheater.
- In a two-stage layout the after-heater and the preheater are in one heat exchanger:

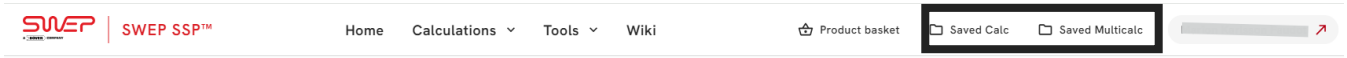




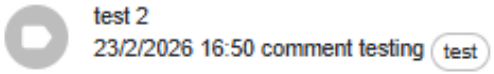
Content

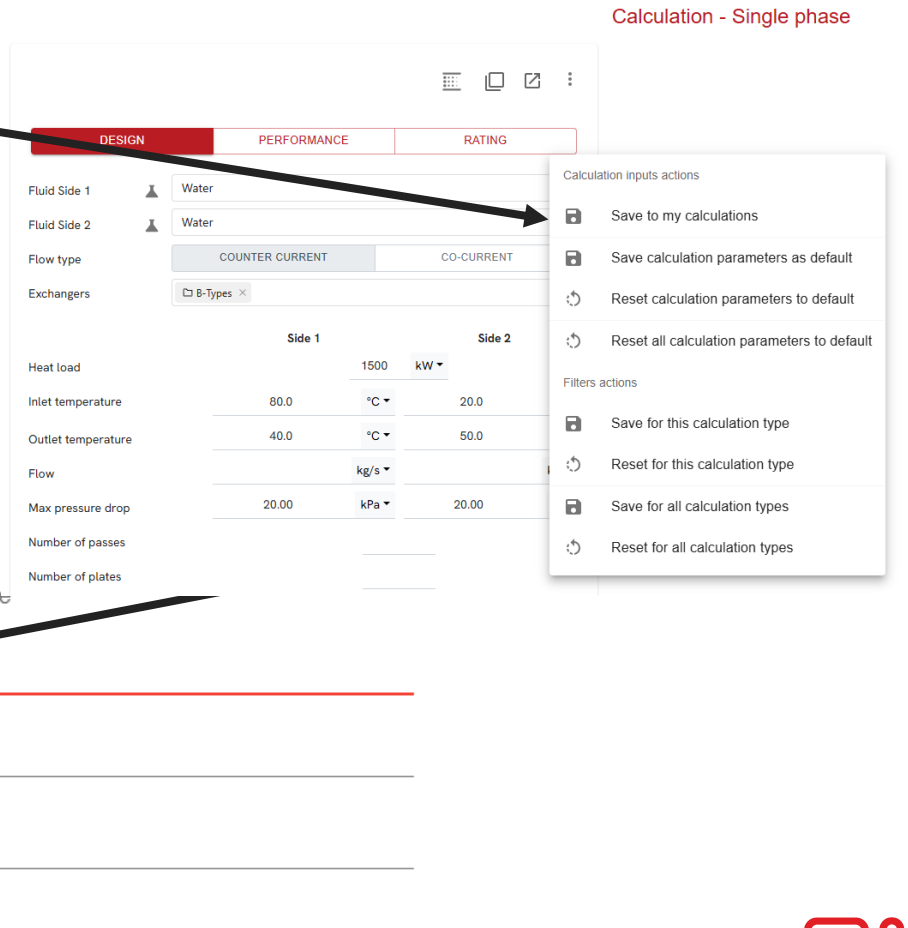
Save and share calculation

- To save a calculation 
- The saved calculations will end up in “Saved calculations” which is found under the navigation toolbar



- Upon save it is possible to give the calculation a name, comment and custom tags to make easy to remember. The calculation type is always added as a tag automatically.
- By pressing enter a tag is created



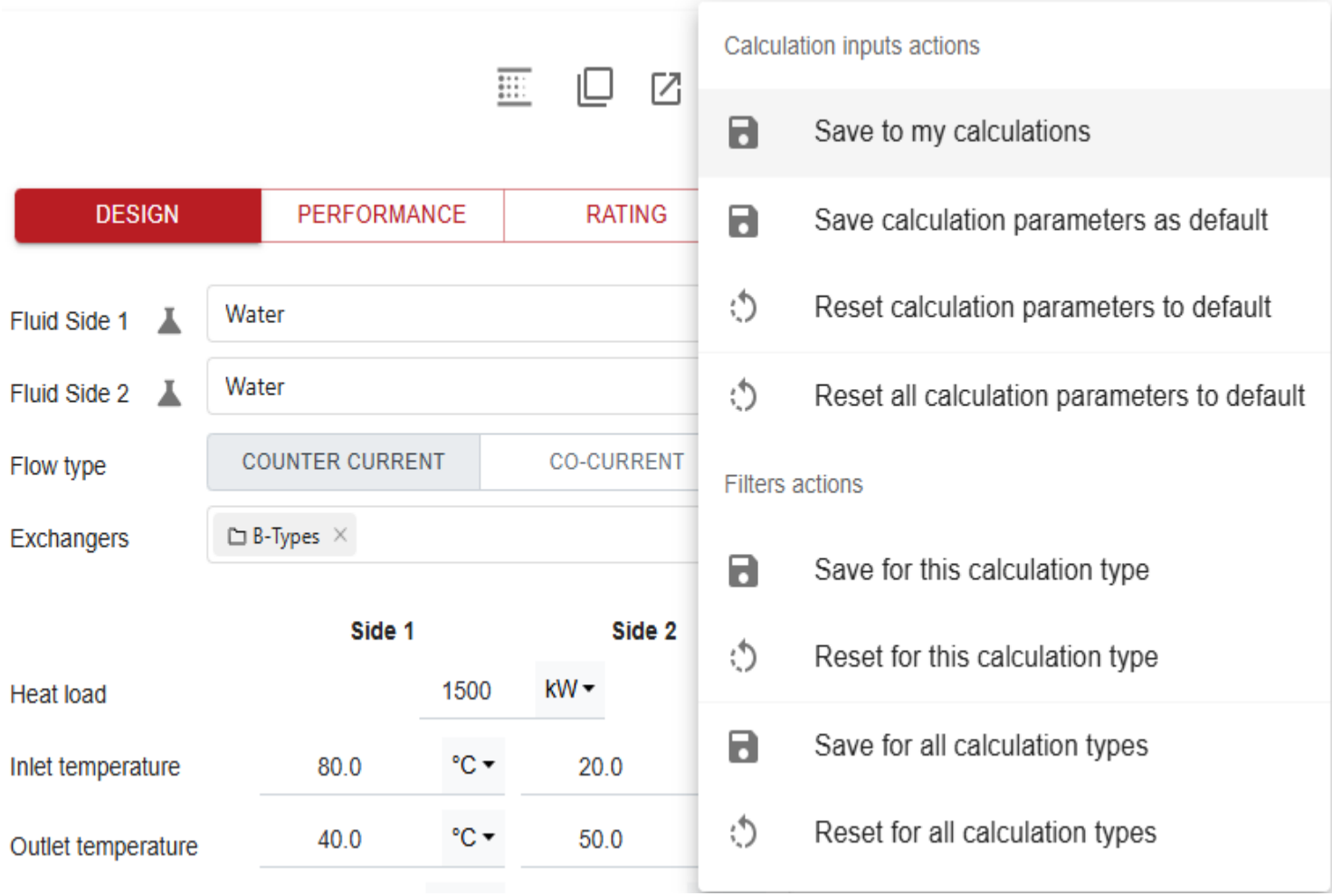


Save and share calculation

- Saved SWEP SSP™ calculations are easily accessible and can be shared through a unique link.

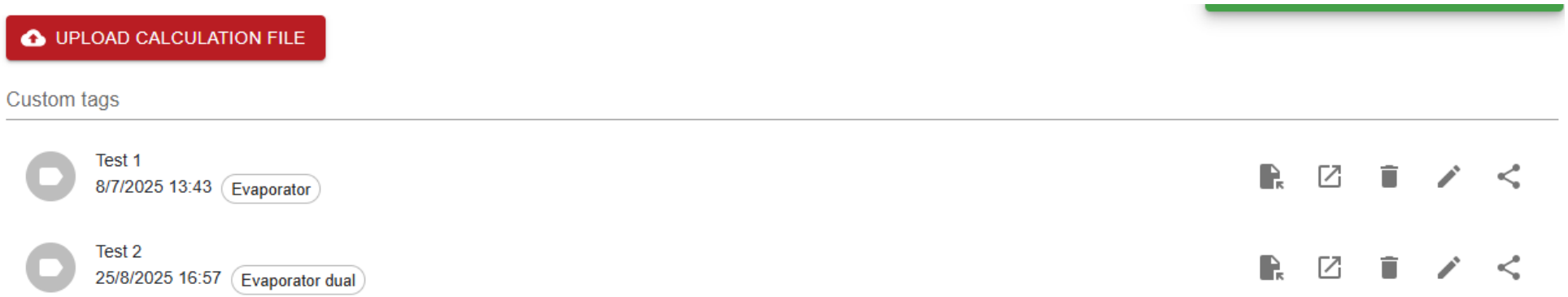
Save calculation settings as default

- By using the save calculation parameters as default you enter the data you want to be presented as default when starting.
- Calculation settings are saved per calculation window and can be reseted by pressing the “Reset calculation parameters to default”
- If you instead want to reset the settings in all windows at once you can select the “Reset all calculation parameters to default”



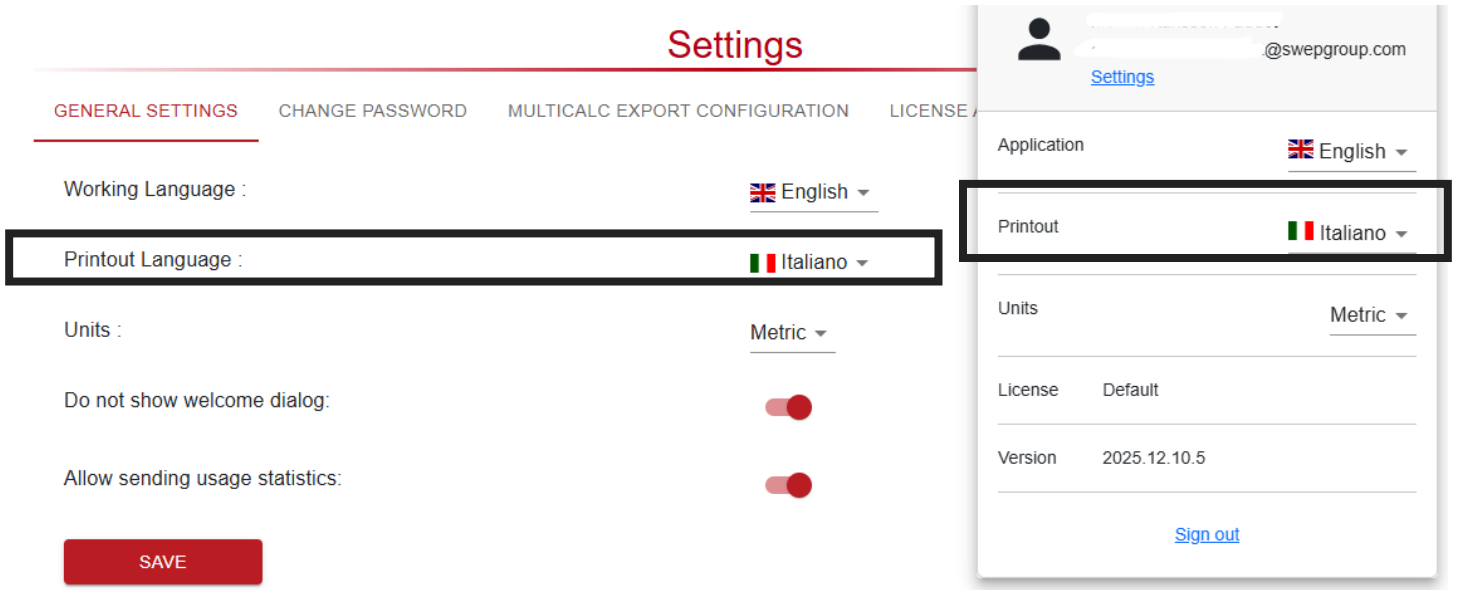
Upload previously saved SSP G8 files

- Under the “saved calculation tab” one can find a button to upload SSP G8 files to SWEP SSP™



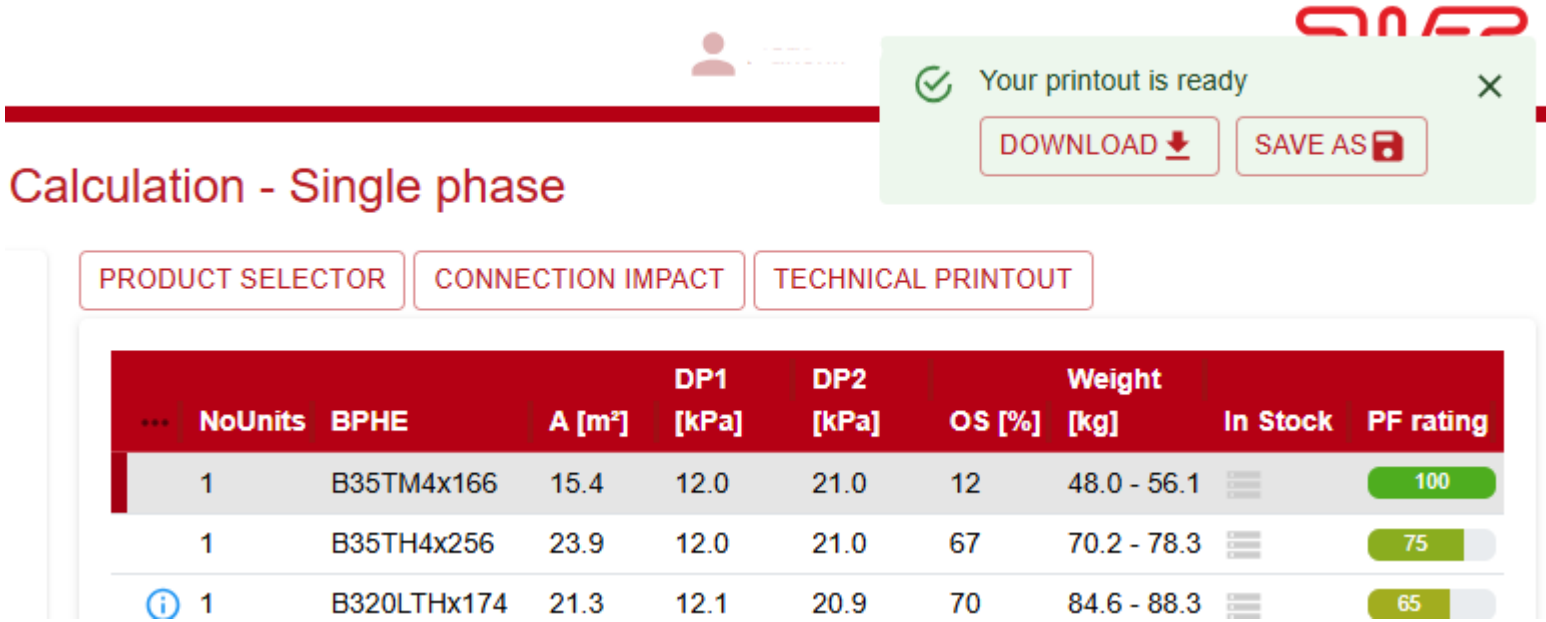
Technical printout

- Printout language is set in settings or quick settings bar
- Technical printout contain thermal data from your calculation and dimensions of the BPHE.
- A printout on article number with more detailed data can be created from the product selector.

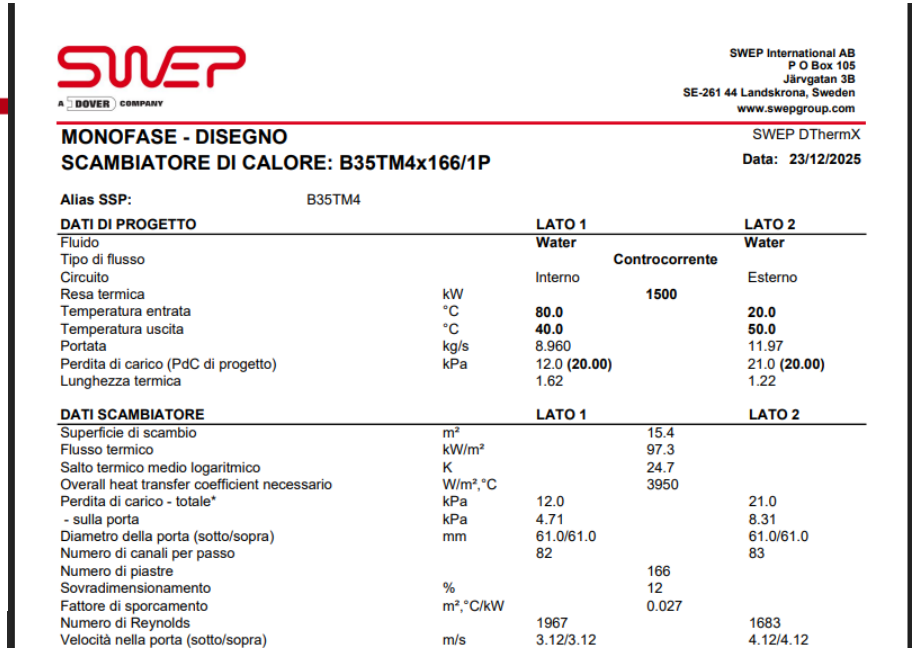


Technical printout

- Choose between opening the printout as a pdf in a new tab in the browser or saving it on your computer into the folder of your choosing.



...	NoUnits	BPHE	A [m²]	DP1 [kPa]	DP2 [kPa]	OS [%]	Weight [kg]	In Stock	PF rating
	1	B35TM4x166	15.4	12.0	21.0	12	48.0 - 56.1		100
	1	B35TH4x256	23.9	12.0	21.0	67	70.2 - 78.3		75
ⓘ	1	B320LTHx174	21.3	12.1	20.9	70	84.6 - 88.3		65



SWEP International AB
P O Box 105
Järvgatan 3B
SE-261 44 Landskrona, Sweden
www.swepgroup.com

MONOFASE - DISEGNO
SCAMBIATORE DI CALORE: B35TM4x166/1P

SWEP DThermX
Data: 23/12/2025

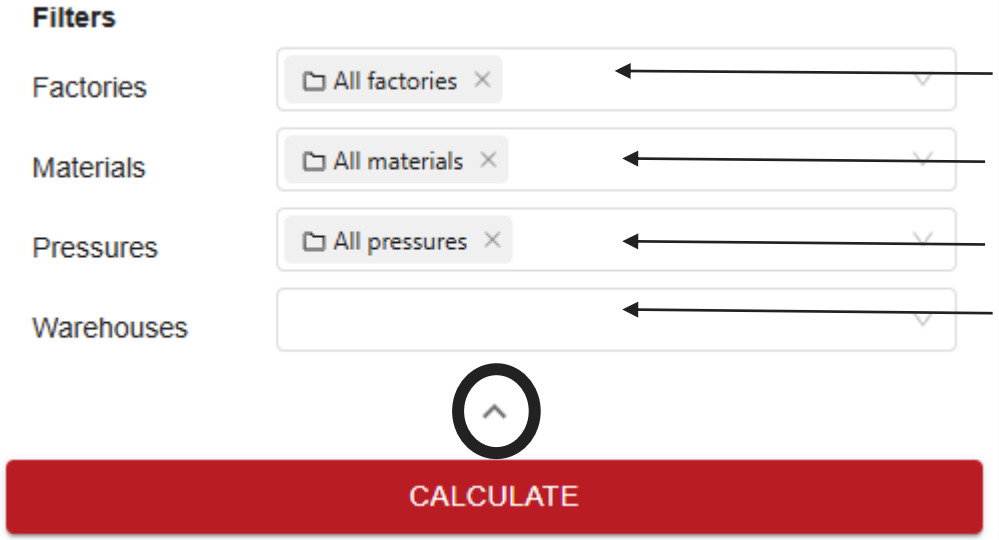
Alias SSP: B35TM4

DATI DI PROGETTO		LATO 1		LATO 2
Fluido		Water		Water
Tipo di flusso			Controcorrente	
Circuito		Interno		Esterno
Resa termica	kW		1500	
Temperatura entrata	°C	**80.0**		**20.0**
Temperatura uscita	°C	**40.0**		**50.0**
Portata	kg/s	8.960		11.97
Perdita di carico (PdC di progetto)	kPa	12.0 **(20.00)**		21.0 **(20.00)**
Lunghezza termica		1.62		1.22

DATI SCAMBIATORE		LATO 1		LATO 2
Superficie di scambio	m²		15.4	
Flusso termico	kW/m²		97.3	
Salto termico medio logaritmico	K		24.7	
Overall heat transfer coefficient necessario	W/m²,°C		3950	
Perdita di carico - totale*	kPa	12.0		21.0
- sulla porta	kPa	4.71		8.31
Diametro della porta (sotto/sopra)	mm	61.0/61.0		61.0/61.0
Numero di canali per passo		82		83
Numero di piastre			166	
Sovradimensionamento	%		12	
Fattore di sporcamento	m²,°C/kW		0.027	
Numero di Reynolds		1967		1683
Velocità nella porta (sotto/sopra)	m/s	3.12/3.12		4.12/4.12

Filters

- Selections can be made with applied filters.
- With applied filters, the calculation result is restricted to fulfill the filter parameters.
- Filters can also be saved to be applied by default.
- Hide the filters by pressing on the arrow



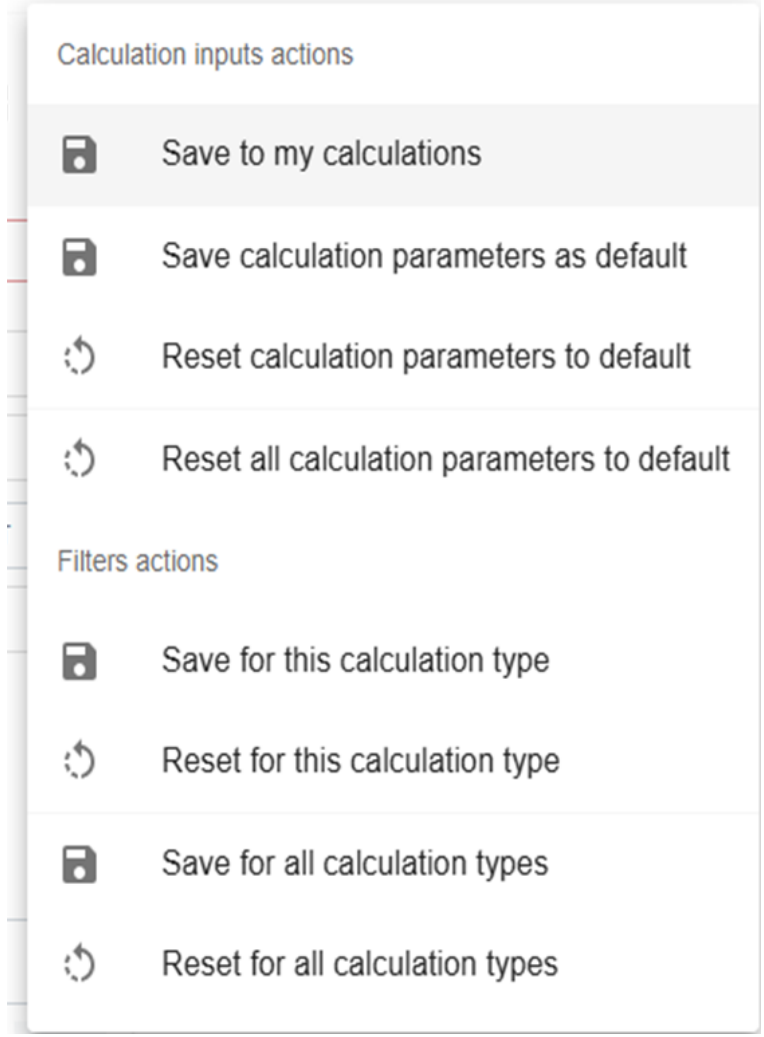
Search for models available at certain geograpic regions

Search for models available in certain materials

Search for models available in a certain pressure classes

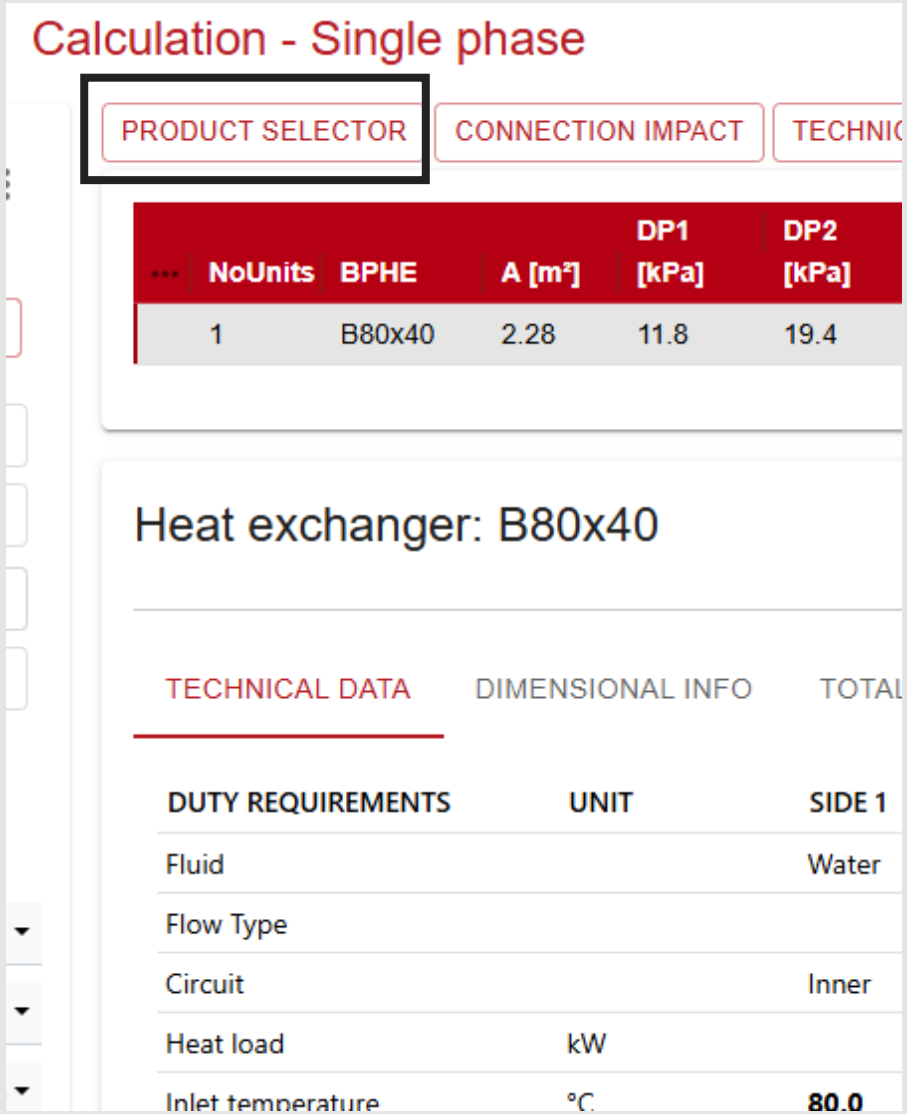
Search for models currently on stock

Save/reset this filter as default to current calculation window / all calculation windows



Product selector

- Product selector lists information about available article numbers for the selected model.
- There are filters to sort out certain properties for both the heat exchanger and the connections.

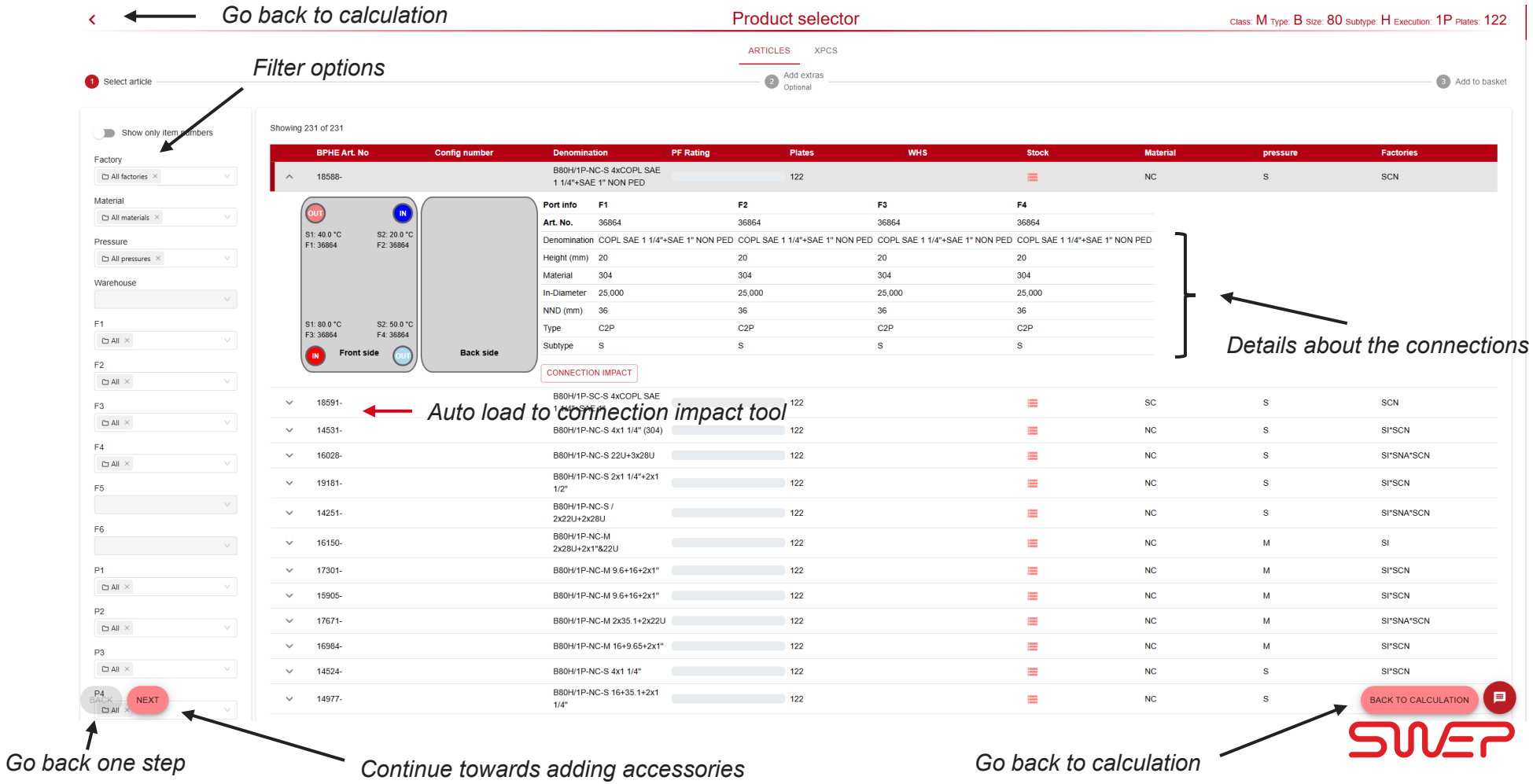


Product selector

- Connection types

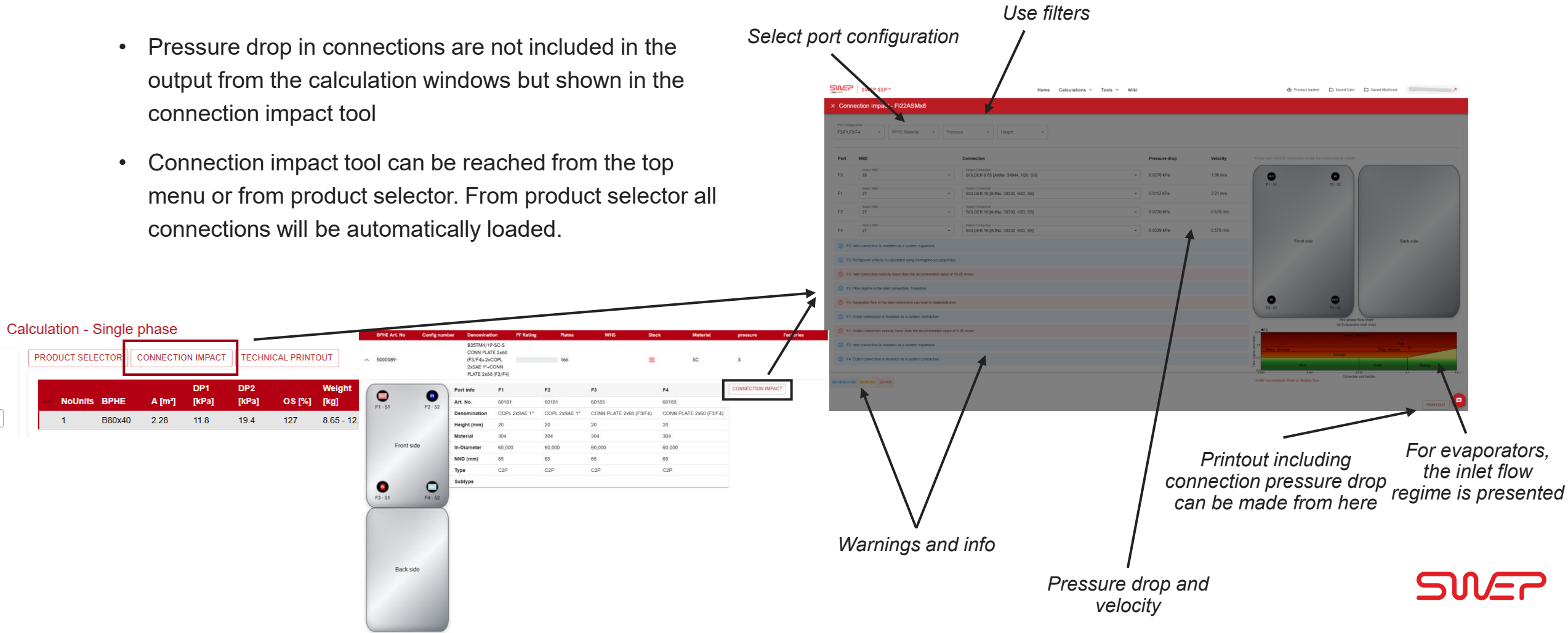
Type	
AD	Adapter
C	Connection plate
CB	Combination connection
FL	Flange connection
HS	Hose, Solder hose
OR	Connection O-ring
SD	Solder
SDC	Solder (coned)
TH	Thread
THU	Thread UHP approved
VC	Victaulic
WD	Weld, Counter connection with welding neck

Sub type	
DC	Compact flange
G	ISO-G Male (external)
GF	ISO-G Female (internal)
GH	ISO-G HEX
IB	Induction brazing
M	Metric thread
N	NPT thread Male (external)
NF	NPT thread Female (internal)
QA	Q-pipe A
QB	Q-pipe B
QD	Q-pipe D
QN	Q-pipe N
R	ISO 7/1-R
RC	ISO7/1 Rc
S	SAE connection
SO	SAE O-ring
U	Ultra pressure
UNF	Unified National Fine Thread
UR	Rotalock



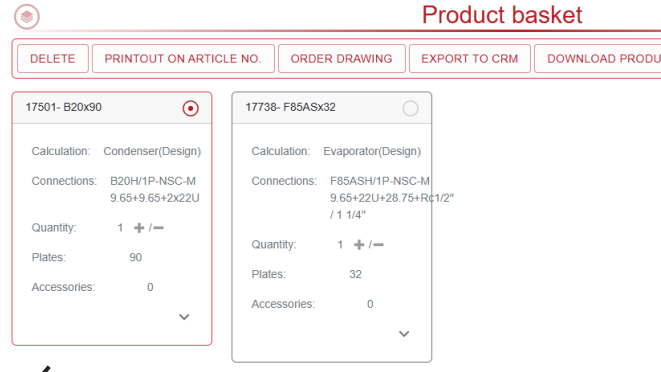
Connections impact tool

- Pressure drop in connections are not included in the output from the calculation windows but shown in the connection impact tool
- Connection impact tool can be reached from the top menu or from product selector. From product selector all connections will be automatically loaded.

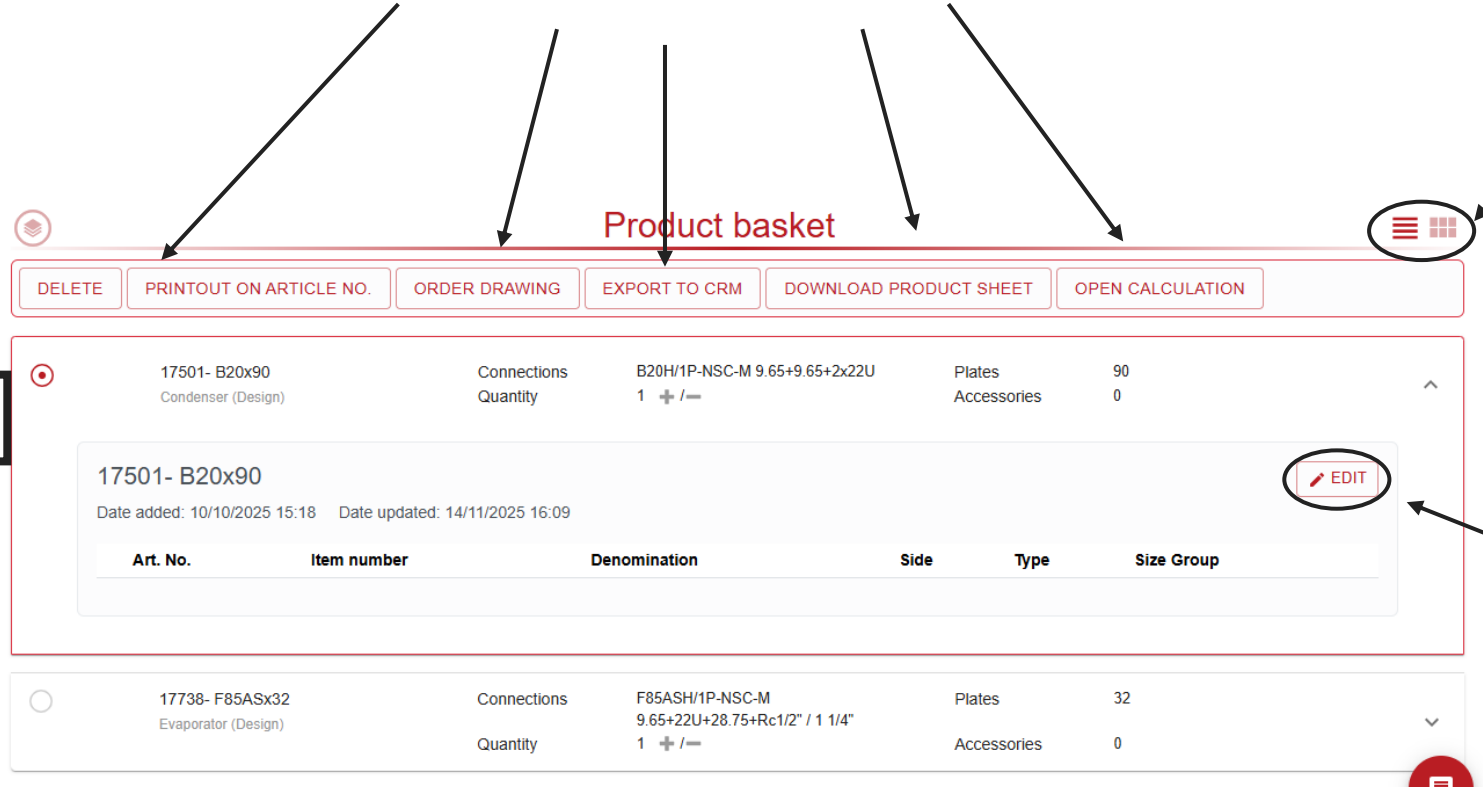


Product basket

- In Product basket you can handle the products you have added to basket from product selector
- When selecting an item in your basket multiple options present themselves:



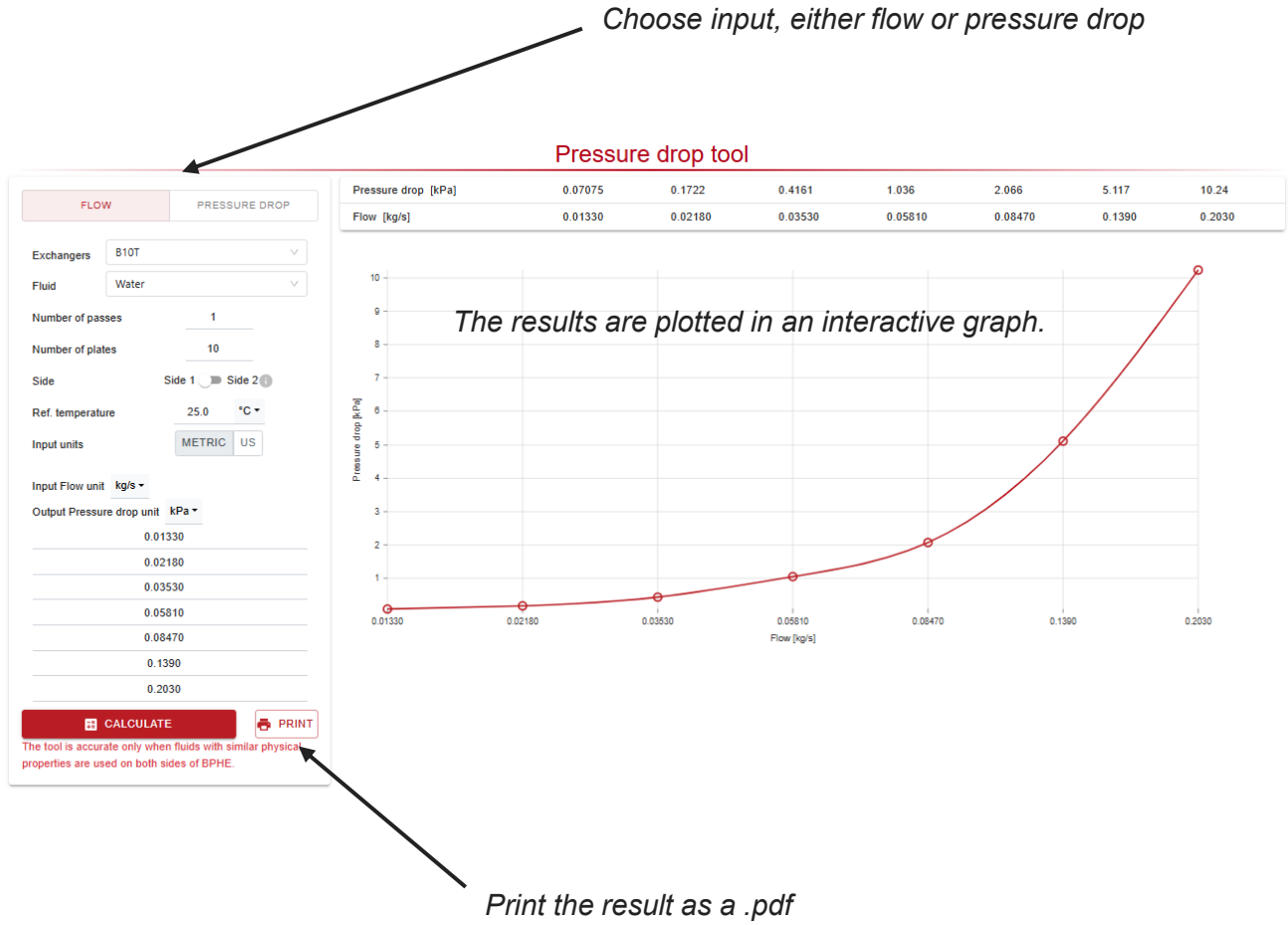
You can switch between list view and tile view.



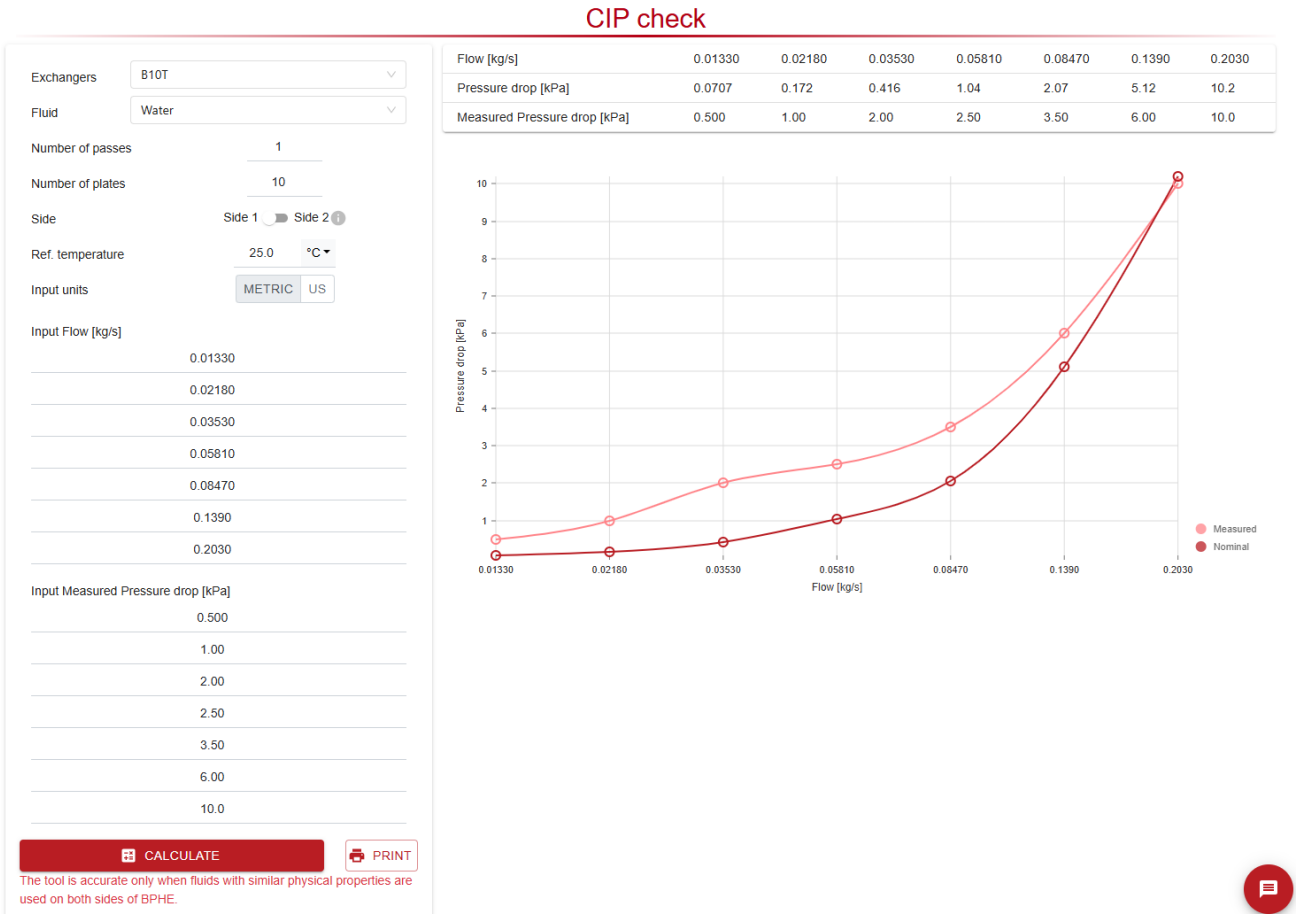
Edit your basket item

Pressure drop tool

- Use the integrated Pressure drop tool for easy calculation of pressure drop vs. flow or flow vs. pressure drop.
- Plotting the behaviour for several conditions.
- The result can deviate a bit from the calculation windows due to some simplifications.



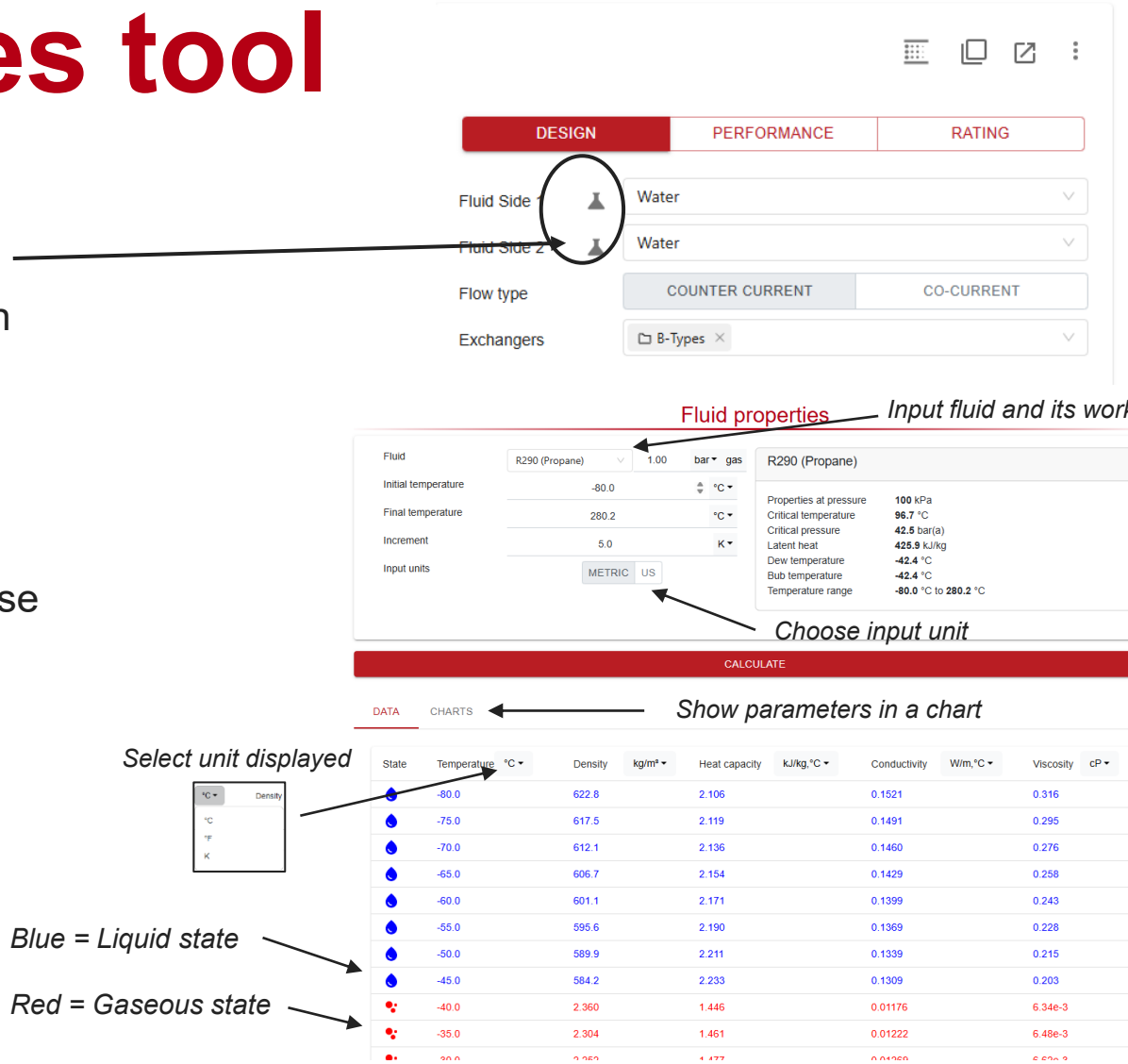
CIP check tool



- Similar to the pressure drop tool the CIP tool can be used to evaluate if a unit need to be cleaned.
- By adding real measured pressure drop and comparing it to the nominal pressure drop it can be clear if a cleaning in place (CIP) should be done.

Fluid properties tool

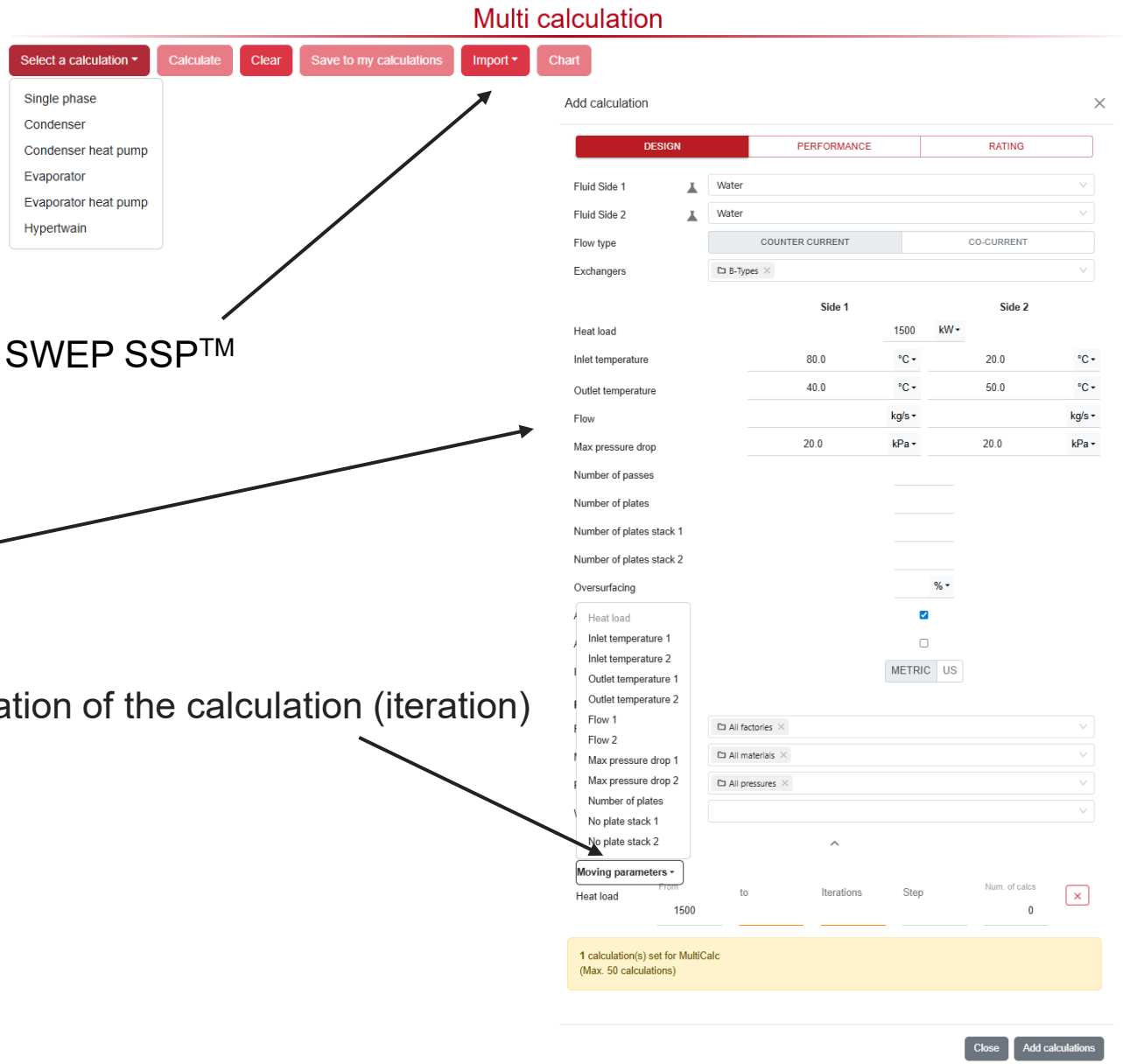
- The fluid properties can be accesed by clicking on tools in the menu bar or by clicking on the test tube in the calculation window
- It is used to find thermal properties of all fluids that are available in SWEP SSP™.
- By using the table it is possible to visualise the properties of some properties for a given temperature range.



Multicalc

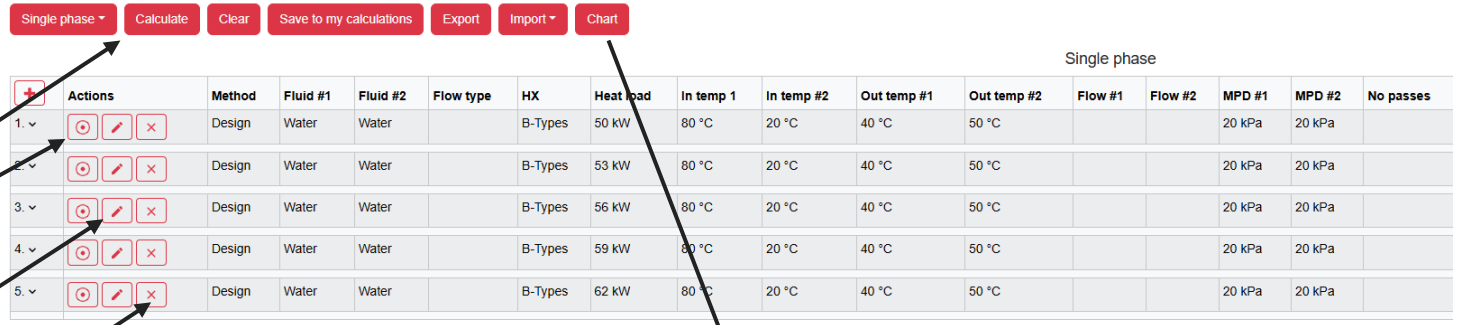
- Import your excel multicalc from SSP G8 directly into SWEP SSP™

- Create your multicalc
  1. Select calculation type
  2. Input parameters
  3. Select moving parameters or number of duplication of the calculation (iteration)
  4. Press add calculation



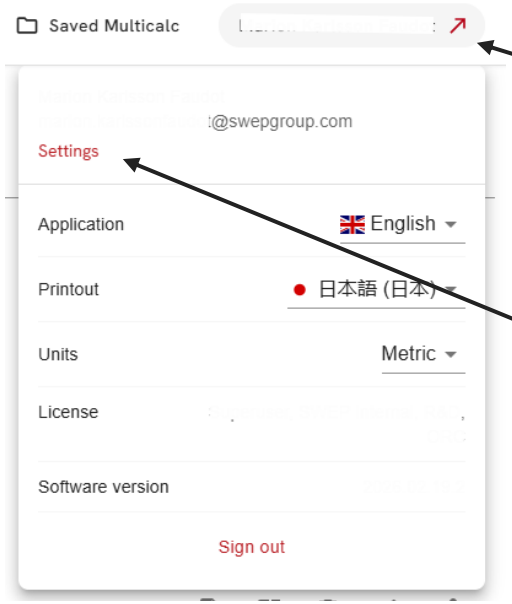
Multicalc

- Once you have created or uploaded your multicalc you can:
  - calculate it
  - save it
  - export it to excel
  - edit it
  - remove it
  - create charts within SWEP SSP™



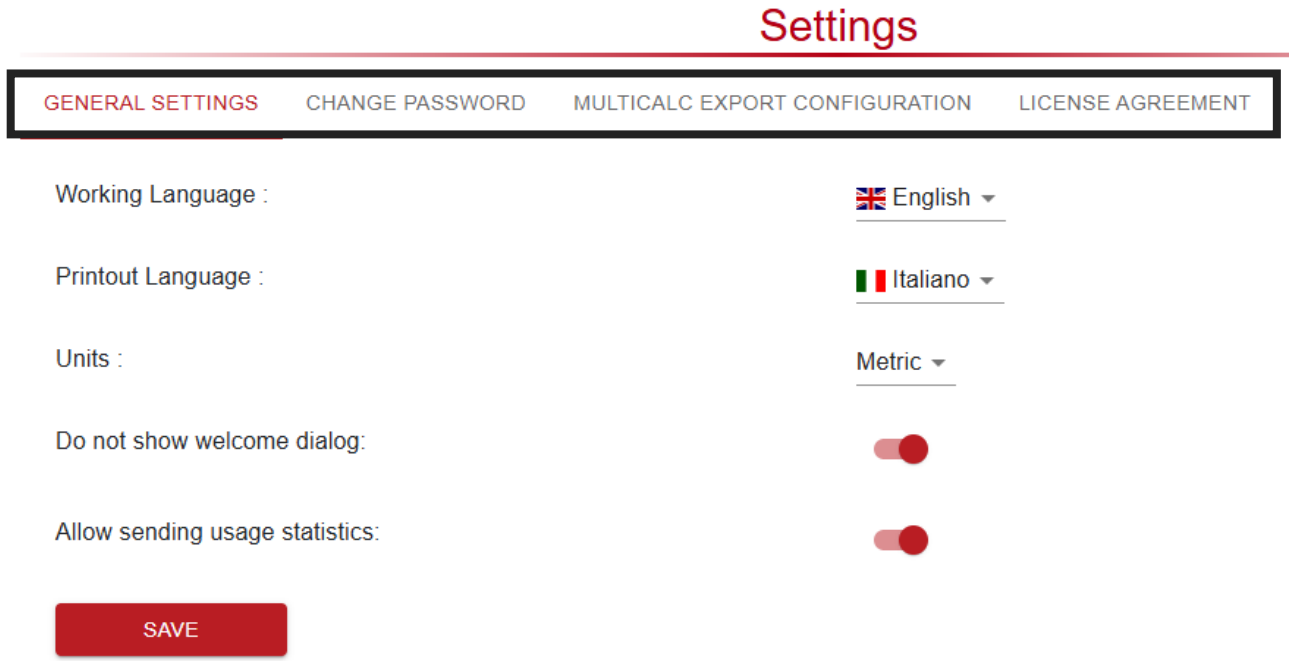
Content

Settings



Quick settings and sign out

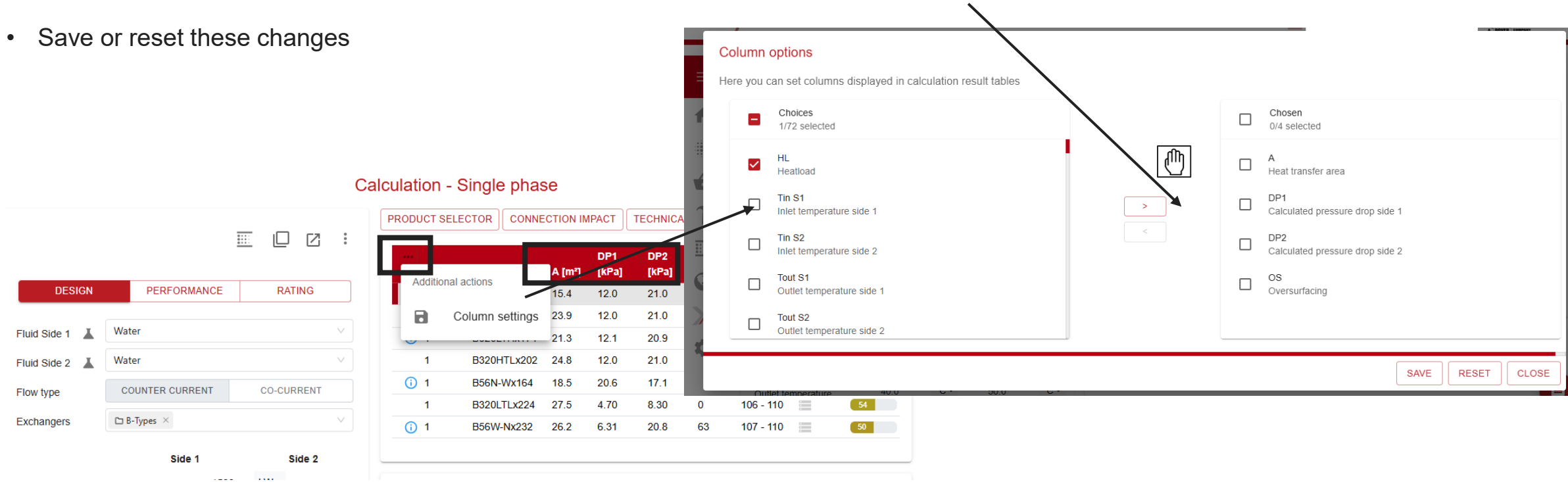
Accessing settings pane



Use the navigation menu to find what setting you wish to change

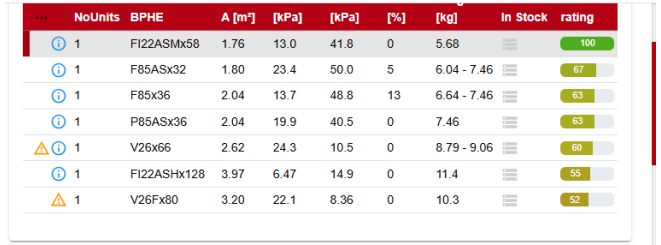
Change column settings

- The parameters in the results window can be changed according to your choice.
- Move columns using drag and drop or by selecting them and pressing the arrow button
- Save or reset these changes

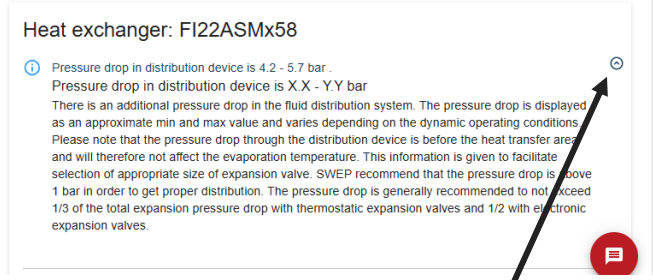


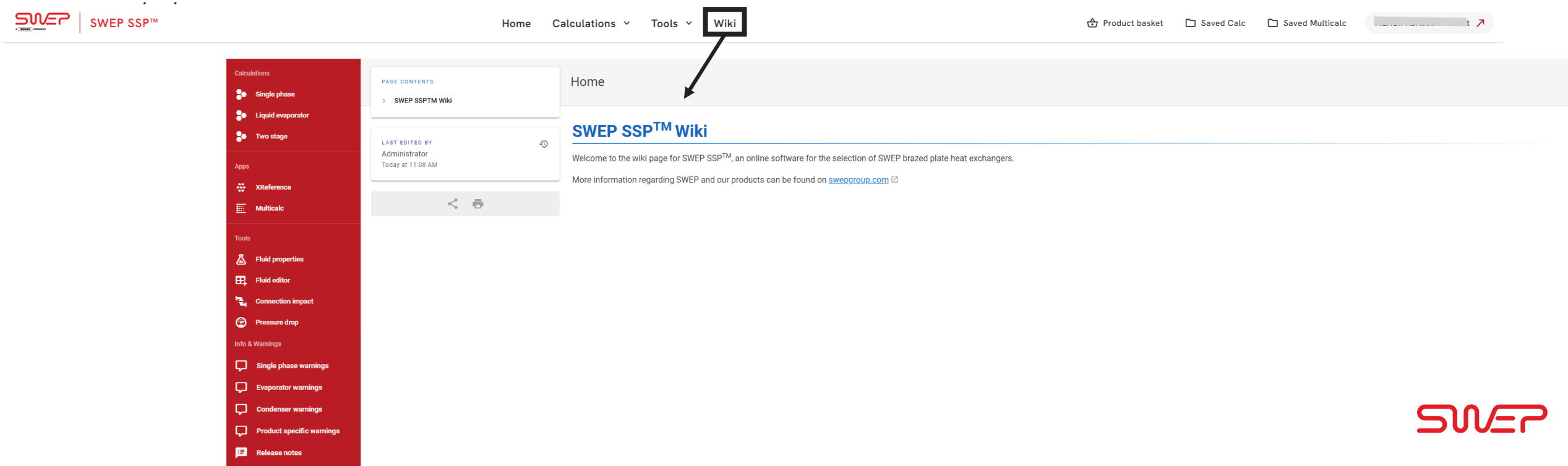
Help menu - Wiki

- Contains Information about, calculation windows, Xreference, multicalc
- Contains a log of the release notes with information about latest updates.
- Some warnings and information have an explanatory message; this can be opened by clicking on the arrow beside the warning



	NoUnits	BPHE	A [m²]	[kPa]	[kPa]	[%]	[kg]	In Stock	rating
	1	FI22ASMx58	1.76	13.0	41.8	0	5.68		100
	1	F85ASx32	1.80	23.4	50.0	5	6.04 - 7.46		67
	1	F85x36	2.04	13.7	48.8	13	6.64 - 7.46		63
	1	P85ASx36	2.04	19.9	40.5	0	7.46		63
⚠	1	V26x66	2.62	24.3	10.5	0	8.79 - 9.06		60
	1	FI22ASHx128	3.97	6.47	14.9	0	11.4		55
⚠	1	V26Fx80	3.20	22.1	8.36	0	10.3		52





Thank you