

Filter Station

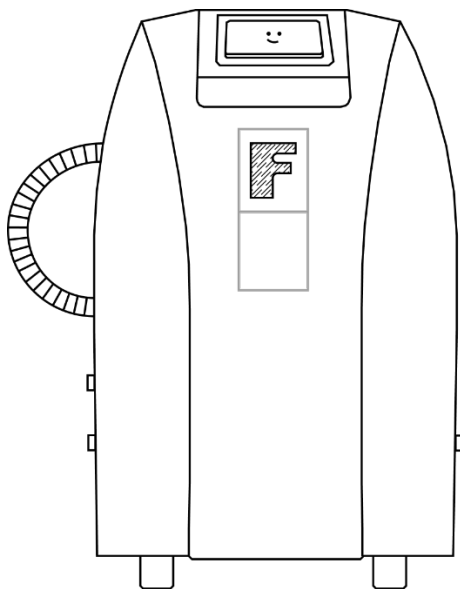
HY-F

Manual

English

Ver. 260916

Former name: HL Hydronics MA-X Smart Filter Station



Support and product feedback

Need help?

You can find guides, frequently asked questions and technical support at hydrun.se/support.

You can also contact us directly:

- support@hydrun.se
- +46 (0)573-216 30

Via your dealer

Our dealers are experienced and knowledgeable about the Hydrun range. They are your closest point of contact for questions regarding installation, operation and spare parts – and have direct access to our support and expertise.

We'd love to hear from you

We develop and manufacture our products here in Töcksfors, Sweden, based on our experience in operation and installation. That's why we'd appreciate it if you could share your views and ideas – big or small. Your feedback helps us make the next generation of Hydrun products even better.

Would you like to contribute directly?

Please feel free to contact our CEO: bl@hydrun.se

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1. Quick guide

System components

A complete installation of the filter station is carried out using two steel-reinforced connection hoses on the system's return line or, alternatively, with fixed pipes. The hoses/pipes must be DN25/CU28 up to 2.5 metres; from 2.5 m up to 4 metres, DN32 must be used.

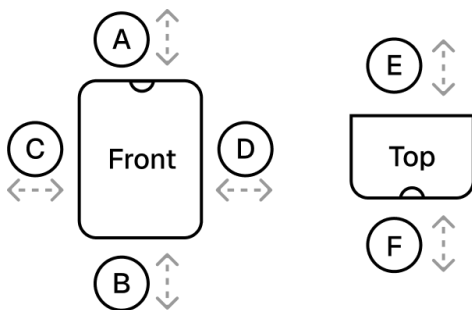
Operating parameters

- Maximum operating temperature: 100°C (cartridge) 80°C (bag)
- Minimum distance between **inlet** and outlet: 500 mm
- Maximum operating pressure: 10 bar
- Maximum differential pressure: 1.5 bar (factory setting adapted for our filters)

Installation Dimensions

To ensure a correct installation and proper operation of the unit, it is important to maintain the specified minimum clearances.

- A: 1000 mm
 B: floor-mounted
 C: 1000 mm
 D: 1000 mm
 E: 1000 mm
 F: 1000 mm



Instructions

Check that the filter station is correctly installed on the system's return pipe before commissioning.

Always read the manual in its entirety before starting work.

Correct installation in accordance with the above requirements is essential for safe operation and a long service life.

Always ensure that the Hydrun Filter Station is installed level and is not placed unevenly or unsteadily.

Is the filter station being installed with a deaerator? We have provided connections on the station for a simple and cost-effective installation of deaerators.

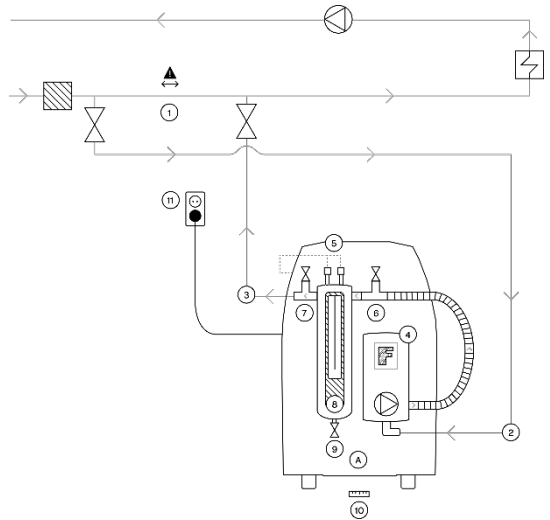
You can always reach us on +46 573 21 630 or support@hydrun.se

Good luck!

1.1 Quick guide: technical information

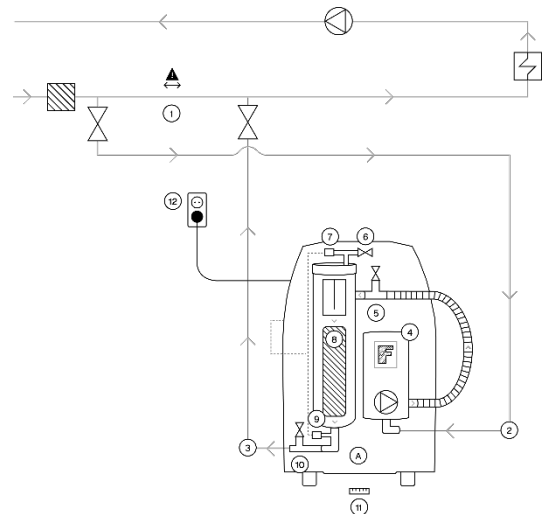
HY-F-FC-20

1. Connections for the unit must be installed at least 500 mm apart on the system return.
2. Connection to the system **inlet**. Installation can be carried out using either fixed pipes or flexible hoses.
3. Connection to **the system's outlet**. Installation can be carried out using either rigid pipes or flexible hoses
4. Pump that circulates the fluid through the filter.
5. Pressure sensors 1 & 2 connected to the unit's PLC.
6. Connection 1 for deaerator ½".
7. Connection 2 for deaerator ½".
8. **HY-FC** cartridge filter and magnetic rod.
9. Filter drain.
10. Dimensions W500 x D500 x H700 mm
11. 2-metre cable and plug 230 V, single-phase



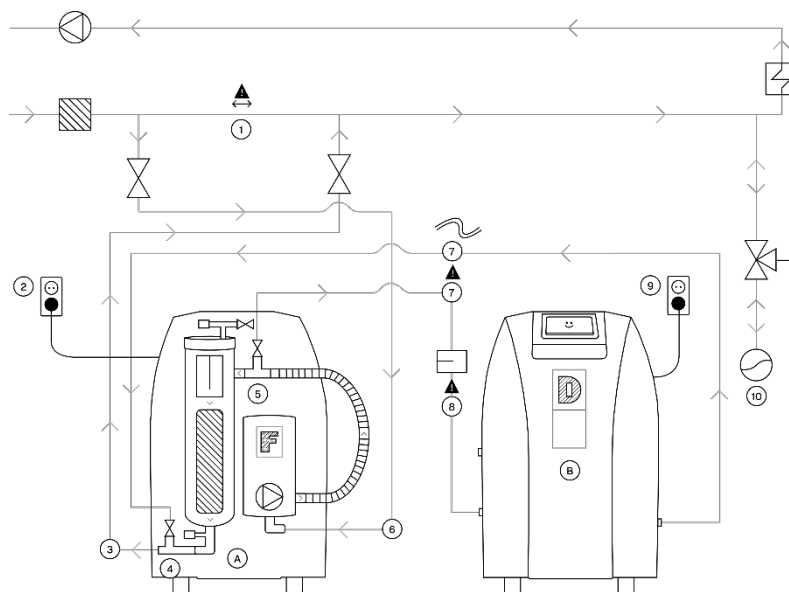
HY-F-FB-100

1. Connections for the unit are installed >500 mm apart on the system's return
2. Connection to the system **inlet**. Installation can be carried out using either fixed pipes or flexible hoses.
3. Connection to **the system's outlet**. Installation can be carried out using both rigid pipes and flexible hoses
4. Pump that circulates the fluid through the filter.
5. Connection 1 for ½" air vent.
6. Venting of the filter housing. Connect the hose to the drain.
7. Pressure sensor 1
8. **HY-FB** filter bag and magnetic rod
9. Pressure sensor 2
10. Connection 2 for exhaust ½".
11. Dimensions W500xD500xH700 mm
12. 2-metre cable and plug 230 V, single-phase



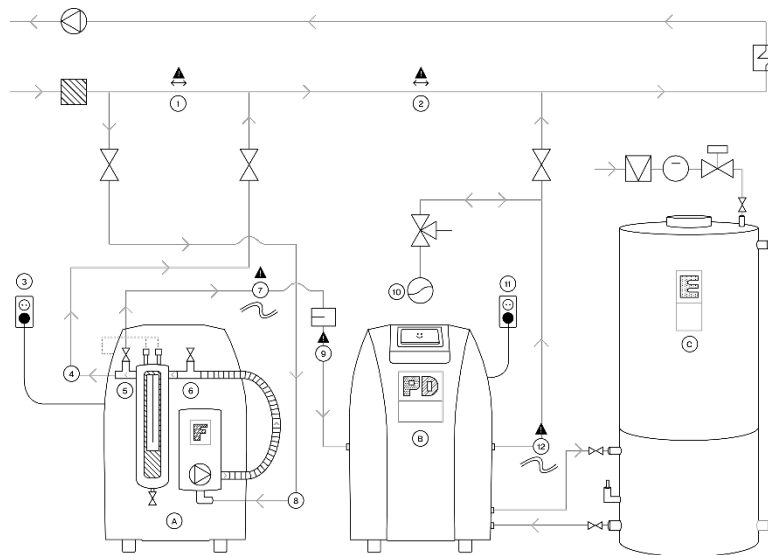
1.2 Quick guide: technical information – filter station and de-gasser on the same system

1. The unit's connections must be installed at least 500 mm apart on the system's return pipe
2. 2-metre cable and 230 V, single-phase plug
3. Connection to **the system outlet**. Installation can be carried out using either fixed pipes or flexible hoses
4. Connection 2 for exhaust $\frac{1}{2}$ ".
5. Connection 1 for exhaust $\frac{1}{2}$ ".
6. Connection to the system **inlet**. Installation can be carried out using either fixed pipes or flexible hoses.
7. Flexible connection hose **HY-A-FH** from exhaust to **HY-F**.
8. **HY-S-DM** Fitted to the inlet of the HY-D
9. 2-metre cable and plug, 230 V, single-phase
10. The system's expansion vessel.



Quick guide: technical information – filter station and combined unit on the same system

1. Connections for the unit must be installed at least 500 mm apart on the system's return pipe
 2. Connections for **the HY-PD** are installed >500 mm apart on the system's expansion pipe.
 3. 2-metre cable and 230 V, single-phase plug
 4. Connection to **the system's outlet**. Installation can be carried out using both rigid pipes and flexible hoses
 5. Connection 2 for ½" exhaust.
 6. Connection 1 for ½" exhaust is not used in this case.
 7. Flexible connection hose **HY-A-FH** from **HY-PD** to **HY-F**.
 8. Connection to the system **inlet**. Installation can be carried out using either fixed pipes or flexible hoses.
 9. **HY-S-DM** Mounted on the inlet to **the HY-PD**.
 10. Buffer tank for **HY-PD**.
 11. 2-metre cable and plug, 230 V, single-phase.
 12. Connection from **the HY-PD's outlet** to the system's return pipe.
- Carried out using **HY-A-FH**.



2. Function

Hydrun Filter Station is a fully automatic filter station for liquid-based heating and cooling systems, designed to ensure clean system fluid through continuous or scheduled filtration of dirt and magnetite. The station operates in a partial flow and continuously draws in system fluid via its powerful and robust pump. Contaminated fluid is forced into the filter to maximise particle capture and utilisation of filter capacity before replacement.

How it works in practice

- The fluid is drawn into the filter station via a partial flow.
- The fluid passes through a multi-stage filter where particles such as rust, sludge, sand and magnetite are effectively separated. Non-magnetic particles are captured in a bag or cartridge
- The integrated neodymium magnet also captures even the smallest iron particles with very high efficiency.
- The filtered liquid is returned to the system.
- Filter grades of 5, 25 and 50 μm are available from stock.
Filters down to 1 μm are available to order.

A well-filtered system:

- Prevents blockages in sensitive components such as heat exchangers, valves and pumps.
- Contributes to lower energy consumption and smoother operation.
- Prevents wear and tear on, and a shortened service life of, the system.

2.1 Continuous and scheduled filtration

Operation can be scheduled via the control system so that filtration takes place at selected intervals, for example when the plant is in operation or during periods of lower load. This allows the filtration rate to be adapted to the system's needs and operating patterns, whilst optimising energy consumption.

3. Installation

The Hydrun Filter Station can be installed with flexible connection hoses for easy access and vibration damping, but can also be installed with fixed pipes. For connection to the Filter Station, a pipe size of at least DN25 is recommended for distances up to 2 metres and at least 32 mm for distances up to 4 metres.

For best results, the Filter Station should be placed in the system's return pipe where the particle content is usually highest and before dirt from the system passes sensitive components such as heat pumps, heat exchangers or circulation pumps.

The connection to the system must be made using two branch pipes, each fitted with a ball valve. The branch pipes must be positioned at least 500 mm apart, with a connection size of at least DN25. It is important that the installation space has access to a floor drain or other drainage facility.

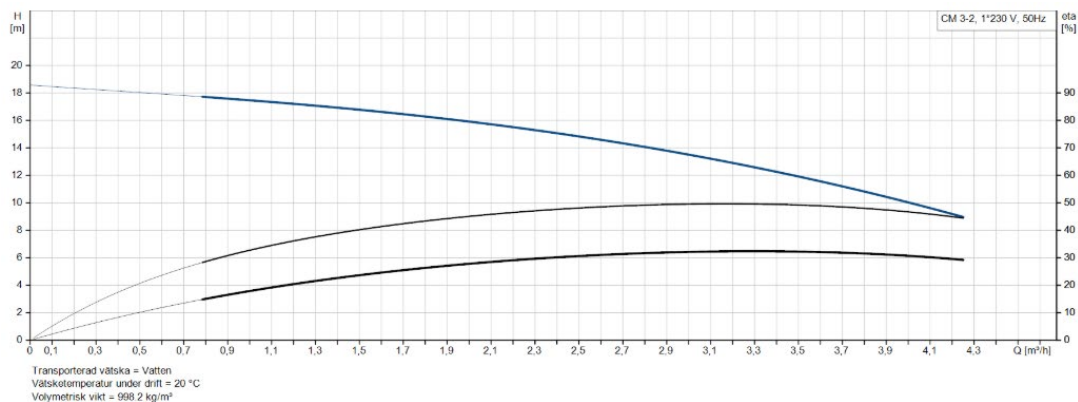
4. Technical Specification

Product	HY-F-FC-20	HY-F-FB-51	HY-F-FB-100
Filter type	Catridge	Bag	Bag
Filter housing lengt	10"	557 mm	557 mm
Material	Stainless steel 316	Stainless steel 316	Stainless steel 316
Max temperature	100 °C	80 °C	80 °C
Min temperature	- 10 °C	-10 °C	-10 °C
Max operating pressure	10 bar	10 bar	10 bar
Magnet strength	8000 gauss	7000 gauss	7000 gauss
Max capacity	1,2 m³/h, 20 l/min	3,2 m³/h, 51 l/min	6 m³/h, 100 l/min
Pump	CM 3-2	CM 3-2	CM 5-2
Included in delivery	1 x filtercartridge 5 micron	1 x filterbag 5 micron	1 x filterbag 10 micron
Pressure drop with full filter (factory setting)	1,5 bar	1,5 bar	1,5 bar
Electrical data			
Product	HY-F-FC-20	HY-F-FB-51	HY-F-FB-100
Power consumption	5,06 A	5,06 A	5,06 A
Supply voltage	230 V Earthed plug		
Line voltage	230 V		
Rated current	10 A		
Overcurrent protection	230 V thermal fuse in electric motor/pump, 400 V motor protection		
Trigger conditions	230 V overheated motor, 400 V circuit breaker set for the respective motor power.		

4.1 Pump specifications

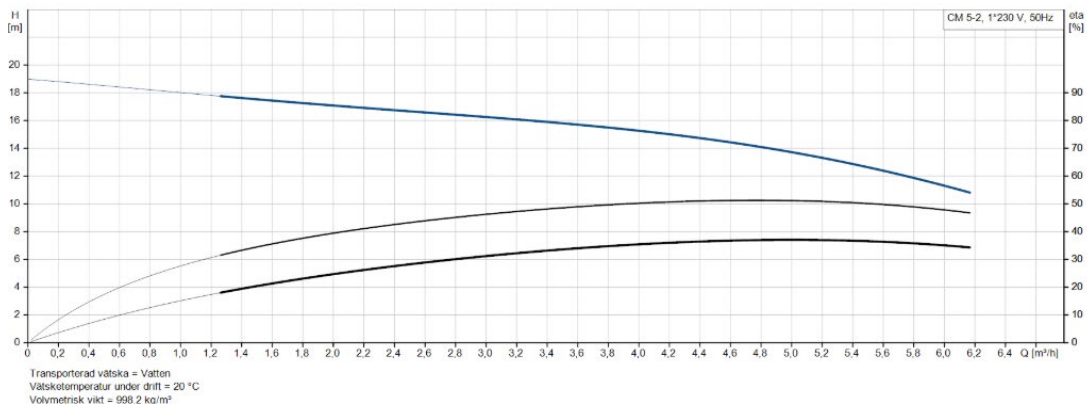
HY-F-FC-20 and HY-F-FB-51

CM 3-2



HY-F-FB-100

CM 5-2



5. Installation guide

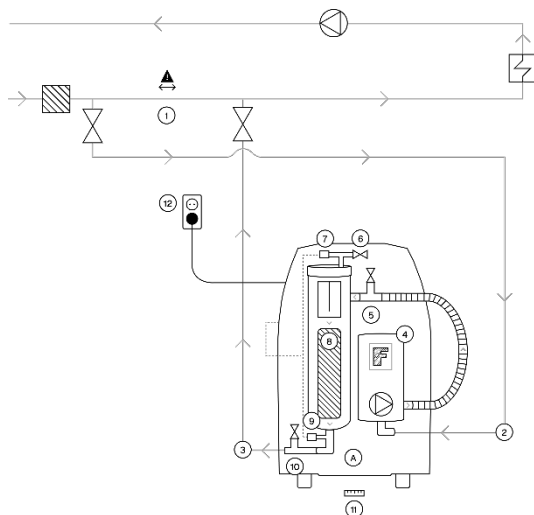
Connections and preparations

The HY-F is connected to the system's return pipe using two steel-braided connection hoses. The installation can also be carried out using fixed pipes.

Connections to the return pipe must be made at least 500 mm apart; the connection size must be at least DN25, and the pipe/hose size must be DN25 for distances up to 2 metres and at least 32 mm for distances up to 4 metres. Both branches must be fitted with ball valves to allow the filter station to be shut off and serviced.

1. Connect the first branch in the flow (**inlet**) to the connection on the pump (external thread 1")
 2. Connect the second branch in the flow (**outlet**) to the connection after the filter (external thread 1")
 3. Open the vent at the top of the filter or one of the taps for connecting the air vent.
 4. Open both connections to the system and bleed the filter station. Close the vent once this is complete. Repeat if necessary.
 5. Plug in the supplied power plug and allow the unit to start up the display.
 6. Check that the display shows a low differential pressure.
 7. Press start, answer "yes" to the question asking if the filter has been changed, and the unit will begin partial-flow filtration. It will sound an alarm when the differential pressure approaches full capacity, and will sound an alarm and stop the pump when the filter is completely full.
- The maximum differential pressure is 1.5 bar.

Unless the unit is connected to a higher-level system, it is recommended that the differential pressure be checked after just a few days in the case of heavily soiled systems.



5.1 Installation of a filter station on a system with a deaerator

If a Hydrun deaerator is already fitted to the system, it is possible to install the filter station without taking two new branch connections.

In this case, the gas trap is simply removed and the filter station is installed on the existing branch pipes. The air vent is then fitted to the pre-fitted branches on the filter station.

When installing the filter station and deaerator, fit the supplied separator on the filter station's **outlet** facing the deaerator.

Mounting accessories for separator to filter station		
HY-S-DM-20-S	Mag-Nus	A10207 (20 external x 15 internal)
HY-S-DM-25-S	MP2	A10048 (25 external x 15 internal)

5.2 Installation of a filter station on a system with a combined unit

If the system is fitted with a combined unit for pressure maintenance and venting from Hydrun, it is possible to install the filter station with just a new branch.

The combined unit is then simply removed from **the inlet** on the return pipe, the filter station is fitted to **the inlet** and an additional branch for the filter station **outlet** is created.

The combined unit's inlet is then connected to the filter station's pre-fitted branch.

When installing the filter station and combined unit, the supplied separator is fitted to the filter station's **outlet** against the combined unit's **inlet**.

Mounting accessories for separator to filter station		
HY-S-DM-20-S	Mag-Nus	A10207 (20 external x 15 internal)
HY-S-DM-25-S	MP2	A10048 (25 ext. x 15 int.)

5.3 Control system settings

1. The main menu displays the current pressure at the filter station inlet (PS1) and outlet (PS2). Here you can also see visually how full the filter is on a scale from green to red.

The far end of the scale (right) is the operating pressure that stops the pump.

The left-hand side of the light red area constitutes the first alarm limit, indicating that the filter should be replaced in the near future.

2. When starting the unit, press the visual switch at the bottom left of the display. Once the unit has started, I appears in green and the red ring goes out.

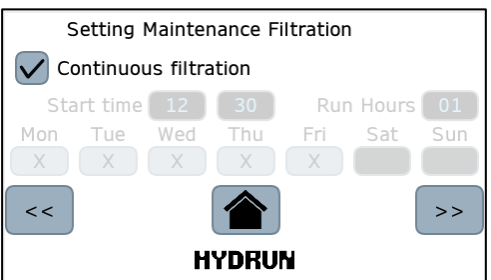
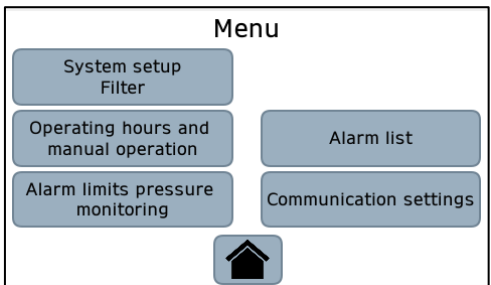
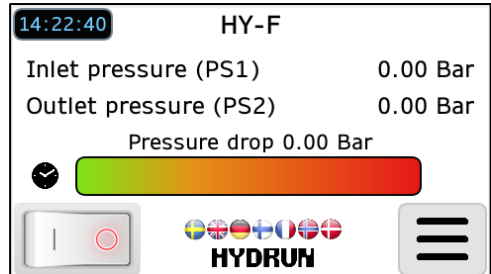
A pop-up window will also appear asking if the filter has been replaced. It also shows how many hours the current filter has been in operation.

Press **Yes** to start the unit and reset the log. If you select **No**, the unit will not start.

3. The menu is located at the bottom right, next to the three horizontal lines. From there, you can navigate to the various settings, manual operation and communication.

4. Select **System Settings > Filter**.

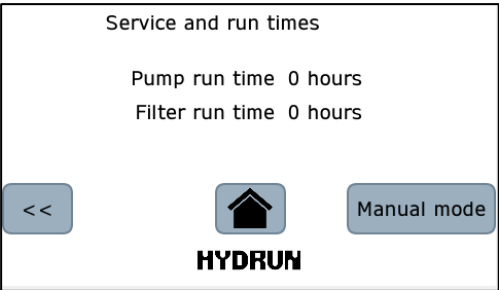
If **Continuous Filtration** is ticked, the filter station runs constantly to maintain a continuous partial flow and ensure a cleaner system and more trouble-free operation. If, for any reason, you wish to have scheduled filtration, this is entirely possible; simply uncheck **Continuous Filtration** and then select the days on which you wish the unit to operate. In this menu, you can also select the start time and how long the unit should run from the start time.



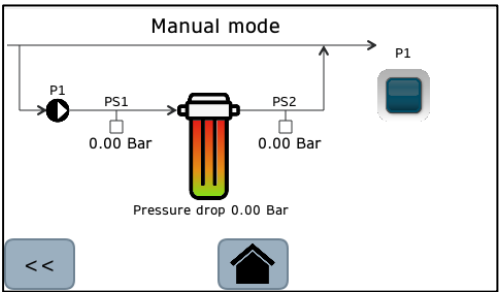
5. Press the right arrow >> to go to **System Pressure Settings**; this displays the system pressure required at start-up. It is advisable to set this higher than "0". If the system is empty or out of service with low pressure and the unit receives a signal to start, it will not start if the system pressure is so low that something is clearly wrong.



6. From the menu page, proceed to **Service and Operating Hours**; here you can see how many hours the current filter has been in operation since the last change.



7. Press the **Manual Run** button; here you can manually run the unit whilst viewing the values from the various pressure sensors and the operating pressure in real time. *Please note that this is only possible when the unit is stopped.*



8. From the menu page, you can then navigate to **the Alarm List**. A list of all active alarms is displayed first; press the right arrow >> to access the alarm history.

Date	Time	Alarm message	State

Navigation buttons: '<<', home icon, '>>'

9. Go to the menu page and then select **Alarm Limits Pressure Monitoring**.

Here you can set **the Alarm Level**, i.e. the pressure drop that must be reached for an initial alarm to be triggered. This alarm does not stop the pump and is intended to warn that the filter is nearly full and needs replacing – an initial signal to book a service visit.

You can also set **'Stop Pump'**, i.e. the maximum pressure drop allowed before the pump stops and a further alarm is triggered to indicate a full filter. The unit remains stationary whilst awaiting a technician.

The factory setting for maximum pressure drop is 1.5 bar.

10. Return to the menu page and press **Settings > Communication**.

The Modbus RTU settings are displayed first; press the right arrow >> to access the Modbus TCP settings. Note that DHCP is also available. For DHCP to work optimally, the unit must be connected to the network; it will be assigned an address on start-up.

Setting Pressure drop alarm

Alarm level	< >	Stop pump	< >
0.00 Bar		0.00 Bar	

<< >>

HYDRUN

Settings RS485-2 Modbus/RTU

Address	Data Bits	Stop Bits	Parity	Baudrate
0	8	0	None ▼	9600 ▼

<< >>

I/O

0	AI 1	OFF	DO 1	0	AO 1
0	AI 2	OFF	DO 2	0	AO 2
0	AI 3	OFF	DO 3		
OFF	DI 1	OFF	DO 4		
OFF	DI 2	OFF	DO 5		
		OFF	DO 6		

<< >>

Settings Ethernet

ModbusTCP ☐ OFF

MAC Add.

BACnet IP ☐ OFF

BACnet ID	Subnet
0	0

☐ DHCP

IP-Address	0	0	0	0
Subnet Mask	0	0	0	0
Standard Gateway	0	0	0	0

<< >>

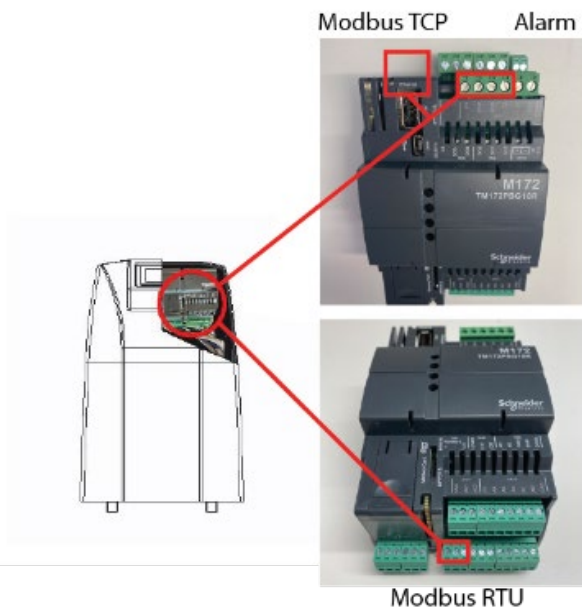
6 Troubleshooting

Fault symptoms	Cause	Action
No flow through the filter.	The unit is not sufficiently vented	Vent at a high point on the unit and try again.
Red frames around values on the display.	Communication between the display and the PLC is not working.	Check the cable at the back of the display and the connection between the display and the PLC.
I have been running the filter station for a long time but am not getting any pressure drop across the filter.	The system from which the station draws fluid is not circulating.	Ensure that the system is circulating so that the unit does not only filter the fluid that is 'standing' nearby.
It takes very little time from when I change the cartridge/bag until it is full again.	1. Very dirty system 2. Filter media with too fine a mesh inserted in the filter 3. The project has chosen a filter station model that is too small.	1. Make sure to change the filter cartridge frequently. 2. Fit a filter with a coarser mesh. 3. Choose a larger model of filter station.

6.1 Alarm

Alarm	Cause	Action
Pressure drop alarm 1 – pre-alarm	The "alarm level" limit has been reached.	1. Schedule a maintenance visit to replace the filter. 2. Check that the alarm limit is set correctly.
Pressure drop alarm 2 – filter full	The "Stop pump" limit has been reached.	1. Schedule a maintenance visit to replace the filter. 2. Check that the alarm limit is set correctly.

6.2 Alarm signals and communication



Modbus TCP:

Connects via Ethernet port, see image.

Modbus RTU:

Connect the cable to terminal block (17), see figure.

Summary alarm:

Connection between terminals C5-DO5

Modbus RTU Standardinställning

Address	Namn	Value
16124	Adress	1
16125	Protocol	3=Modbus/RTU
16126	Data bit number	8
16127	Stop bit number	1
16128	Parity protocol	2=Even
16129	Baud rate protocol	2=38400

6.3 Modbus address list

#	Address	Description	Unit	Writable	Scaling	Alarm type	Data type	IEC type	Description of discrete values
1	8960	Operating pressure	Bar	No	0.01		Signed 16-bit	INT	
2	8961	PS1 Inlet pressure	Bar	No			Signed 16-bit	INT	
3	8962	PS2 Outlet pressure	Bar	No			Signed 16-bit	INT	
6	8965	Pressure drop alarm 1 – pre-alarm		No			Boolean	BOOL	0=Normal; 1=Alarm
7	8966	Alarm pressure drop 2 – filter full		No			Boolean	BOOL	0=Normal; 1=Alarm
8	8967	Filter replaced		Yes			Boolean	BOOL	
9	8968	Manual pump start		Yes			Boolean	BOOL	

6.4 BACnet list

BACnet Name	Unit	Scale	Low Limit	High Limit	Data type	Access
Differential Pressure	BAR	0.01			REAL	Read only
Inlet Pressure	BAR	0.01			REAL	Read only
Outlet_Pressure	BAR	0.01			REAL	Read only
FilterRunTime	HOURL	1			REAL	Read only
PressureDrop_AlarmLimit	BAR	0.01	0.00	9.00	REAL	Read/Write
PressureDrop_StopLimit	BAR	0.01	0.00	9.00	REAL	Read/Write
PressureDrop_AlarmActive					BOOL	Read only
PressureDrop_StopActive					BOOL	Read only
AutoStart					BOOL	Read/Write
ContinuousFiltration					BOOL	Read/Write

7. Maintenance

7.1 Cleaning the HY-F filter (cartridge)

1. Switch off the pump and close the valves leading to the system.
2. Loosen the clamping ring and remove the lower part of the filter housing.
3. Loosen the lock nut at the bottom of the filter cartridge.
4. Remove the dirty filter cartridge.
5. Unscrew the magnetic rod that is threaded into the top of the filter housing.
6. Clean the magnetic rod and replace the filter cartridge with a new one.
7. Then refit the magnetic rod and the filter cartridge.
8. Replace the filter housing and secure it with the V-clamp. NOTE! Tighten by hand only; it does not require much force to seal it tightly.
9. Carefully open one of the valves leading to the system and, at the same time, open one of the valves at the high point to remove the air from the filter housing.
10. Once the air has been removed, open the valves leading to the system fully.
11. Go to the menu and press start. A prompt will then appear asking if the filter has been replaced. Answer 'Yes', and the filtration timer will be reset and start counting again.

7.2 Cleaning the HY-P filter (Bag)

1. Switch off the pump and close the valves to the system.
2. Loosen the clamping ring and remove the filter housing cover.
3. Pull the magnetic rod out of the filter housing by pulling on its handle.
4. Clean the magnetic rod of any particles that have become stuck to it.
5. Grasp the filter bag and pull it out of the filter housing. Then replace it with a new one. Also check the stainless steel strainer basket to see if it needs cleaning.
6. Replace the magnetic rod that holds the filter housing in place.
7. Refit the lid on the filter housing and tighten the V-clamp.
NOTE! Tighten by hand only; it does not take much force to seal it tightly.
The threaded stud for the V-clamp should also be lubricated with copper paste during every service of the filter.
8. Carefully open one of the valves to the system and, at the same time, open the air vent at the highest point of the filter housing to remove any air trapped inside.
9. Once the air has been removed, open the valves to the system fully.
10. Go to the menu and press start. A prompt will then appear asking if the filter has been replaced; answer yes.
The filtration timer will then be reset and start counting again.

8. Electrical documentation

General information on electrical safety

When carrying out service work involving high-voltage current in the machine, always use the local safety switch to disconnect the power supply. From the service location, you must also have a clear view of the safety switch to ensure that it is not accidentally activated by another person.

Where there is no local safety switch, or where the safety switch is not visible, the main switch on the electrical cabinet connected to the power source must always be switched off.

Where the main switch is used, it must, without exception, always be locked with a padlock and a warning sign must be affixed to the electrical cabinet to indicate that maintenance work is in progress.

If fuses are removed, they must be replaced with disconnectors fitted using special tools.

Work on high-voltage systems must only be carried out by a suitably qualified person.

Electrical hazards and power disconnection

In this context, a 'layperson' refers to the machine operator (a person who is not a specialist or has not received specific training) and must not carry out work inside the electrical cabinet, as there is live voltage present.

Work on the machine, other than brief tasks, must not be carried out without first isolating the main switch on the incoming power supply and de-energising the system.

When carrying out electrical work on the machine, call in a qualified or trained person.

Contact the manufacturer for more detailed information regarding the electrical connection of the pump/motor. Upon delivery from Hydrun, this is normally pre-connected.

9. Declaration

EU Declaration of Conformity

In accordance with of European Parliament and Council Decision No 768/2008/EC ANNEX III

1. *Product model/product:*

Product Side stream filtration unit
Model/type MA-X
Serial nos 123456

2. *Manufacturer*

HL Hydronics AB
Address Bögatan 40, 67010, Töcksfors

3. *This declaration is issued under sole responsibility of the manufacturer.*

4. *Object of declaration:*

Product Machine for reducing contamination (both magnetic and non-magnetic) in closed heating and cooling systems.

5. *The object of the declaration described above is in conformity with relevant Union Harmonisation legislation:*

2006/42/EC The Machinery Directive
2014/30/EU The Electromagnetic Compatibility Directive (EMC)
2014/35/EU The Low Voltage Directive (LVD)
2011/65/EU The use of certain hazardous substances in electrical and electronic equipment (RoHS 2)
2015/863 The use of certain hazardous substances in electrical and electronic equipment (RoHS 3)

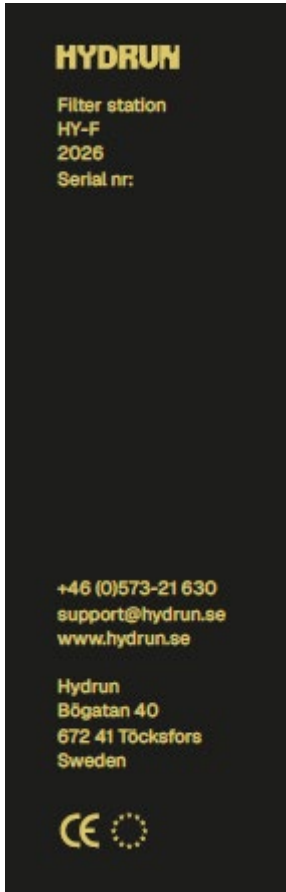
6. *References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:*

LVD: Reference & Date EN 61010-1:2010	Title Safety requirements for electrical equipment for measurement, control, and laboratory use
EMC: Reference & Date EN 55014-1:2016+A1:2009 +A2:2011 EN 55014-2:2015 EN 61000-6-2:2005+C1:2005 EN 61000-3-2:2014 EN 61000-3-3:2013	Title Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus. Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus. Electromagnetic compatibility - Generic standards, Immunity for industrial environments. Electromagnetic compatibility - Limits for harmonic current emission (equipment input current = 16 A per phase) Electromagnetic compatibility - Limits, Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipments with rated current = 16 A per phase and not subject to conditional connection.

7. *The technical file is available from the manufacturer at the address above*

Signed for and behalf of: HL Hydronics
Place of issue: Töcksfors, Sweden
Date of issue: 25th June 2025
Name: Björn Lennartsson
Position: Chief Executive Officer (CEO)
Signature: 

10. Machine plate and CE



The machinery is fitted with a legible and durable marking in accordance with the provisions of Annex 1, point 1.7.3 of the Machinery Directive.

The manufacturer's plate contains the following information:

- Type
- Year of manufacture
- Serial number
- Contact details
- CE marking

11. Delivery exceptions and the buyer's responsibility

*NB! Upon delivery, always check that the product is complete and undamaged.
In the event of any transport damage, report this immediately to the carrier.*

The customer/consumer is responsible for the necessary electrical and plumbing connections, as well as for the necessary drainage of overflow water from the container.

General and safety instructions

The HY-F is designed for stationary operation in a non-mobile installation.

Installation and commissioning of the HY-P must only be carried out by specially trained personnel/qualified professionals.

The HY-F must only be used in systems with fluids permitted in accordance with the technical data.

During any type of maintenance or repair of the HY-F, it must be disconnected from the power supply.

Information regarding the manufacturer, year of manufacture and serial number can be found on the manufacturer's plate located on the HY-F.

Take measures to ensure temperature and pressure safety in the system so that the specified, permitted maximum and minimum operating parameters are not exceeded or fallen short of.

The HY-F has been tested and approved for use with water, ethanol (max. 29%) and glycol mixtures up to 50% (propylene and ethylene).

Please note that the HY-F must be used in conjunction with a sealed vessel for glycol systems. Contact your sales representative for further information. Please also refer to the contents of this user manual.

12. Revisions

If a machine undergoes changes that affect its essential health and safety requirements as per the CE marking, the original declaration of conformity ceases to be valid.

All significant design changes or modifications that affect function, performance or risk profile must be documented and risk assessed.

If the change is deemed to affect the machine's compliance with the requirements of the directives, a new CE marking and declaration of conformity may be required. As a rule, however, it is sufficient to supplement the existing documentation (technical file and instructions for use).

Nordic health and safety authorities have agreed that new CE certification is required only in the event of significant changes affecting the safety concept, design, risks or capacity. The replacement of parts that do not alter function or performance does not require new marking.

All major modifications must be risk assessed and documented, even if CE marking is not affected. The assessment determines whether the original declaration of conformity remains valid. Hydrun is responsible for the machine's CE marking and technical documentation, including future modifications and safety aspects.

If you have any questions or uncertainties regarding changes that may affect health and safety requirements in the design or user manual, please contact Hydrun.

Supplemented with an additional product in March 2022.