

# User Manual.

## FLX-600/1100 Coolant- and Light Oil Mist Filter

### Coolant- and Oil Mist

FLX mechanical oil mist filter is designed to eliminate coolant or light oil mist from lathing, milling, drilling, sawing, watercutting, etc. With HEPA H13 filter an over 99,95% filtration efficiency is achieved.

### Direct Mounting to the Machine

The FLX filter is designed to be mounted directly to the machine. When you switch the machine on the filter fan will also start. No costly duct work or complicated electric installation. Simple and efficient!

### Seven Step Filtration

Coolant or Oil mist is efficiently filtrated in 7 steps. 1) Inlet chamber with pre-separator. 2) Aluminum mesh filter. 3) EU-5 glasfibre fleece.

4) Hydrofilter (impinger). 5) EU-5 glasfibre fleece. 6) Aluminum mesh filter. 7) HEPA H13 filter (for coolant mist). Filter 1,2,4 and 6 are washable. Filter 3 and 5 are to be replace when the airflow is too low. When it doesn't help you need to replace the HEPA H13 Filter.

### Low Noise Level.

FLX is as Standard equipped with built in Silencer. The Noice Level is just 60 dB(A).

**Accumulated Liquid.** The accumulated liquid is drained back to the machine through two return-pipes in the bottom of the FLX filter.

### 40 years Experience of Design and Manufacturing at Your Service!

The Plymoth products are a combination of well-proven technique and progressive new ideas.



	Art. Nr.
<b>FLX-600. Complete Unit with Filter, Fan and Silencer.</b> 3-Phase/0.75 kW/400V/50Hz. 1020(W)x665(H)x435(D)mm. 65 kg	P-268
<b>FLX-1100. Complete Unit with Filter, Fan and and Silencer.</b> 3-Phase/1.1kW/400V/50Hz. 1020(W)x755(H)x515(D)mm. 70 kg	P-269
<b>Exchange Filter Fleece F-5</b> for FLX 600. Set of 10 pcs.	P-313
<b>Exchange Filter Fleece F-5</b> for FLX 1100. Set of 10 pcs.	P-314
<b>Replacement Filter HEPA H13</b> for FLX 600	P-316
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## **1.0 General Information**

The FLX Filters are mechanical Coolant- and Light Oilmist Separators with a degree of separation of 99.95% with a particle size of 0.1micron.

The FLX is equipped with 2xAluminum Mesh Filter (washable), 1xImpinger Filter (washable), 2xGlass-Fiber Fleece Filter (not washable) and a HEPA H13 Filter (not washable).

The device is suitable for the direct mounting on the processing machine, The Inlet is dia. 159mm OUTSIDE. The separated coolant can be returned directly to the machine or collected in a container. Use Siphons on the outlets for the filtered liquid. They are located on the bottom side of the FLX unit.

The unit consists of:

- ✓ Housing from powder painted steel sheet with dia.160mm inlet, 4xFeet, Silencer and 2xOutlet Pipes.
- ✓ 2 x Aluminum Mesh Filters
- ✓ Impinger Filter (Labyrinth Filter of Steel)
- ✓ 2 xGlass-Fiber Filter.
- ✓ HEPA H13- Filter
- ✓ Fan 3-Phase.

## **1.1 Safety Note**

Always interrupt the current supply before opening the device.



## **1.2 Range of Application**

**FLX Units are designed to exhaust and filter Coolant- and Light Oil Mist from Lathing, Milling, Drilling, Sawing, Water-cutting machines etc. The units are made for use indoors.**

## How to choose the right size of Oil/Coolant Mist Filter.

Around 0.5m/sec. in the opening of a lathe or milling machine is needed to stop coolant mist from coming out when the door is open .

To choose the right Filter you just need to measure the width and height of the opening, when the door is open. Multiply the figures with each other. With the measure in m<sup>2</sup> you can find the right Filter in the table below.

If you intend to have several machines on one Filter you just add the m<sup>2</sup> measures and check below.

Machire /Machines Opening size m <sup>2</sup>	Air Volume/hour	Filter
0.25m <sup>2</sup>	450m <sup>3</sup> /h	NX-400 or FLX-600 o r NX-600
0.5m <sup>2</sup>	900m <sup>3</sup> /h	FLX-1100 o r NX-1000
0.75m <sup>2</sup>	1350m <sup>3</sup> /h	FLX-1100 or NX-1000 o r NX-2000
1m <sup>2</sup>	1800m <sup>3</sup> /h	NX-2000
1.25m <sup>2</sup>	2250m <sup>3</sup> /h	NX-2000
1.5m <sup>2</sup>	2700m <sup>3</sup> /h	NX-4000
1.75m <sup>2</sup>	3150m <sup>3</sup> /h	NX-4000
2m <sup>2</sup>	3600m <sup>3</sup> /h	NX-4000 or NX-6000
2.25m <sup>2</sup>	4050m <sup>3</sup> /h	NX-4000 or NX-6000
2.5m <sup>2</sup>	4500m <sup>3</sup> /h	NX-6000
2.75m <sup>2</sup>	5000m <sup>3</sup> /h	NX-6000
3m <sup>2</sup>	5500m <sup>3</sup> /h	NX-6000
3.25m <sup>2</sup>	6000m <sup>3</sup> /h	NX-6000
3.5m <sup>2</sup>	6500m <sup>3</sup> /h	NX-8000
3.75m <sup>2</sup>	7000m <sup>3</sup> /h	NX-8000

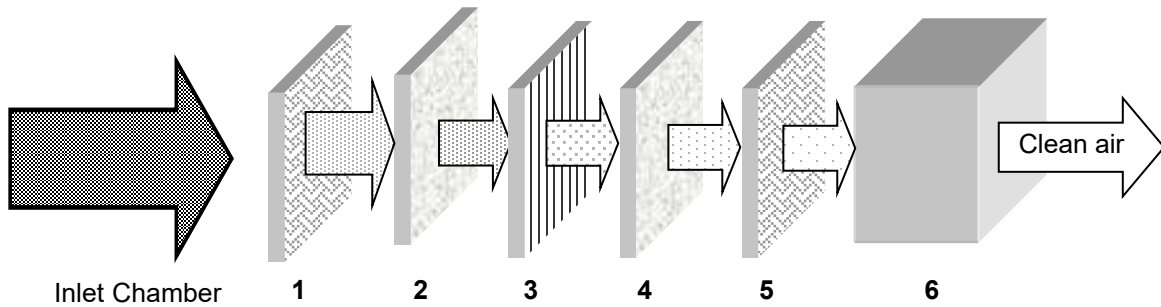
Always choose the next larger size if you are unsure and if there are a lot of fine particles in the mist.

If you need further advice don't hesitate to contact our special lists on: [info@plymoth.com](mailto:info@plymoth.com) or tel. +46 (0) 40 70015.

**Initial Airflow with 1.5m dia. 160mm Ducting:**  
**FLX-600 ca. 850m<sup>3</sup>/h.**  
**FLX-1100 ca. 1400m<sup>3</sup>/h.**

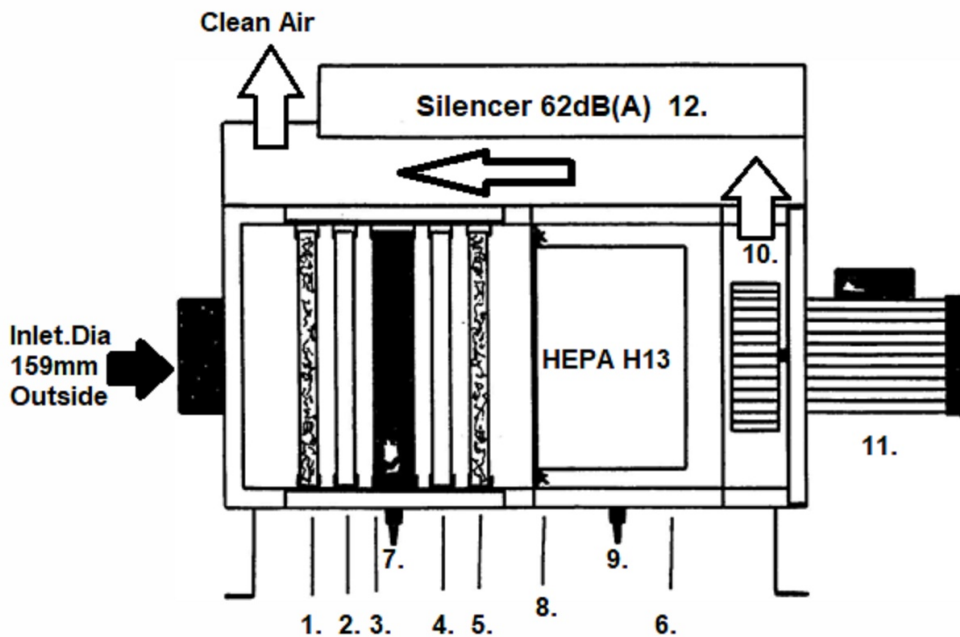
## 1.3 Unit Description NX-600/1100.

### Filters.



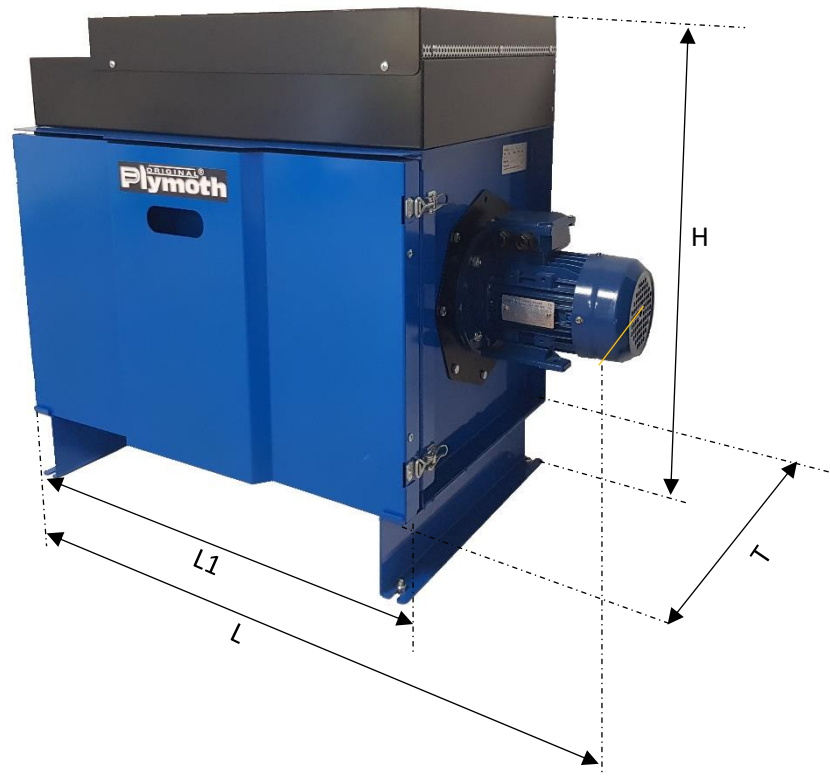
### Filter Box.

The Filter Unit is made of powder coated steel sheet with integrated feet and dia. 159mm Inlet tube. At the bottom 2xoutlet pipes for the cleaned liquid. 3-phase fan with silencer. Only 62 dB(A) at 2m distance



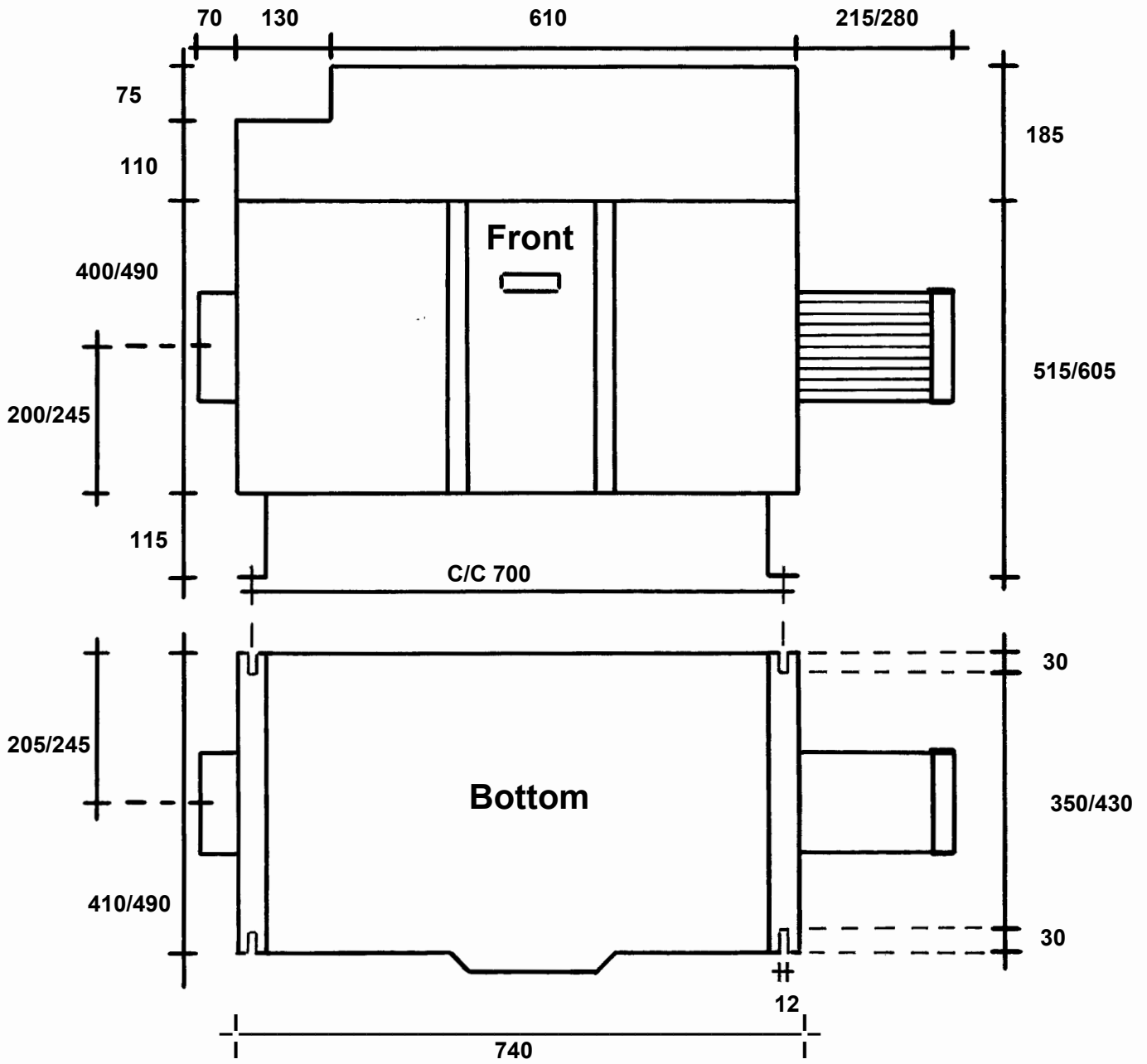
1. Aluminum Mesh Filter (washable).
2. EU5 Glass-fiber Fleece.
3. Impinger Filter (Labyrinth Filter) washable.
4. EU5 Glass-fiber Fleece.
5. Aluminum Mesh Filter (washable).
6. HEPA H13 Filter.
7. Liquid Outlet with nipple.
8. 2xLocker for HEPA H13 filter.
9. Liquid Outlet nipple.
10. Impellar.
11. 3-phase Motor.
12. Silencer.

## Main Measures



	L	L1	H	T	Motor	Inlet Outside
<b>FLX- 600</b>	955mm	740mm	700mm	435mm	380-420V/50Hz 0,75kW	Dia. 159mm
<b>FLX-1100</b>	1.020mm	740mm	790mm	515mm	1,1kW	Dia. 159mm

## Measures (NX-600/1100 mm)



## 1.4 Installation.

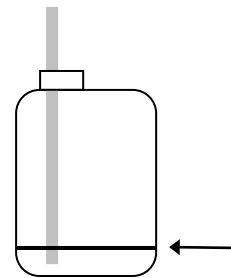
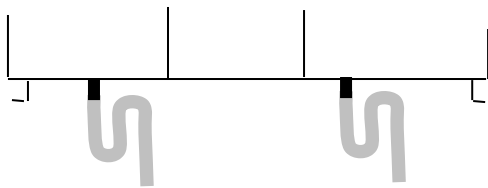
The installation site is to be selected in such a way that the tubing is as short as possible. The ducting, bends and hoses must be oil tight and oil proof.

If possible mount the unit on a bracket fixed to the machine or the floor. Let the ducting lean slightly downwards from the FLX so contaminated liquid, which can condense in the ducting, can flow back to the machine. It helps the filters to last longer.

Mount an adjustable damper close to the inlet of the FLX. When you have started the FLX unit and the machine, you adjust the damper so no mist will come out when the machine door is open.

The filtered liquid will come out through 2 outlets with nipples, at the bottom of the FLX. Each nipple shall be equipped with a "Water Trap" type Siphon to avoid that air will be drawn in through them.

The clean liquid can be returned to the machine or be collected in a container.



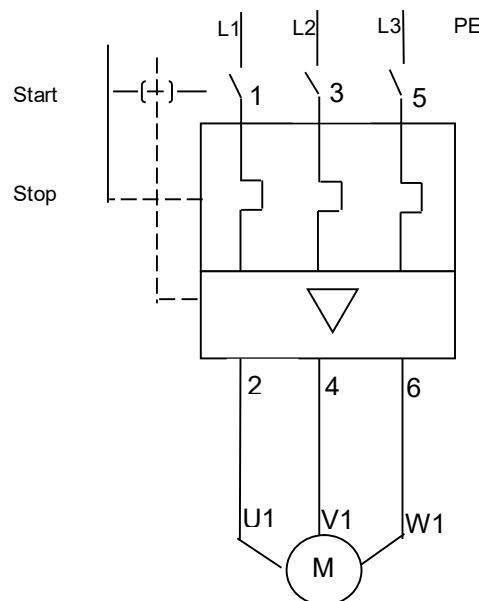


## 1.5 Electrical

The FLX Filters are equipped with a built in 3-phase fan.

The electrical installation is only to be done by a qualified and licensed electrician.

Check that the motor is rotating in the direction showed on the motor.



## 1.6 Start-Up

Before start-up, please read this manual and be familiar with the operation of the unit.

Determine that the filters are correctly mounted in the unit and that the door is locked.

When in use, adjust the Damper in the inlet so only mist will be extracted. No liquid drops. Lock the damper in this position. It will make the HEPA filter last longer.

Clean air will be blown out of the top of the NX Unit. Don't cover the top of the unit!

## **2.0 Maintenance**

### **2.1 General Information.**

After some time the Glass-Fiber Fleece Filters (2 and 4 in the unit discription above) will be blocked by particles, filtered from the coolant mist. This will cause less airflow. The first step is then to open the Damper fully. If it doesn't give enough airflow it is time to wash the 2 Aluminum-Mesh Filters and replace the 2 Glass-Fiber Fleece Filters. You may even need to replace the HEPA H13 filter.

### **2.2 Filter Change**

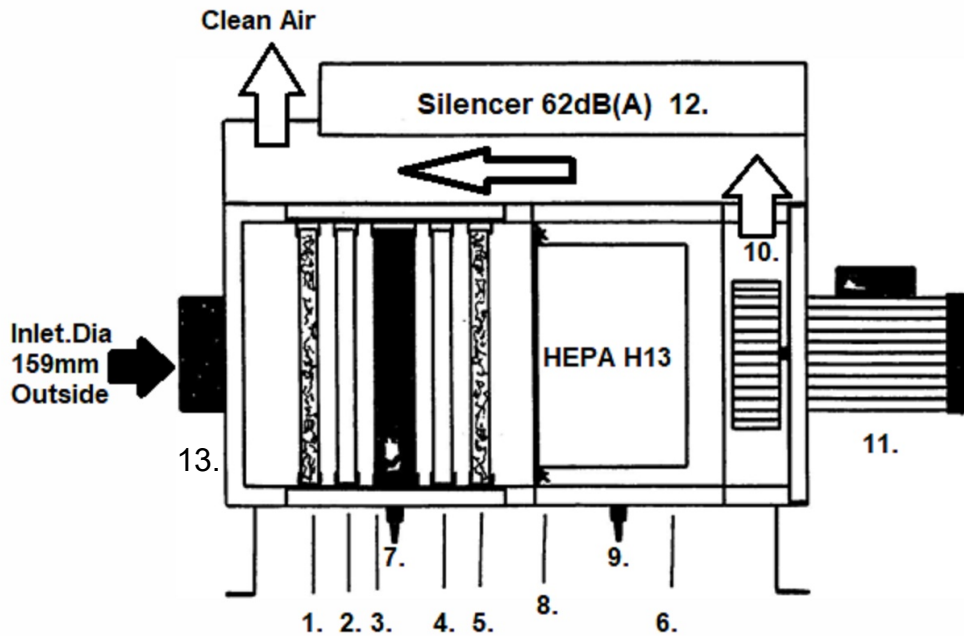
To examine and/or change the filter, switch off the device and loosen the four quick-locking mechanisms of the door. Remove the door and put in a safe place.

The filters can then simply be pulled out. Replace the Glass-Fiber Fleece Filters and wash the Aluminum-Mesh Filters with a detergent if they seem dirty. Before mounting the door check the door gasket for damage. Close the door and switch the unit on. If the airflow still is not good enough you need to replace the HEPA H13 Filter also. Switch off the unit. Open the door and loosen the bolts which are holding the HEPA Filter. Pull it out. Replace it. Tighten the bolts. Mount the door and the FLX is ready for use.

### **2.3 Replacement Filters**

<b>PRODUCT</b>	<b>FLX-600</b>	<b>FLX-1100</b>
<b>Aluminum-Mesh</b>	<b>P-307</b>	<b>P-308</b>
<b>Glass-fiber EU5</b>	<b>P-313</b>	<b>P-314</b>
<b>Impinger Filter</b>	<b>P-310</b>	<b>P-311</b>
<b>HEPA Filter</b>	<b>P-316</b>	<b>P-317</b>

## 2.4 Spare Parts NX-600/1100.



1. FLX-600 Aluminum Mesh Filter (1pc.)  
FLX-1100 Aluminum Mesh Filter (1pc.)
2. FLX-600 EU5 Glass-Fiber Fleece (10pcs.)  
FLX-1100 EU5 Glass-Fiber Fleece (10pcs.)
3. FLX-600 Impinger Filter (Labyrinth Filter) 1pc.  
FLX-1100 Impinger Filter (Labyrinth Filter) 1pc.
4. FLX-600 EU5 Glass-Fiber Fleece, same as No.2 above (10pcs)  
FLX-1100 EU5 Glass-fiber Fleece, same as No.2 above (10pcs.)
5. FLX-600 Aluminum Mesh Filter, same as No.1 above (1pc.)  
FLX-1100 Aluminum Mesh Filter, same as No.1 above (1pc.)
6. FLX-600 HEPA H13 Filter (1pc.)  
FLX-1100 HEPA H13 Filter (1pc.)
7. Nipple for liquid outlet. Same for FLX-600 and 1100 (1pc.)
8. FLX-600 Locker Plate complete, for HEPA H13 filter (1pc.)  
FLX-1100 Locker Plate complete, for HEPA H13 filter (1pc.)
9. Nipple for liquid outlet. See No.7 above.
10. FLX-600 Impellar (1pc.)  
FLX-1100 Impellar (1pc.)
11. FLX-600 Motor 0.75 kW/3-phase/400V/50-60Hz (1pc.)  
FLX-1100 Motor 1.1 kW/3-phase/400V/50-60Hz (1pc.)
12. FLX-600 Silencer complete (1pc.)  
FLX-1100 Silencer complete (1pc.)
13. FLX-600 Door complete (1pc.)  
FLX-1100 Door complete (1pc.)



### **Declaration of conformity**

We, J. Plymoth AB, declare under our sole responsibility that the product lines **WF-Eco, MF-F9/HEPA, MF-Active Carbon, MF-HEPA/W3 18M2, MF-Eco/F9, MF-Eco/HEPA, MF-Filter-Tables, MF-Eco Filter-Tables, FK-Mesa Backdraft Filter-Tables, MKF Filter-Tables, Labbe, MF-Lab, MF-Eco Lab, CF Central Filters, FLX-Filters, Mobi-Oil, NX-Filters, Denta-Flex, Fica-Flex and VBF-Office** to which this declaration relates are in conformity with Directives 2006/42/EC, 2014/30/EU, 2011/65/EU and Standards EN 60204-1:2006, EN ISO 12100:2010, EN ISO 15012-1:2013, EN 61000-6-2:2005, EN 61000-6-3:2007, EN ISO 20607:2019.

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2023-01-01