

INTEΨA



BELGAQUA



SEPAMAT F

Installation and user manual

WATER, WE 'RE IN OUR ELEMENT

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1 Introduction and scope of application

Congratulations on purchasing your *SEPAMAT F*.

The INTEWA system separator "SEPAMAT" isolates the drinking water system from the consumer. It protects drinking water against contamination caused by backflow of pollutants from the consumer point of use. System separation is installed between the municipal drinking water supply and one or more fixtures. These must be separated in accordance with Category 5 of the current drinking water regulations contained in DIN EN1717.

The highest consumer connection point can be a maximum of 20 m above the *SMT F*.

2 Safety instructions



The live components have to be installed only by a qualified electrician. In case of failure of the electronic device, the product has to be repaired by a qualified electrician before being operated again. There is a risk of electric shock!

The outlet circuit used for the device has to be secured through a circuit breaker protected (16 A in several countries). If unavailable, an FI switch with maximum operating current of 30 mA has to be connected.



These installation and operating guidelines have to be read carefully before installing the product. The instructions mentioned have to be followed strictly. Modifications to the product are not permitted, otherwise the warranty becomes void.

The following points have to be strictly observed during the installation and operation:

- Check the product before installation for any visible defects. If defects are present, then the product must not be installed. Damaged products can be dangerous.
- Installations at the mains water pipeline system have to be only performed by a qualified installation company.
- A floor drain has to be provided near the installation site, which can collect inadvertent water discharges (i.e. pump defects, pipe breakages, etc.) and prevent water damage inside the building.
- The mason work behind the water-handling unit must be protected from water damage (i.e. with water-resistant coating).
- Make sure that the existing emergency overflows are connected and adequately sized.
- Remove the mains electrical plug if you will be away for more than 24 hours.
- Close the mains water line at the inlet of the device if you will be away for more than 24 hours.
- All products must be regularly inspected to maintain proper condition. The minimum inspection interval is mentioned in the maintenance section.
- Electrical devices may be hazardous for children. Therefore children always have to be kept away from the product. Do not let children play with the product.
- Do not install the water-handling units in locations where the temperature may drop below 0°C.
- Do not install any electrical products in flood-prone areas.
- The operator is responsible for adherence of the safety and installation guidelines.

3 Scope of delivery

Separation unit
SEPAMAT F



Wall mounting material,
installation and user manual



Standard accessory A
(Mains water connection)

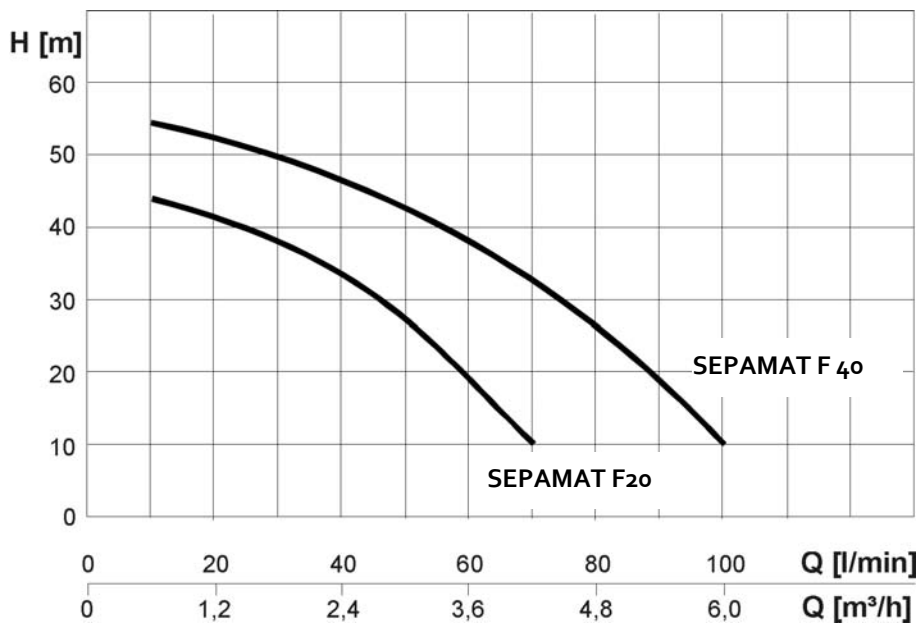


Standard accessory B
(Pressure line set)



4 Technical Data

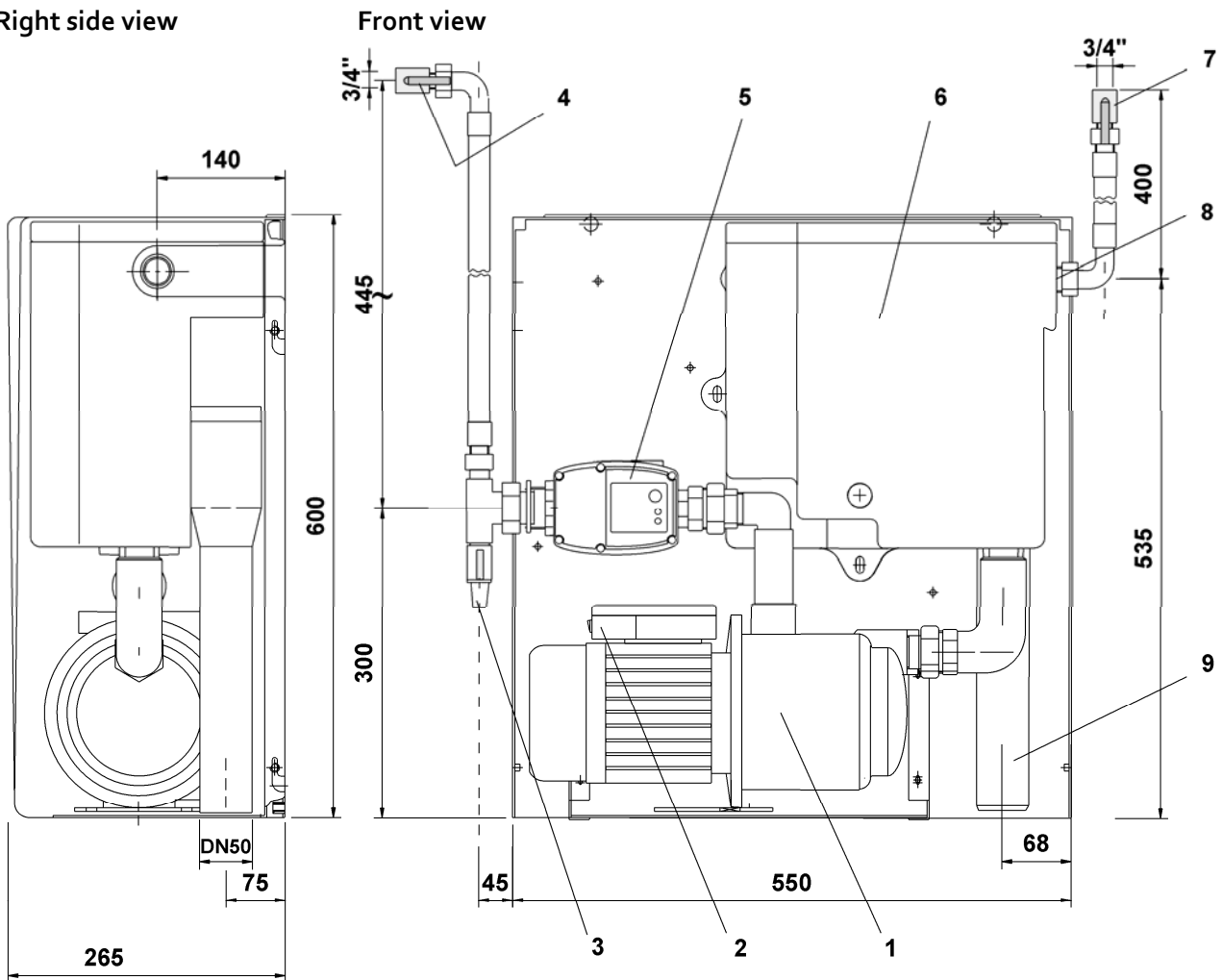
	SEPAMAT F 20	SEPAMAT F 40
Dimensions (H x W x D):	595 x 550 x 265 mm	595 x 550 x 265 mm
Weight:	32 kg	33 kg
Nominal voltage / frequency:	230 V AC / 50 Hz	230 V AC / 50 Hz
Rated power:	0.8 kW	1.25 kW
Rated current:	4 A	5.8A
Motor capacitor:	12.5 μ F	20 μ F
Max. discharge pressure:	4.5 bar	5.5 bar
Max. flow rate:	80 l/min	110 l/min
Noise level:	ca. 60 dBA	ca. 65 dBA
Pump start-up pressure:	1.0 – 2.2 bar (adjustable), factory setting: 1.5 bar	1.0 – 2.2 bar (adjustable), factory setting: 1.5 bar
Protection class:	IP 54	IP 54
Max. mains water pressure:	2.5 - 6 bar	2.5 - 6 bar
Max. highest connected fixture:	20 m	20 m



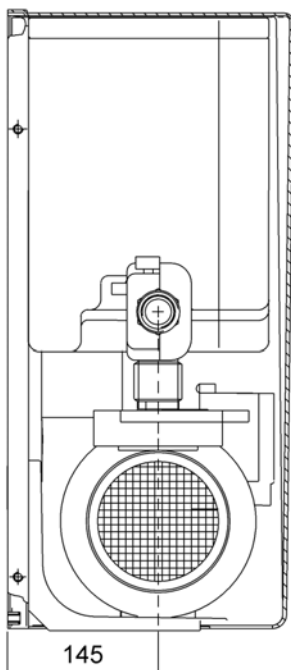
Performance curves for *SEPAMAT F20/40*

4.1 Device overview and dimensions

Right side view



Left side view

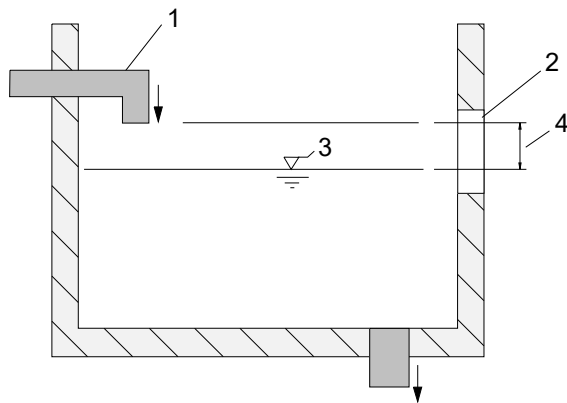


1. Multistage centrifugal pump *SEPAMAT F20/40*
2. Pump terminal box with basic controller
3. Vent cock
4. Pressure line shut-off valve (3/4" female)
5. Pump controller
6. Supply container
7. Stopcock for mains water (3/4" female)
8. Mains water floating valve
9. Emergency overflow (DN 50)

4.2 Standards, directives, tests

4.2.1 Secure separation Categorie 5 according EN 1717

The *SEPAMAT F* meets the DIN 1989-4 "Components for Control and Supplemental Supply" standard. The DVGW mark of approval confirms the presence of the mandatory "air gap" (as per DIN EN1717) for secure separation of processed water from the mains water line, which is integrated into the *SEPAMAT F*.



1. Mains water inlet to supply container
2. Emergency overflow opening
3. Max. possible water level (in case of malfunction)
4. Air gap between inlet and max. possible water level = secure separation of mains water and usage water

Mains water separation device, Type AB as per DIN EN 1717

<p>Certification separation device according to EN 1717 and DIN EN 1717 Safety category 5</p>	
<p>Certification floating valve:</p>	

4.2.2 EU - Konformitätserklärung

Diese EU-Konformitätserklärung wurde in alleiniger Verantwortung von INTEWA GMBH ausgestellt.

This declaration of conformity is issued under the sole responsibility of INTEWA GmbH.

Dokument-Nr.: 03/10/2021

Document-No.:

Hersteller: INTEWA GmbH

Manufacturer:

Anschrift:

Address:

Auf der Hüls 182

D – 52068 Aachen

Produktbezeichnung: Pumpenstation

Product designation:

pump station

Typenbezeichnung:

Type:

RM-Fxx, SMT-Fxx

Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

2006/42/EU: Maschinenrichtlinie

2006/42/EU: Directive Machinery

2014/30/EU: EMV Richtlinie

2014/30/EU: Directive relating to electromagnetic compatibility

2011/65/EU: RoHS-Richtlinie II

2011/65/EU: RoHS Directive II

2015/863/EU RoHS-Richtlinie III

2015/863/EU RoHS-Richtlinie III

Angewandte harmonisierte Europäische Norm:

Applied harmonised European Standard:

EN60335-1:2012/A11:2014:2014/A13:2010/A15:2011, ENISO 12100:2010

EN 61000-6-3:2007/A1:2011, EN 61000-6-1: 2007, EN 61000-6-4: 2007/A1:2011

EN 61000-6-2: 2005, EN55014-1:2006/A2:2011

EN50581:2012

Weitere normative Dokumente

Other normative documents


EN 60335-2-41:2003/A2:2010

Ort, Datum: Aachen, 12.10.2021

Place, Date:

Rechtsverbindliche Unterschrift:

Legal signature:



Geschäftsführer Oliver Ringelstein
Manager

5 Overview of components

The *SEPAMAT F* has a modular design. Each component can be separately changed.

5.1 Components of the pump controller

The pump controller (see section 4.1) monitors the pressure and volume flow rate in the pressure line system. The direction of flow is marked by an arrow on the housing.

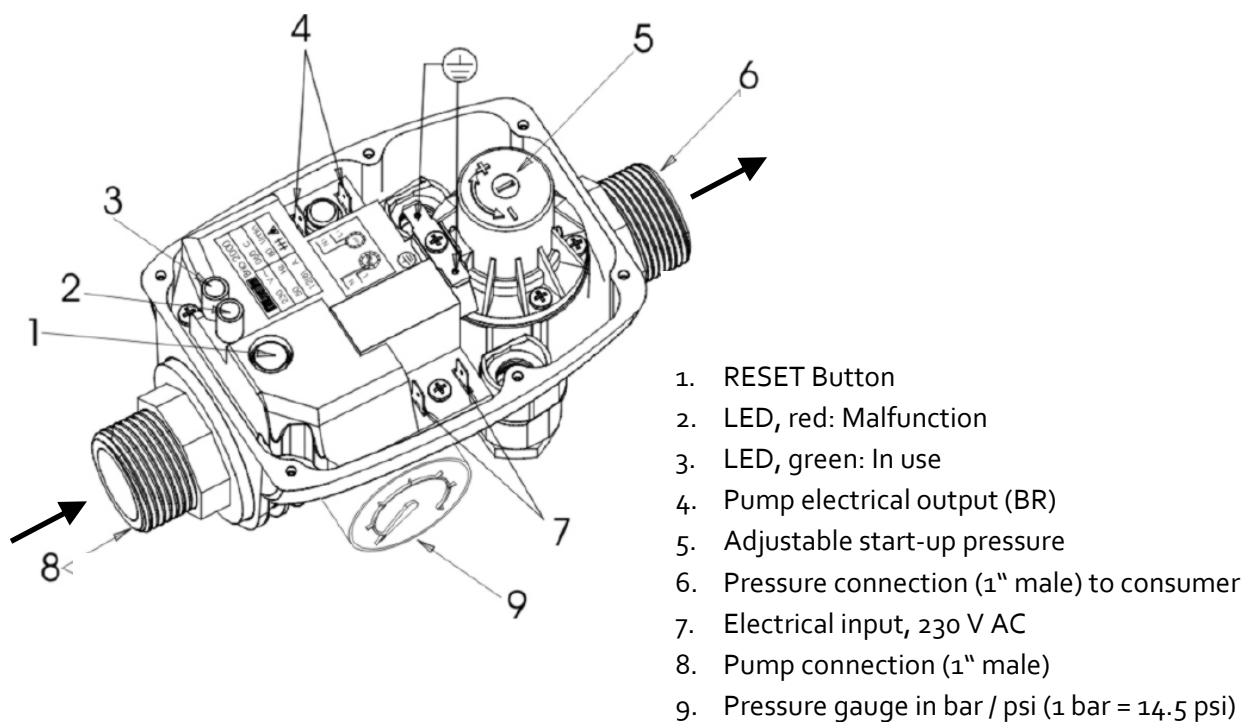
The **green LED (3)** indicates ready for use. The **red LED (2)** indicates a malfunction. This means the pump controller registers air in the system and if this occurs, the red LED flashes. If this state continues for more than 12 seconds, the pump undergoes an EMERGENCY STOP. The red LED then remains continuously lit.

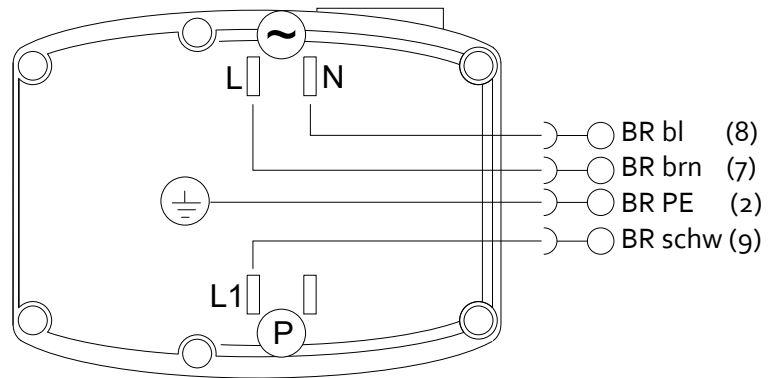
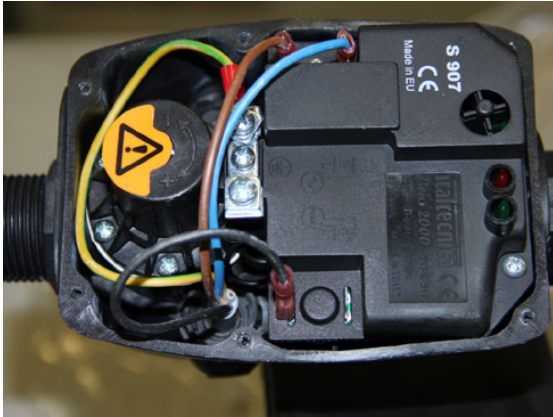
After an EMERGENCY STOP, the pump is restarted by pressing the **RESET button (1)** (or alternatively, by disconnecting the plug from the electrical supply).

The pump start-up pressure can be set using the **adjustment screw (5)**. This adjustment is required only in special cases. It is recommended that only experienced professionals use the pressure setting option. The pump start-up pressure is set to 1.5 bar by default. That means the pump switches on when the system pressure falls below 1.5 bar. (Anti-clockwise rotation decreases the start-up pressure. Clockwise rotation increases the start-up pressure.) The pump start-up pressure can be controlled by draining the water pressure very slowly. (The only way to know the exact pump start-up pressure is through the pressure indicator, which will indicate the slowly dropping pressure.)

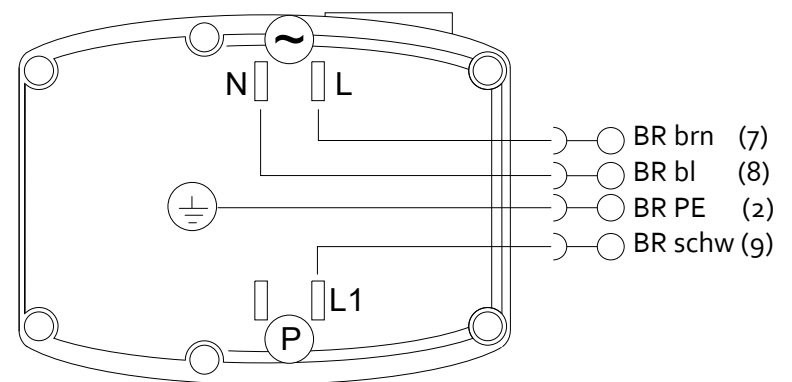
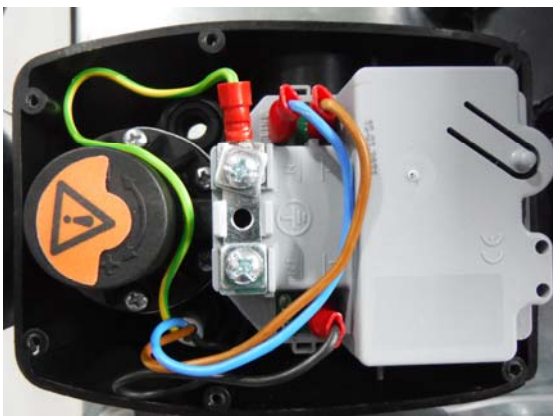
Note:

The adjustment screw (5) should not exceed the limit of maximum pump pressure! If it is too high for use, then a separate pressure limiter must be added on the pressure side. In special cases of constant pressure use, the *SEPAMAT F-SC* is suitable. Here you can electronically set the maximum allowable pressure.





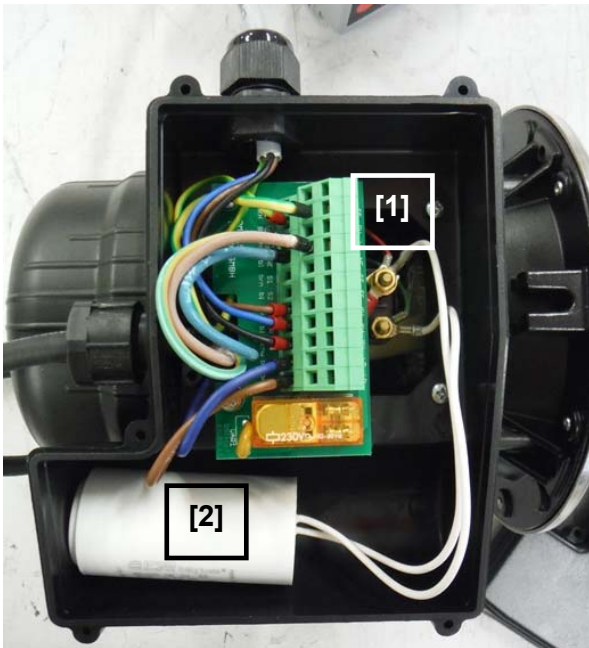
Wiring of the pump controller
(year of manufacture until bis 04.2021).



Wiring of the pump controller
(year of manufacture from 04.2021).

5.2 Components of the basic controller

The basic controller will be found in the terminal box of the pump [1], where all the electrical components of the *SEPAMAT F* are connected, as well as the motor capacitor required for start-up [2].



Wiring of the pump terminal

Pos.	Board code	Connection description
1	KH PE	-free-
2	BR PE	Protective pump controller
3	NE PE	Protective mains connection
4	NE bl	N-Mains connection 230 V, blue
5	S1 brn	-free-
6	S1 bl	-free-
7	BR brn	L1-Pump controller, brown
8	BR bl	N-Pump controller, blue
9	BR schw	Pump controller, black
10	PU bl	N-Pump, blue
11	PU brn	L1-Pump, brown

Pos	Board code	Connection description
12	SS PE	-free-
13	PU PE	Protective pump controller
14	LP PE	-free-
15	NE br	L1- Mains connection 230 V, brown
16	SS brn	-free-
17	SS bl	-free-
18	KH schw	-free-
19	KH grün	-free-
20	KH rt	-free-
21	LP bl	-free-
22	LP brn	-free-

Table: Overview of cable connections

Loosen the screws to change the capacitor and take off the cable-end eyelet ring.

Attention:

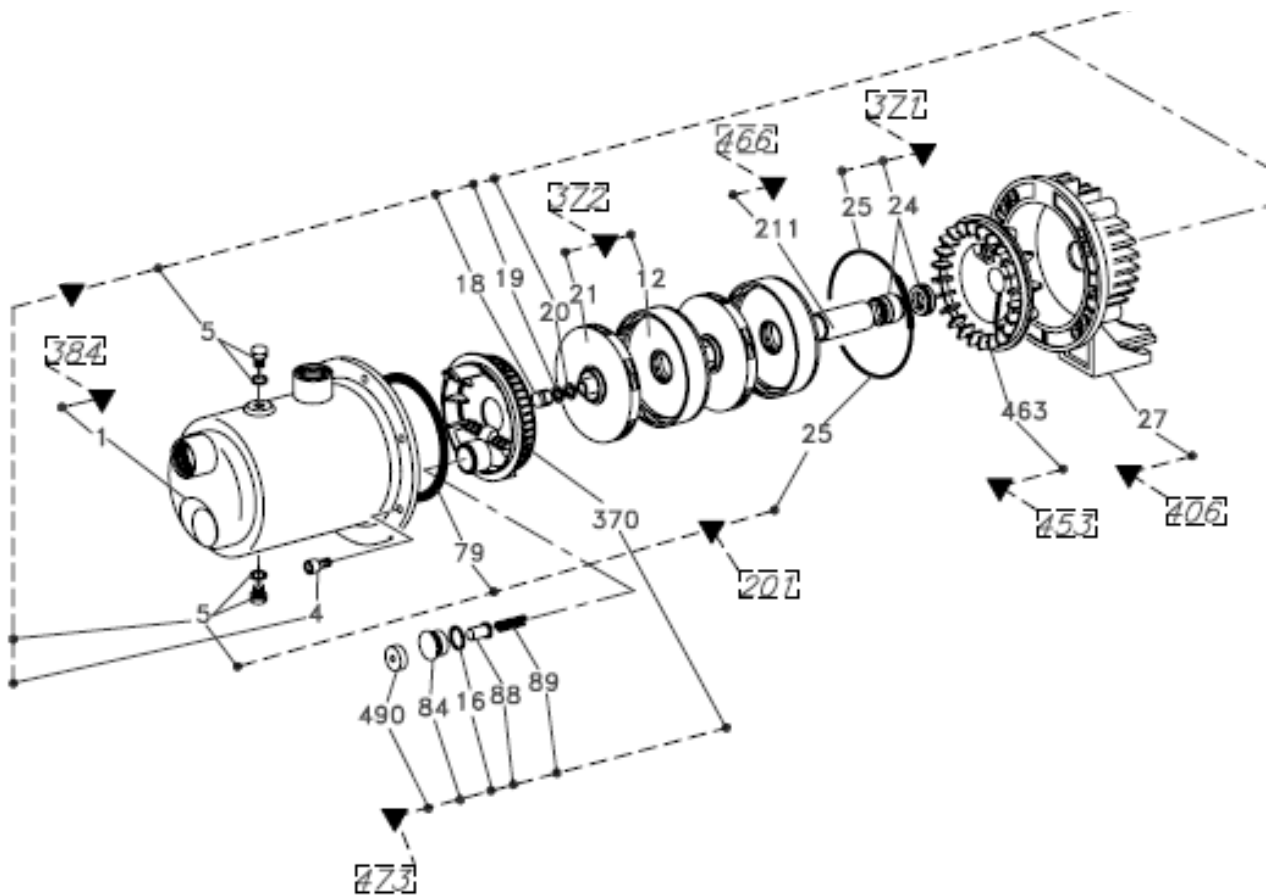
Do not let the nuts fall down into the inner coil of the motor!

Note:

When connecting a new capacitor the polarity is not important.



5.3 Components of the multistage pump



Exploded view of SEPAMAT F 20/40 centrifugal pump

KIT REF.	Nr. KIT DESCRIPTION	REF. Nr.	COMPONENT DESCRIPTION	RMF-20-A RMF-20 SMT-F20-A SMT-F20	RMF-20-SC SMT-F20-SC	RMF-40 RMF-40-A SMT-F40 SMT-F40-A	RMF-40-SC SMT-F40-SC
371	MECHANICAL SEAL KIT	25	O-RING (PUMP BODY ~)				1
		24	SEAL (COMPLETE		ZBR25620		1
372	HYDRAULIC KIT	21	IMPELLER	ZBR45880	1 pcs.	ZBR45890	1
		12	DIFFUSER (WELDED ~)		1 pcs.		1
380	CAPACITOR	47	CAPACITOR	ZBR 1	--	ZBR 1 pcs.	--
473	SELF-PRIMING SUCTION FLANGE KIT	16	16 O-RING (NOZZLE ~) 1 pc				1
		84	84 PLUG (FRONT ~) 1 pc				1
		88	88 SHUTTER 1 pc				1
		490	490 RUBBER SPACER 1 pc		ZBR28140		1
		89	89 SPRING (SHUTTER ~) 1 pc				1
		370	370 SELF-PRIMING SUCTION				1

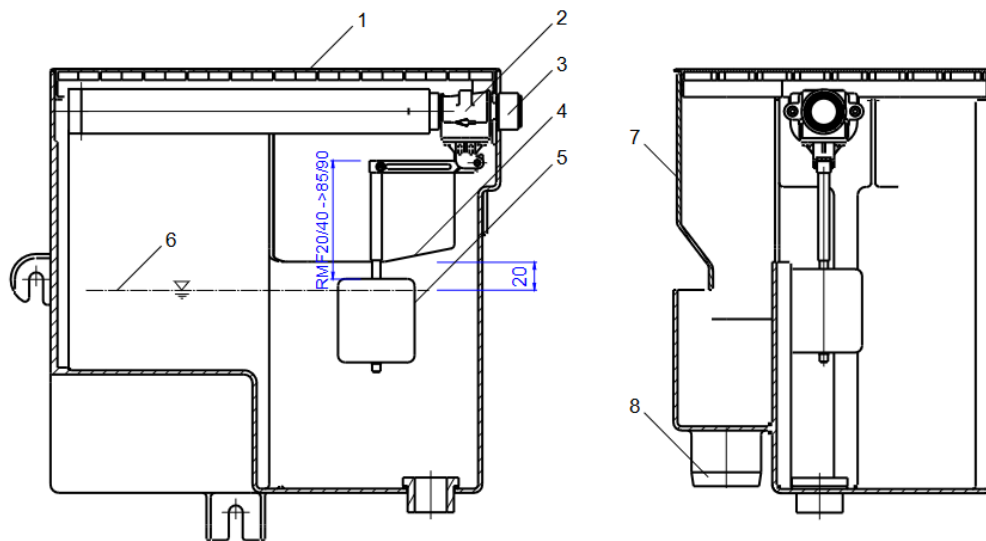
List of spare parts for SEPAMAT F (SMT F20 / F 40)

5.4 Components of the supply container

The floating valve keeps the water level constant in the supplemental supply container. The maximum water level should be approx. 2-3 cm below the overflow rim when the floating valves closed (backside of the container).

The correct distance of the float (5) to the horizontal lever is factory set at 85 mm by the SMT 20 float valve and 90 mm by the SMT₄₀ float valve.

Note: If an overflow occurs due to continuous dripping from the valve, the valve must be decalcified (see Maintenance). In the connection of the float valve there is a protective sieve (3) which can be pulled out for cleaning. A strainer is also located in the inlet pipe.

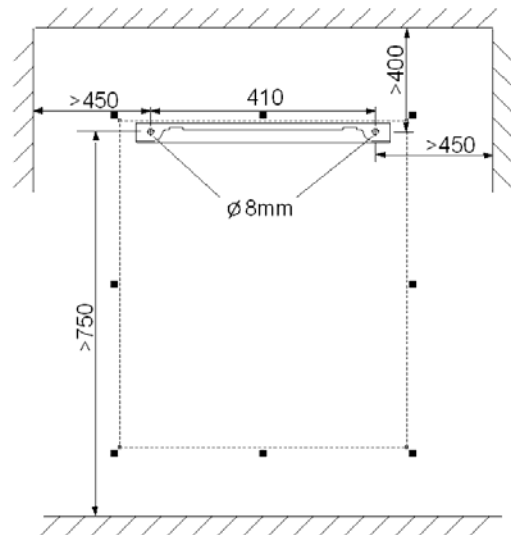


- | | |
|----------------------------------|------------------------|
| 1. Supplemental supply container | 5. Lifting body |
| 2. Floating valve | 6. Maximum water level |
| 3. Protective sieve | 7. Splash protection |
| 4. Emergency overflow rim | 8. Emergency overflow |

6 Installation instructions

6.1 Wall mounting

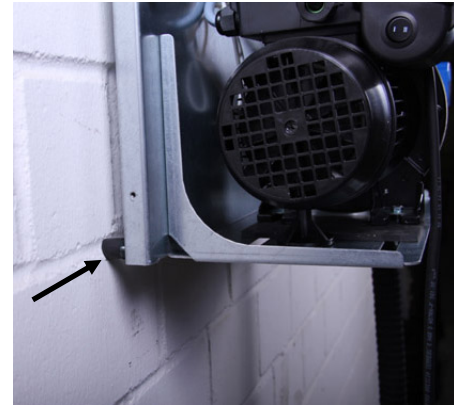
The *SEPAMAT F* is mounted on a wall with the supplied wall bracket. The lid and lateral distances indicated should be adhered to when mounting, to provide clear maintenance access.



The *SEPAMAT F* is wall mounted in such a way, that the groove in the top back panel of the unit hangs off the affixed wall bracket.



The provided rubber clamping device is to be fit on the back side of the unit in the lower corners.
The unevenness of the wall can be balanced by various screwing depths.



6.2 Connection to the mains water line

The connection to the mains water supply is done with the provided flexible hose and stopcock.

Screw the gland screw into the container connection and carefully tighten with a fixed wrench.

Note:

The flexible hose must not be overtightened as this may interfere with the internal float valve, on the opposite side of the connection. All provided flexible hoses have gland screws with flat washers. The rubber washers must be present. Additional sealing material must not be used on gland nuts!

Screw the gland screw on the other end of the flexible pipe into the stopcock mounted on the mains water line.



6.3 Installation of the pressure line set

The pressure line set (see section 3) establishes the connection between the pump and pressure line system.

The pressure line set is connected to the pump controller.

The flexible hose and the shut-off valve then connect to the pressure line set and the pressure line.



6.4 Connecting the emergency overflow

The *SEPAMAT F* has an emergency overflow line (DN 50) which must be connected to the waste drainage system of the building. The drainage line must be of a size to accommodate a maximum volume flow rate of 90 l/min.



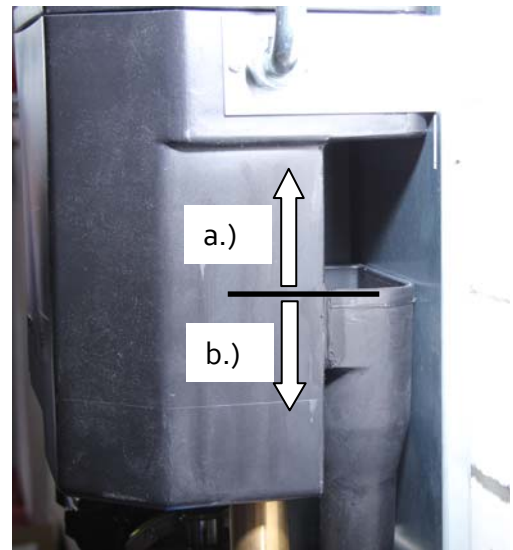
Note:

The position of the backwater level must be taken into consideration while connecting to a drainage system, in order to prevent backflow of drainage water from the open sewer line (design according to the DIN EN 1717) entering the *SEPAMAT F*.

The position of the backwater level determines the type of line:

- a) Backwater level **above** the emergency overflow drainage height of the supplemental supply container:
 Connection of the emergency overflow must be done by a lifting system.

- b) Backwater level **below** the emergency overflow drainage height of the supplemental supply container:
 Connection of the emergency overflow to a ventilated channel line (DN 50) is done via a siphon.



7 Start-up and use

7.1 Start-up in mains water mode

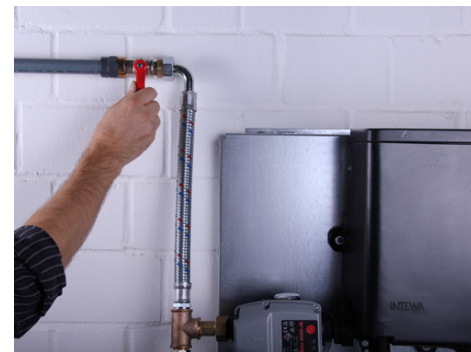
1. Open the mains water line stopcock so that the supply container is filled with water.

Note:

In maintenance mode the pump primed with water automatically over the mains water tank. In this case the pump cannot be manually filled with water!



2. Close the pressure line shut-off valve.



3. Open the air vent (hold a bucket of water under the air vent) and start the pump by plugging in the mains power.

Let the water run from the air vent into the water bucket until there is no more sign of bubbles (a clear stream) meaning that all air has been removed from the suction line.



4. Close the air vent.



5. Open the pressure line shut-off valve and flush the air from the consumer line (e.g. by flushing the toilet several times or opening the garden tap).

6. Close all the fixtures.

The pump will now automatically switch off when the maximum system pressure is reached.



7.2 Display

The green LED on the pump controller indicates that the pump is ready to use. In case of a problem, the red LED will light up (see section 5.1).

The system pressure can be read on the pressure gauge of the pump controller.

The Automatic Mode or Maintenance Mode can be set via the mode selecting switch.

8 Trouble-shooting

Malfunction	Cause	Solution
Pump does not start and the red LED is on	<ul style="list-style-type: none"> - Pump shuts off after a brief hum and the RESET - No water in the priming tank 	<ul style="list-style-type: none"> - Replace the capacitor - Test the mains water valve
Pump switches on and off continuously	<ul style="list-style-type: none"> - Unsealed, leaky fixture - Minimal flow rate through the fixture (< 1 l/min) 	<ul style="list-style-type: none"> - Repair leak - Test the fixtures (for several small, connected fixtures, an expansion vessel is suggested to reduce switch on-switch off rate)

Flow rate is too low or pump supplies no water	- Too little or no water inflow to the priming tank	- Test the mains water pressure, remove the filter sieve in the mains water valve and clean (see section 5.3)
Only half of the maximum pump pressure is achieved	- Defective air separator or diffuser/impeller	- Replace air separator or diffuser/impeller

9 Maintenance

Every 3 months a visual and operations test must be completed.

If the mains water valve continuously drips, then this must be decalcified. Therefore, remove the entire valve from the tank and place it in a decalcifying solution (citric acid) so that the inlet and outlet are fully submerged. Move the floating arm several times so that the decalcifying solution penetrates the valve diaphragm chamber as well (24 hours exposure time). If the dripping continues after maintenance, then the valve must be replaced.

10 Spare parts

Description	Figure No. (see section 4.1)	Bestellbezeichnung
Multistage centrifugal pump SEPAMAT F 20	[1]	RMF-P20
Multistage centrifugal pump SEPAMAT F 40	[1]	RMF-P40
Basic controller	[2]	RMF-BPL
Pump controller BRIO	[5]	RMF-PST BRIO
Supply container	[6]	RMF-B
Floating valve for Supply container	[8]	RMF-NSP
Spare parts for pumps SEPAMAT F 20 / 40		see section 5.2

11 Warranty / Guarantee

INTEWA GmbH guarantees this unit for 24 months from the date of purchase. Kindly keep the sales receipt as proof of purchase.

Within the guarantee period, INTEWA GmbH reserves the right to either repair or replace faulty parts at its own discretion.

The warranty does not cover any damage due to improper use, wear and tear, or intervention by third parties. The warranty does not cover any defects which may only minutely affect the value or usability of the device.

12 Contact / Device number

For customers in Germany:

For any queries, ordering of spare parts, as well as in case of service, kindly contact INTEWA GmbH directly, quoting your product's model and identification numbers and the purchase invoice details, at:

INTEWA GmbH
Auf der Hüls 182
52068 Aachen

Tel.: 0049-241-96605-0
Fax: 0049-241-96605-10
Email: info@intewa.de
Internet: www.intewa.de

For customers in other countries:

For any queries, ordering of spare parts, as well as in case of service, kindly contact your installer or the authorised importer, quoting your product's model and identification numbers, and the purchase invoice details.

The device number with the ID No. is found inside the *SEPAMAT F* on the top right side.