

Total Sediment in residual fuel oils, IP 375, ISO 10307, ASTM D4870



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The producer is at your disposal to give you any further information concerning the use of the device in respect of the rules contained in this manual.

Zematra BV disclaims all responsibility for any damage caused by the device if the steam generator used delivers more than 3 bar pressure.

If you find any difficulties in understanding the safety indications this manual contains, please contact the producer within 8 days from delivery.

After this period the producer will consider clear and comprehensible the information given in the manual.

The producer apply the terms of warranty recognised by law.

Zematra BV is not responsible for any damage caused by an improper connecting with the steam generator or other utilities.

1.1 Specifications

I	Filtering device
Type	Two position
Specifications and performance	
Serial number	
Production year	
Weight	3,5 Kg.
Dimensions	50cm x 30cm x 30cm
Operative pressure	2,5 bar
Steam required generation	1,1 Kg/h
Boiler capacity	5 litres
Required power	See manual steam generator and vacuum pump

Purpose of test: filtering of fuel oil for possible sediment, cleanliness of fuel.

Membrane filters should be conform IP375, ISO 10307-2 and ASTM D4870 standards.

Sample preparation process and test execution should be done in accordance with IP 375, ISO 10307 and ASTM D4870.

System should not be filled with compressed or explosive gas. Use only water and steam.

1.2 Warranty Conditions

The warranty is valid for one year from the date of purchase. This warranty is valid for all components of the device, excluded consumables (filter flask).

Warranty is excluded if damage or defects have been caused by:

- Inadequate packing
- Accidents or any cause beyond the control of Zematra BV

In the event that the disposal is found to be defective within the warranty period, repair service will be provided free of charge.

Costs of components, transportation, fixing and out-of pocket expenses will be charged to the customer in case of repair service after the warranty period.

ZEMATRA BV does not warrant for damages caused by improper connection to steam generator, to vacuum source or due to strained suspensions in use.

Extraordinary repairs carried out by the customer within the warranty period will not be refunded and will cause the immediate expiry of the warranty.

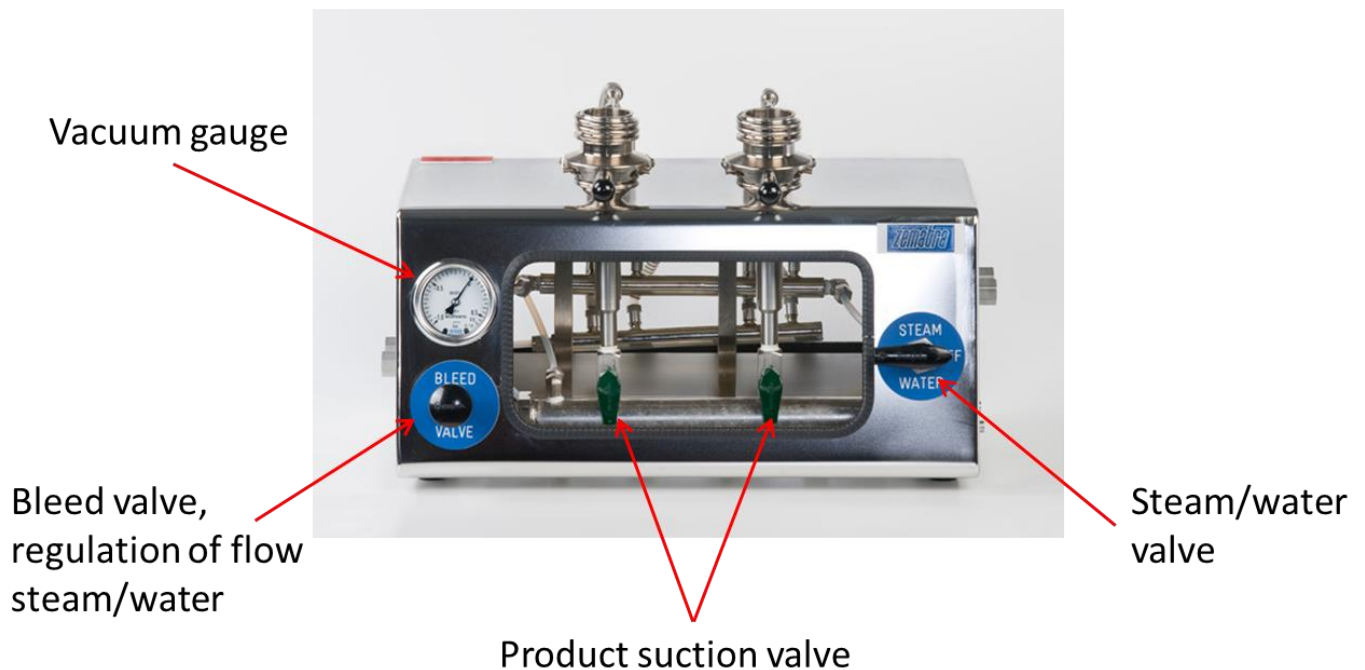
The product is subject to changing without notice.

Warranty is not valid for not provided cases, damages caused by improper use, fuel system anomalies, carelessness of operators, atmospheric agents, vandalisms, damages due to transportation or to use of not original spare parts.

THIS IS THE EXCLUSIVE WARRANTY DOCUMENT.

No one is allowed to issue any other warranty document, neither written nor spoken, without ZEMATRA BV permission.

2.1 Features of the analyser



Outlet of steam
and water flow



inlet of steam and
water flow



Connection to
vacuum waste
bottle

3.1 Getting ready

First at all unpack the device. Thanks to his small weight it can easily be lifted by one operator.

Make sure that the area of work where you place the device has the right dimensions.

CONNECTING RULES

Connection has to be carried out by expert works engineers.

The device must be fed by correct generators or steam boilers which comply to the respective CE regulations.

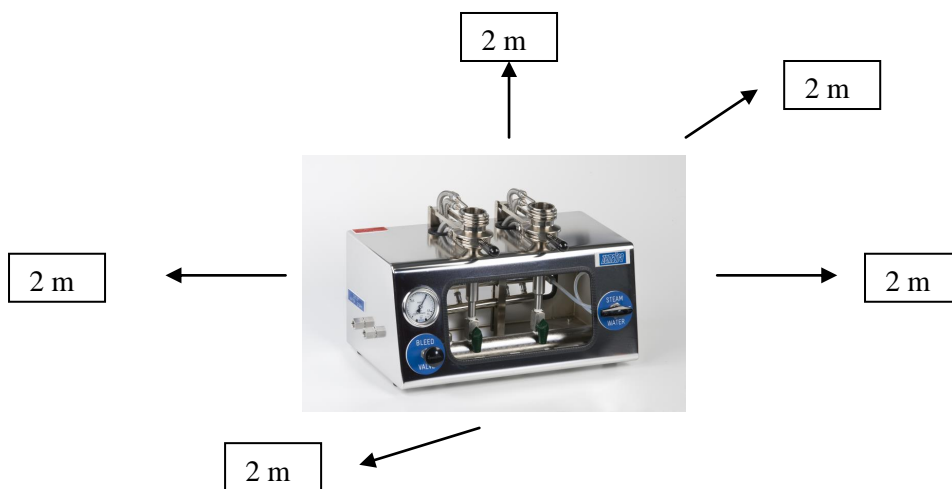
The customer is responsible for the setting up of the system in conformity with standards required.

ROOM NECESSARY TO USE AND MAINTENANCE

Working with the filtering device IP 375 you need to have at least 2 m space free all around the instrument, in conformity with laws concerning safety of workers.

ZEMATRA BV is not responsible for servicing carried out by the customer without:

- Following this manual directions.
- Observing internal regulations about safety of workers.



The device does not weigh more than 5 Kg, only one operator is required for the transport. For transport observe following information:

- Before moving disconnect any tubing, hoses or cables
- You should not move the device connected to the steam generator.
- You should not move it with the vacuum flask connected.

3.2 Safety notes

For use and servicing

The employer is responsible for distribution of this manual to staff who will operate the device.

Operators who work on the device have to read carefully this manual, before carrying out any operation on the device. They have to observe any specific safety regulations in place.

Operators shall respect general safety rules in conformity with CE directives and with national legislation.

Users nor any third part shall modify or adapt the device and its functions, or this document, without consulting the manufacturer

Users and operators shall respect general and company safety directives in force. They especially shall respect the following:

- Staff working in the filtering device area shall not be under influence of sedatives, drugs or alcohol. Operators shall be perfectly aware of the functioning of the device.
- Start the device only if it is clear from foreign bodies and personal items.
- Be sure that the working area is wide enough to allow operators to walk easily around the device.
- Operators shall not loosely fitted clothes, long untied hairs, necklaces, bracelets etc.
- Staff working in the device area shall always wear cloths suitable for the work they have to carry on.
- Do not carry out any operation on the device without the supervision of other workers able to help you in case of need.
- Always use original spare parts or parts which completely compatible with the original ones.
- Cleaning of the device shall be carried out only when the machinery is not use.
- Clean the housing, vacuum flask, panels and the manometer only using soft cloths, dry or dampened with a detergent.

- Check periodically if the metallic components are not damaged.
- Check monthly the tubing, hoses and joints seals for any leaks.
- Do not remove the metallic tubes when cleaning the machinery.
- Carefully clean the piping where residual of filtered product may deposit.
- Check the steam inlet circuit.
- Check the vacuum system.
- Check that external temperature does not exceed 80°C, with the exception of the cups while functioning.
- Check that the operative pressure does not surpass the levels indicated by the producer.
- Staff shall wear personal safety equipments to work on the device. They shall wear gloves, protective shoes and glasses.



OPERATORS MUST USE PERSONAL SAFETY EQUIPMENTS

Near to the device and in the working area, 2 m around it:

- Admission to personnel only.
- Do not store foreign bodies.
- Do not stop in the working area.
- Do not use flames without control near to the device.

Emergency situations

On the basis of information so far available, ZEMATRA BV denies the possibility that accidents due to the Sediment Tester or any components of it has happened.

The person responsible for the laboratory shall designate the operators qualified to:

- Operate the Sediment Tester IP375, ISO10307-2 ASTM D4870
- Carry on routine maintenance.

ZEMATRA BV disclaims all responsibility for the following operations:

- Replacement of components using non original spare parts.
- Modification to the instrument.
- Mechanical modifications.
- Negligence in general.

All these elements will cause the immediate expiry of the warranty.

ZEMATRA BV disclaims all responsibility for:

- Improper uses.
- Illegal uses.
- Uses not conform with safety standards.
- Use of components with dubious origin or without declaration of conformity.

Disposal operations

Any mechanical part shall be discharged in authorized centres.

4.1 Operating manual

Before starting the Sediment Tester check the following:

- Check that the fuel system is in conformity with standards and working.
- Check that joints and tubes are well tight in order to avoid any leakages or drippings.



DO NOT USE FLAMES WITHOUT CONTROL NEAR THE DEVICE
ZEMATRA BV disclaims all responsibility as regards.

CONNECTIONS

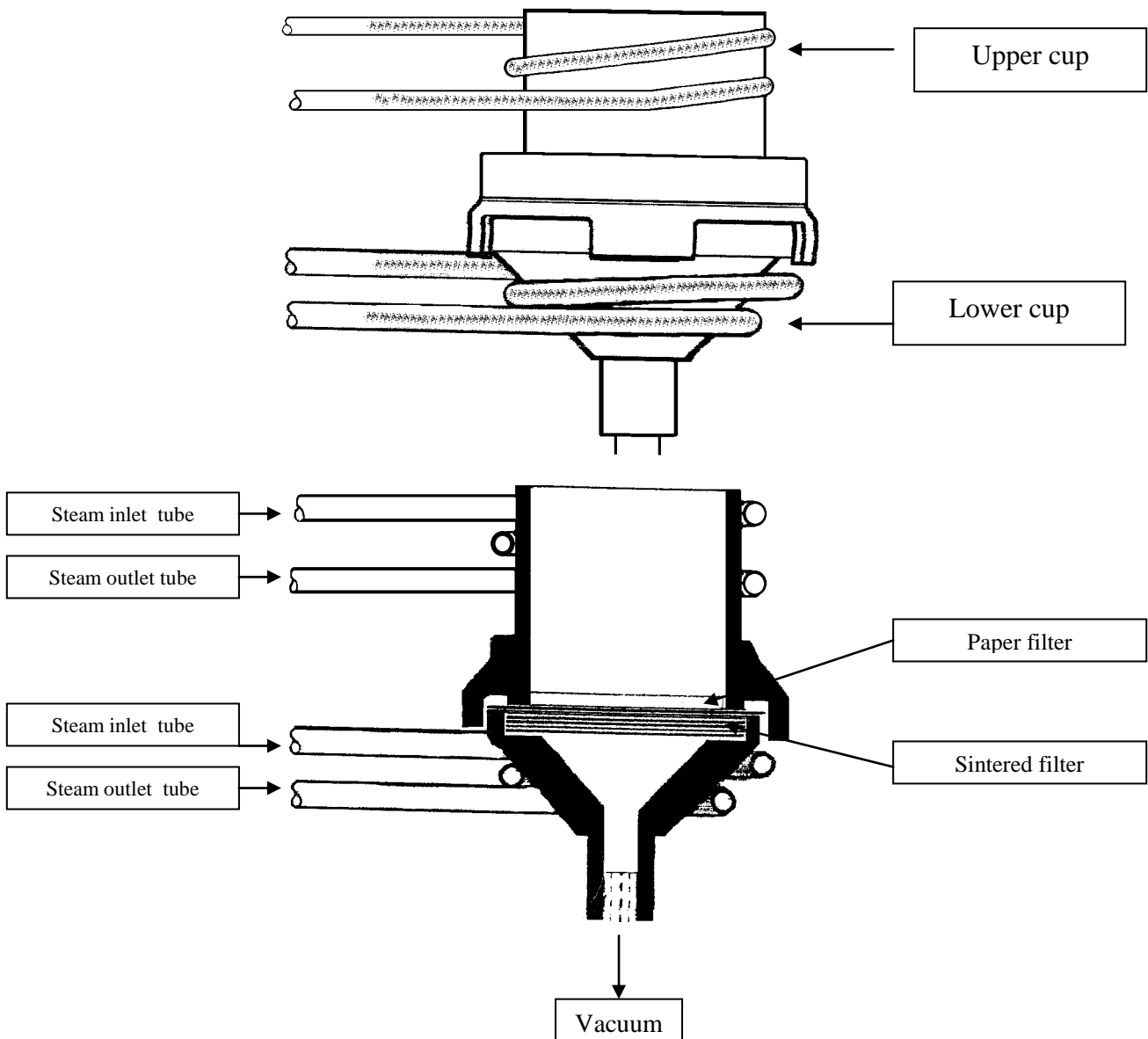
The system has to be connected to a boiler or a steam generator.
The user shall arrange a suitable feeder line and the system shall be in conformity.

Before starting the machinery:

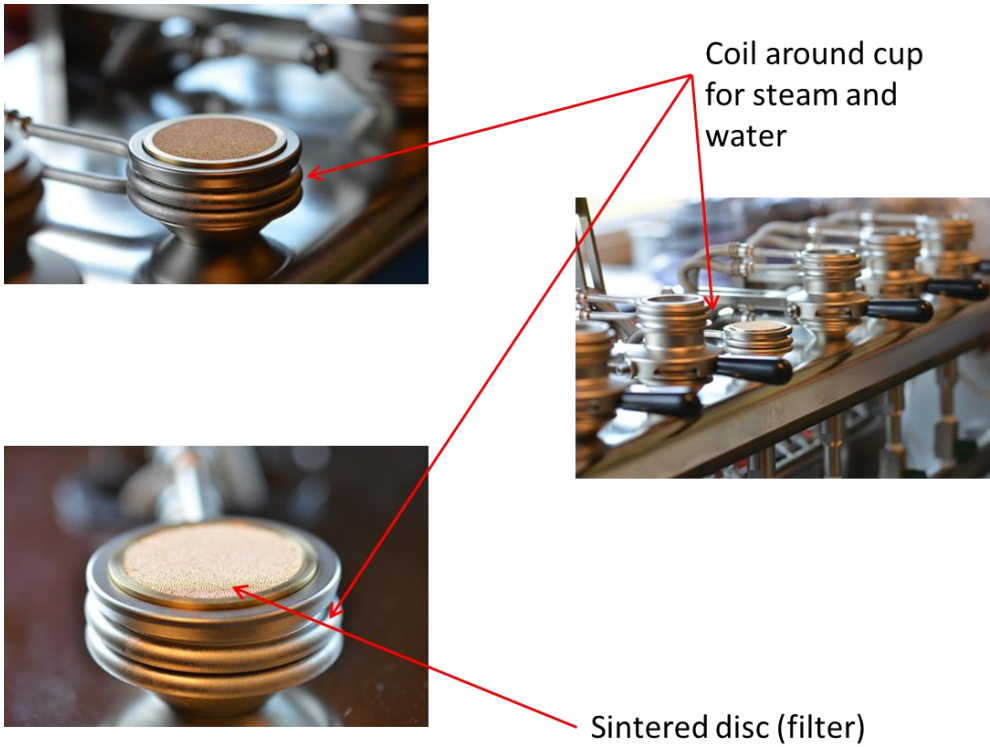
- Connect tubes to the special seat
- Check that tubes are well connected
- Fix the tubes with special clamps.

SETTING

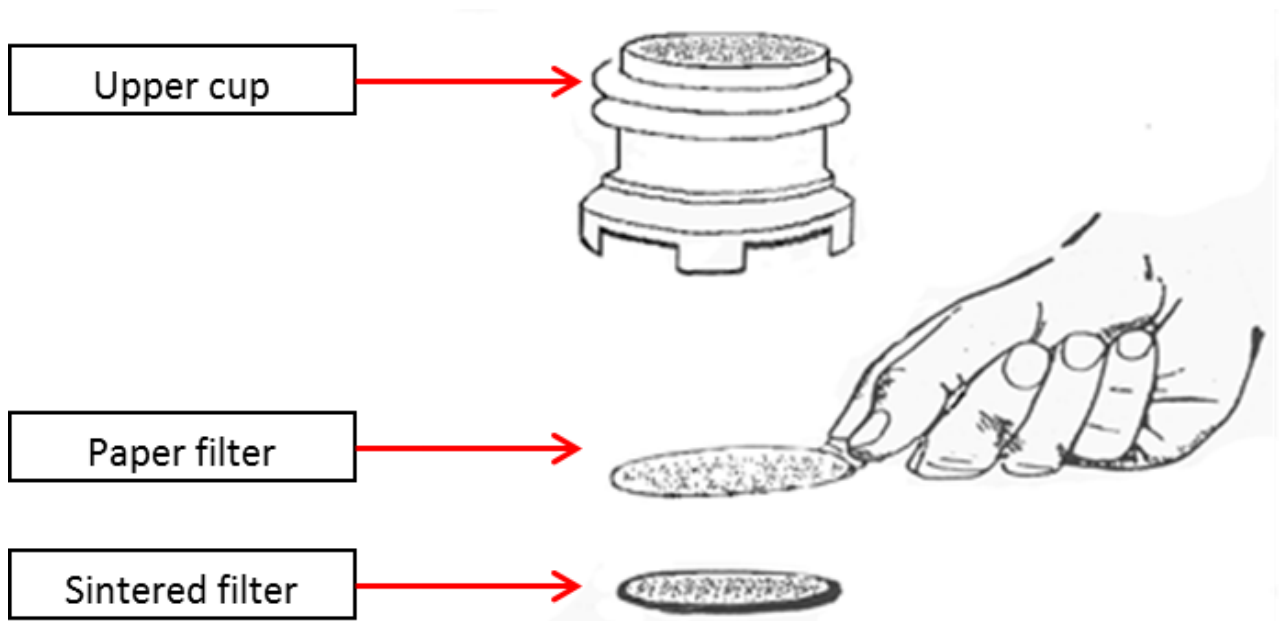
1. Connect the device to the steam generator with pressure not higher than 3 bar, or with technical feature indicated by ZEMATRA BV.
2. Check the correct connection of tubes and vacuum bottle.
3. Place filters into the special seat between the upper cup and the lower cup of the two test positions of the instrument. After each test change the paper filter and clean the sintered disc thoroughly according to the specific method.



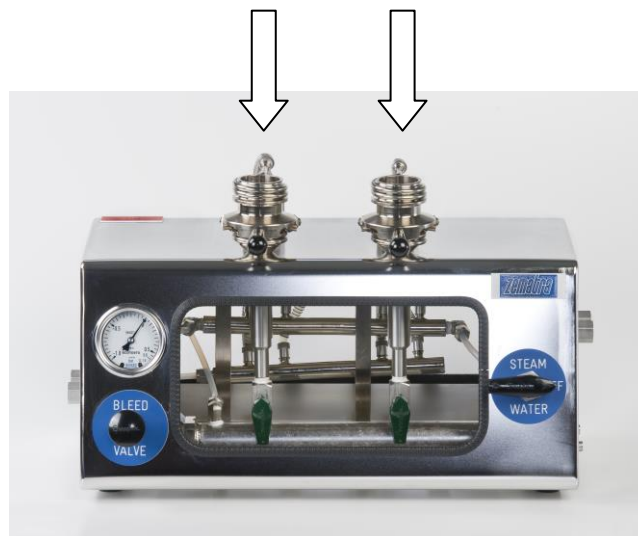
Detailed view of test cups:



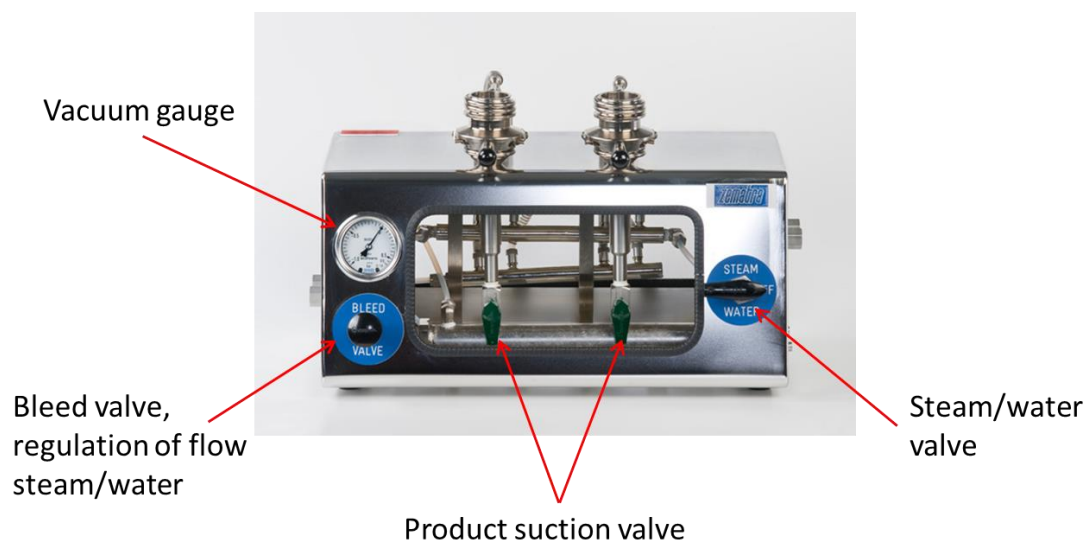
Preparation of test cup:



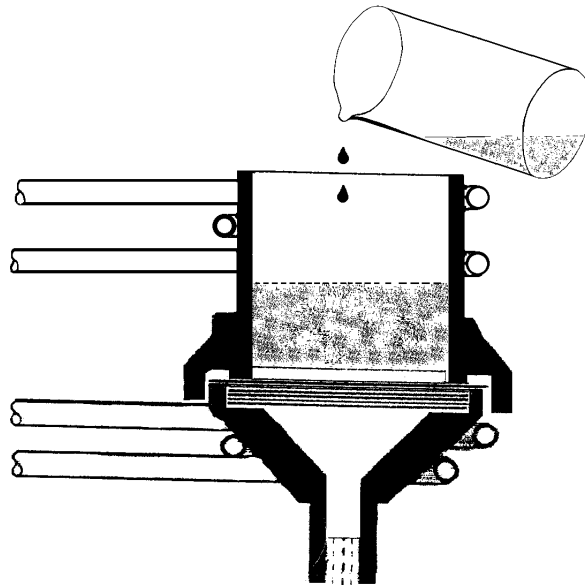
Carry out this operation for all available positions :



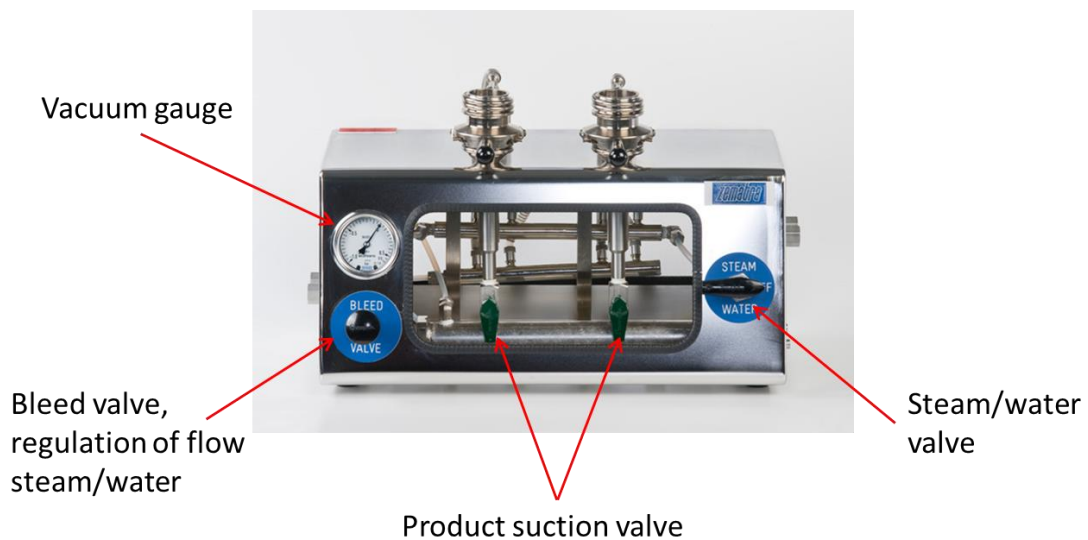
Open the steam valves when starting the device to allow steam delivery through the unit for 10 minutes prior to addition of the test portion and throughout the addition and filtration stages.



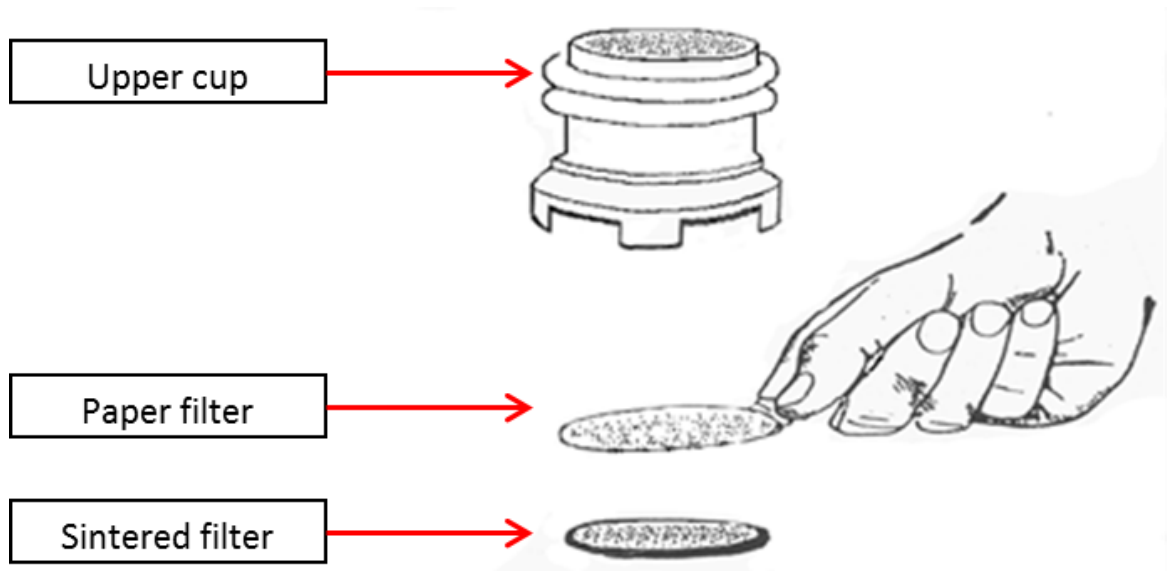
Pour the product (prepared according to the method) to test into the cup previously assembled.



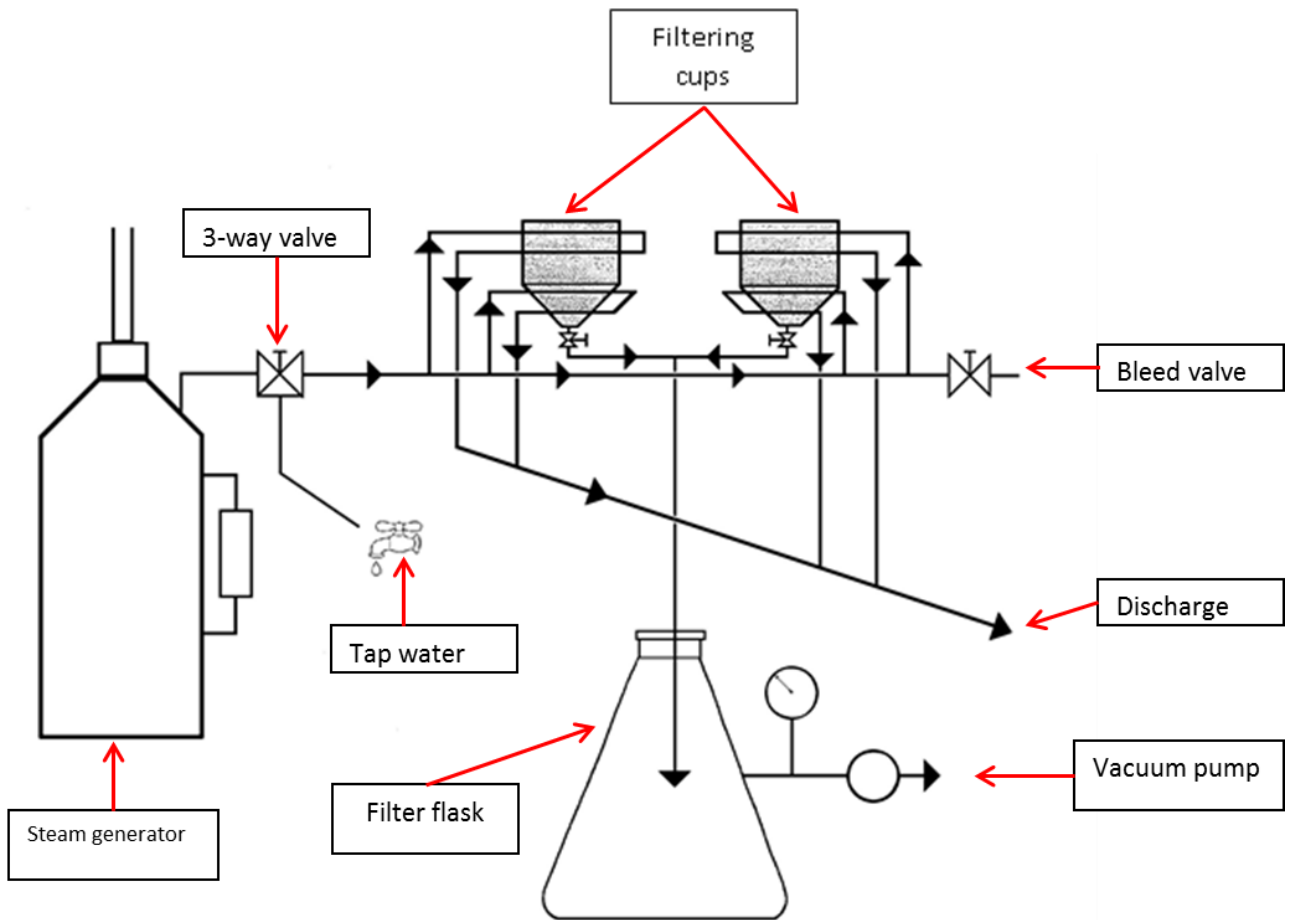
Filtering starts after you open one the production suction valves.



At the end of the test remove the paper filter to analyse the deposits present on it.



Connection Diagram



4.2 TROUBLE SHOOTING

Servicing and cleaning has to be carried out by qualified and authorized operators. Only authorized operators could use tools necessary for servicing.

Before starting any operation, place a notice:

**SEDIMENT TESTER IP 375
ON SERVICE**

Contact your vendor for extra services like:

- Replacement of components
- Replacement of mechanical parts
- Modification of joints.

DEFECT	CURE	OPERATOR
The device does not make the vacuum	Check the vacuum pump Check the valves of the vacuum system. Check tubes, joints and assembling of the filters of the cups. Check the seals of the vacuum bottle. Check the presence of cracks in the filter flask or in the tubes of the vacuum system.	Qualified operator If the defect persist turn to the vendor.
A cup does not reach the required temperature.	Check the presence of steam in the cup coil. Check if the inlet or outlet duct is obstructed.	Qualified operator
All the cups do not reach the required temperature	Check the steam generator. Check the inlet steam valve and the condensate blowing off valve.	Qualified operator

4.3 MAINTENANCE

ROUTINE MAINTENANCE

- Carry out a general inspection and cleaning of the system.
- Check that all the screws are well tight.
- Check the presence of vibration, especially in the fixtures of the cups.
- Check the seal of the steam system and of the vacuum system.

GENERAL MAINTENANCE SUGGESTIONS.

Execute a complete overhaul every 1000 hours of work to avoid reduction in performance.

Check the temperature with the correct thermometers.

Date	Type of control Temperature/pressure	Defect found	Parts changed	Operator or reference note

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