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Project contact information

Jets™ internal number: ________________  Unit number: ____________________

Designer
Name: ________________________________________________________________
Contact person: _________________________________________________________
Address: ______________________________________________________________
E-mail: ________________________________________________________________
Phone: ________________________________________________________________

Installer
Name: ________________________________________________________________
Contact person: _________________________________________________________
Address: ______________________________________________________________
E-mail: ________________________________________________________________
Phone: ________________________________________________________________

Dealer
Name: ________________________________________________________________
Contact person: _________________________________________________________
Address: ______________________________________________________________
E-mail: ________________________________________________________________
Phone: ________________________________________________________________

Main supplier

JETS AS
Myravegen 1
6060 Hareid

E-mail: post@jets.no
Phone: +47 700 39 100 (24 hrs service)
Fax: +47 700 39 101

www.jetsgroup.com
Main components

Interceptor tank
Interceptors are small greywater tanks for use in tight spaces. They are often installed in supermarket freezers to remove condensation.

- Water level controlled
- Corrosion resistant

Interceptor 5 liters:
Material: PE-H
Dimensions: 250x215x110 (LxWxH-)
Weight: 1 kg
Drawing no.: 32802-080
Part no.: 080500200

Signal cable, interceptor to valve
Complete with plug in both ends, ready for installation.
Length: 10m - Leads: 2 - Gauge: 2x 0.5mm²
Part no. 10m signal cable: 121516205

Grey water tank (GWT)
For use with sinks and other equipment that may introduce larger amounts of water into the vacuum system.

- Water level controlled
- Corrosion resistant

Grey water tank 16 liters:
Material: PE-H
Dimensions: 400x200x247 (LxWxH-)
Weight: 2.2 kg
Drawing no.: 105635-080
Part no.: GWT800PL

Valve (Jets™ type ED)
The ED valve provides fully automatic emptying of the interceptor tank(s).
- Automatic discharge valve separate from tank
- Corrosion resistant

ED valve:
Power supply: 230V/50Hz/60Hz
Material: plastic and steel
Weight: 2.4 kg
Drawing no.: 32746-052
Part no. complete: 052508002
Part no. power connection female: 121502600

Vacuumator™ pump
The Vacuumator™ pump is the most compact, efficient and reliable vacuum generator available for vacuum systems.
- Simple, reliable single-shaft design
- 3-in-1 operation
- Corrosion resistant

Jets™ 15MB incl. VTS controller:
Material: Bronze and stainless steel
External dimensions: 214x554x263 (WxLxH)
Connection inlet: 50 mm
Connection outlet: 50 mm
Weight: 35 kg
Motor: 1.5 kW

Part no. complete: S15MB-CTT230
(includes pump, VTS controller and vacuum transmitter)
System principle

Capacity
Use maximum 15 interceptors and 1 GWT per 15MB pump. GWT should only be connected to a hand wash sink in this application.

If the system is to include more than 1 hand wash sink, washing machines, showers, and/or toilets, etc, contact Jets™ or your local distributor.
Please contact your distributor or Jels AS for any changes of design or any question.

- Transport pockets can be made in two versions.
- Distance between transport pockets approx. 10000 – 15000 mm.
- Piping details.
POWER SUPPLY

DC
1 = Blue = +
2 = Brown = -

AC
1 = Blue
2 = Brown

TO LEVEL SENSOR
(Pre-wired from Jets)

Max Cable Dim: 11mm
Jets™ ED Valve Description

Components
The Jets™ ED-valve is designed to accomplish the discharge of the Grey water interface tanks. It consists of the following components:
1 Discharge valve
1 Electronic control circuit, integrated in the discharge valve top housing
1 Solenoid valve
1 El. connector (splash proof) for power supply.

Application
Grey water interface tank:
The ED-valve is an interface valve for grey water. The grey water is efficiently discharged from the grey water interface tank into the vacuum system.

Operation:
Operation of the ED-valve is automatic. The ED-valve is activated by a level sensor mounted on the tank. Operation sequence is adjustable from 3 to 30 seconds.

Technical Data:
Outside dimensions: .................................................. 175x210x270 (mm)
Housing material: .................................................................. ABS
Diaphragm material: .............................................................. Rubber
Total weight:........................................................................ 2.4 kg
Power connection: ................................................................. Flexible rubber cable and plug
Fuse:.............................................................................. 200 mA T 5x20 mm at 230V AC
...................................................................................... 400 mA T 5x20 mm at 115V AC
...................................................................................... 4 A T 5x20 mm at 12/24V DC
Enclosure:............................................................................ IP 44
Equipment connection: ......................................................... Flange
Discharge outlet: .................................................................. Outside diameter 50 mm
Approval: .......................................................................... IEC-certified,
CB test certificate No. 125

Operationa Data:
Power supply ..................................................................... 230 V alt 115 V 50/60 Hz
...................................................................................... 12/24 VDC
Power consumption ............................................................ 19 W during discharge
Operating vacuum .............................................................. 500 - 700 mbar
Discharge time ................................................................. Adjustable from 3 to 30 seconds

Note: Changes without prior notice

www.jets.no
Myravægen 3, N-6060 Harald, Norway, Tel. +47 70 03 91 00, Fax +47 70 03 91 01, E-mail: post@jets.no
<table>
<thead>
<tr>
<th>Problem</th>
<th>Causes</th>
<th>Action</th>
<th>Drawing No</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank content is not discharged</td>
<td>Power supply not connected</td>
<td>Connect power supply</td>
<td>41257</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No voltage</td>
<td>Check electric distribution cabinet</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The power supply connector is contaminated</td>
<td>Clean the connector and reconnect power</td>
<td>32742-052</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or water filled</td>
<td>supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discharge time is too short</td>
<td>Increase time by adjusting pot. meter on</td>
<td>32742-052</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ED-valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Defective electronic circuit card</td>
<td>Replace top housing of ED-valve</td>
<td>41840-052</td>
<td>See table on drawing 41840-052 for Top Housing Part No</td>
</tr>
<tr>
<td></td>
<td>ED-valve is stuck by extraneous matter</td>
<td>Remove extraneous matter</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Defective solenoid valve coil</td>
<td>Replace coil</td>
<td>32742-052</td>
<td>See table on drawing 32742-052 for Coil Part No.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fuse: 32463-052</td>
<td></td>
<td>See table on drawing 32463-052 for Fuse Part No.</td>
</tr>
<tr>
<td></td>
<td>Defective solenoid valve</td>
<td>Replace solenoid valve</td>
<td>32742-052</td>
<td>122502100</td>
</tr>
<tr>
<td></td>
<td>Defective non-return valve</td>
<td>Replace non-return valve</td>
<td>32742-052</td>
<td>034501700</td>
</tr>
<tr>
<td></td>
<td>Leaks in vacuum hose(s) in ED-valve</td>
<td>Replace hose(s)</td>
<td>32742-052</td>
<td>034501400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>034501600</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>034501800</td>
</tr>
<tr>
<td></td>
<td>Vacuum hose(s) is disconnected</td>
<td>Reconnect hose(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guide or lifting membrane is out of position</td>
<td>Guide/lifting membrane to be set in position</td>
<td>41840-052</td>
<td>051501000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>050500800</td>
</tr>
</tbody>
</table>

Note: Changes without prior notice
<table>
<thead>
<tr>
<th>Problem</th>
<th>Causes</th>
<th>Action</th>
<th>Drawing No</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank content is not discharged</td>
<td>Leaks in lifting membrane</td>
<td>Replace lifting membrane</td>
<td>41840-052</td>
<td>050500800</td>
</tr>
<tr>
<td></td>
<td>No vacuum</td>
<td>Check vacuum generating unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No vacuum due to backflow in vacuum piping</td>
<td>Improve installation. Use instruction: «VACUUM PIPING GUIDE»</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poor connection</td>
<td>Repair connection</td>
<td>32742-052</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Defective level sensor</td>
<td>Replace level sensor</td>
<td>See drawing of GW-Tank</td>
<td></td>
</tr>
<tr>
<td>Continuous discharge</td>
<td>ED-valve is stuck by extraneous matter</td>
<td>Remove extraneous matter</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dirty level sensor</td>
<td>Clean level sensor</td>
<td>See drawing of GW-Tank</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Defective solenoid valve for air/vacuum</td>
<td>Replace solenoid valve</td>
<td>32742-052</td>
<td>122502100</td>
</tr>
<tr>
<td></td>
<td>Defective electronic circuit card</td>
<td>Replace top housing of ED-valve</td>
<td>41840-052</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Membrane guide or lifting membrane is out of position</td>
<td>Guide/lifting membrane to be set in position</td>
<td>41840-052</td>
<td>051501000 050500800</td>
</tr>
</tbody>
</table>
Grey water tank details

Tank is prepared for one gravity inlet and one Gravity Outlet. Optional placing in accessible hole.

Adjust the intake according to the level of water in the tank before installation.
The grey water interface unit consists of a 16 liter tank fitted with a Jets™ Level Switch Complete and a Jets™ VD Valve. Grey water is led to the tank by gravity and interfaced with the vacuum system via the Jets™ VD Valve. The valve is activated by the water level inside the tank.

**Grey Water Tank 16L, plastic:**

- **Part No.**: GWT800PL
- **Total Weight**: Approx. 4.9 kg
- **Discharge Connection**: Pipe Ø50mm outside discharge
- **Outside Dimensions, Total**: 400x200x487 (LxWxH)

**Tank 16L, plastic:**

- **Part No.**: 080500042
- **Outside Dimensions**: 400x200x290 mm (LxWxH)
- **Tank Material**: PEH
- **Tank Weight**: Approx. 2.2 kg

Note: Changes without prior notice.
Grey Water Tank 16L, plastic

Design Dimensions

Operating Data:
- Operation Vacuum: 500-700 mbar
- Ventilation: Either by pipe or by Air/Overflow valve
- Ventilation Connection: Ø 50 mm

Grey Water Tank Systems and Available Parts

Constant Vacuum Systems (CVS™):
- VD Valve, Complete: Vacuum operated discharge

Release Mechanism:
- Level Switch, Complete: Pneumatically operated

Accessories:
- Air/Overflow Valve, Complete: 035202511

Available Parts:
- Grey Water Tank 16L, plastic: 080500026
- Bracket: 010100750
- Nut, M5: 036304802
- Screw, 4x20: 036515607
- Screw, M5x10: 036531600
- Tank/Pipe Seal: 034505310
- Elbow, 88.5dg: 034512584
- Suction pipe: 034512700

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Principle and Function

Jets™ grey water interface unit consists of a 16 liter tank fitted with a level switch and a VD valve. Grey water is led to the tank by gravity and interfaced with the vacuum system via the VD valve. The valve is activated by the water level inside the tank.

See Jets™ data sheet Level Switch, Complete for further information.

Please note: The following information is for grey water tanks which have washing machines, kitchen sinks, showers etc. connected to the vacuum pipelines. Chemical detergents, when used excessively, may result in foaming in discharge from the vacuum pump.

Chlorine content in detergents may also have a negative effect on the process in the sewage treatment plant, as chlorine will kill the bacteria required in the process.

Disassembly and Reassembly

See diagram on page 4.

Disassembly of the VD Valve from the Grey Water Tank

1. Close and drain the vacuum connected to the valve.
2. Disconnect the hose from the Level Switch.
3. Unscrew the bracket from the valve and pull backwards to release the valve from the elbow.
4. See Jets™ data sheet Level Switch Complete, disassembly instructions.

Re-assemble of VD Valve to the Grey Water Tank

1. See Jets™ data sheet Level Switch Complete, reassembly instructions
2. Push the valve forward to connect to the elbow and screw the bracket to the valve.
3. Reconnect the hose to the Level Switch.
4. Reconnect the vacuum pipes to the valve.
Grey Water Tank 16L, plastic

VD Valve, Complete
Elbow, 88.5dg
Nut, M5
Level Switch, Complete
Level Switch, Complete
Tank/ Pipe Seal
Screw, M5x10
Screw, 4x20
Bracket

Note: Requires ventilation to be connected to either one of the two outlets
Routine Service and Maintenance

1. Visual control: Check the grey water tank while in operation (water is flowing). Check that the tank activates and empties with sufficient time so as to avoid overflow (empties at approx. half full).

2. Clean level switch with a clean and dry cloth.

3. Empty bottle of any content and check that the seal is not damaged.

4. Remove the cap.

5. Check that the hose is in good condition. Reconnect and ensure that the hose connection is secure.
Scheduled Maintenance

Replace the shut-off membrane and lifting membrane every 3rd year or after 50,000 cycles, whichever occurs first.

Routine cleaning

In order to avoid build-up of deposits in the pipeline systems and pumping station, the use of the Jets™ Toilet Clean as a cleaner in the toilet and wash/shower is recommended. Jets™ Toilet Clean is a domestic cleaner that dissolves and prevents urinary stone and rings in vacuum tubes and pumps. Frequent use can assist in avoiding periodic concentrated cleaning of the pipes and pumping stations. Jets™ Toilet Clean can be purchased from your local dealer.

Frequency

It is recommended that routine cleaning and maintenance be carried out a minimum of one time per year. Note: If black water is flushed, the frequency should be increased to a minimum of two to three times per year.

Storage and Maintenance Instruction

a) Storage:

Goods to be stored in a dry environment between -30°C and +40°C. Storage location to be dust free, low humidity (≤ 85%) and free from moisture. Keep clear of foreign objects.

b) During transport/prior to installation:

Goods to be protected against shock, dust, grinding, welding, humidity and moisture. Suitable, adequately dimensioned transporting equipment is to be used during transportation and delivery. Note that the equipment contains components that are easily damaged as a result of inappropriate handling.

c) Installation to end use:

Site to be a dry environment between -30°C and +40°C. Instructions per item b). Note: Special attention to protection against moisture.

Environmental conditions: Goods to be stored indoor as per conditions stated above.

Visual inspections: Check for visual damage. Any damage detected after dispatch should be reported immediately to Jets AS and commissioning must be postponed until equipment has been inspected.

Inspection intervals: Upon arrival and prior to installation.

Maintenance: Not required.

Maintenance intervals: Not required.

Tools: Not required.
# Troubleshooting

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CAUSE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No discharge takes place.</td>
<td>Vacuum is below 30% or there is no vacuum.</td>
<td>Check the vacuum level and take action to increase the vacuum.</td>
</tr>
<tr>
<td></td>
<td>The level switch does not activate.</td>
<td>See JetsTM data sheet: Level Switch, Complete</td>
</tr>
<tr>
<td></td>
<td>Dirt in the distributor w/ NR Valve or leakage in the lifting membrane.</td>
<td>See JetsTM data sheet: VD Valve, Complete</td>
</tr>
<tr>
<td>Discharge does not stop.</td>
<td>The signal hose between the Level Switch and the VPG Controller is leaking.</td>
<td>Replace the signal hose.</td>
</tr>
<tr>
<td>Discharge cycles are incorrect.</td>
<td>The air orifice needs cleaning.</td>
<td>See JetsTM data sheet: VD Valve, Complete</td>
</tr>
<tr>
<td></td>
<td>The sealing flap is leaking.</td>
<td>See JetsTM data sheet: VD Valve, Complete</td>
</tr>
</tbody>
</table>
The patented Jets Vacuumator
- creates vacuum
- macerates sewage
- pumps sewage

Designed for direct connection to any kind of sewage treatment plant.
Outlet can also be connected to gravity piping or holding tank.

Technical Data:
Capacity: ......................................................... 15m³/hr
Flush Capacity at 50 Hz: .......................................... 150 flushes/hr
Outside Dimensions: ........................................... 214x550x288 mm. (WxLxH)
Electric Motor: ................................................. MEZ 7AA 90S2
Pump Casing Material:......................................... Bronze RG5
Rotor Housing Material: .......................... Stainless steel AISI 316
Pump Rotor Material: ................................. Bronze RG 10
Pump Knives Material: .................................. Stainless steel AISI 420
Pump Shaft Material: .................................. Stainless steel AISI 316
Connection Inlet: .............................................. Ø 50
Connection Outlet: ........................................... Ø 50
Total Weight: ..................................................... 36.4 kg

Part No. Jets 15MD

<table>
<thead>
<tr>
<th>Voltage/Frequency</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>230/50</td>
<td>029015003</td>
</tr>
<tr>
<td>Motor control unit</td>
<td>031151322</td>
</tr>
</tbody>
</table>

Note: Changes without prior notice
Dimensions 15MB

Operating Data:

- Speed (nom.): 2860 Rpm
- Power Connections (nom.): 230V
- Power Output (nom.): 1,5Kw
- Current Consumption (230V): 6,1A
- For other Voltages: See Data Sheet No.3118
- Recommended fuses: 16A slow type

Note: Changes without prior notice
Connections - 15MB pump
Instructions for the VTS controller are found on pages 18-26.
(Actual model may deviate from picture)
VTS-controller

The VTS-controller is the controller in the vacuum system with function as:
Automatic start / stop Vacuumarator
Manual start / stop Vacuumarator
Vacuum level monitoring
Stop max runtime
Level sensor in collecting tank
Automatic stop when discharging collecting tank
Alarm signal with system failure

It is possible to connect level switch from the collecting tank for high and low level to the VTS-controller.
It is possible to connect an external alarm to the VTS-controller.

The VTS-controller is factory-programmed with standard setting (see setting)

Part no. 230 VAC: 121 3151 32
Overall dimensions: 240 x 120 x 60 m m (l x w x h)

Content

VTS-controller ................................................................. 2
Content .......................................................................... 2
Drawing VTS-controller ................................................. 3
Component overview ...................................................... 4
Connection diagram ....................................................... 5
Mounting ........................................................................ 6
Controller overview ...................................................... 7
How to use .................................................................... 7
Setting ........................................................................... 8
Historic information ..................................................... 9
Supervisor menu ............................................................ 10
PS!
In order to avoid electric shock, pull out the electric contact. Do not reconnect it until the VTS-controller is assembled!

Use a screwdriver to remove the two small strips on the top of the panel to get access to the four lock screws. Remove these.

Lift off the lid to access the holes in the bottom of the panel. Screw the panel securely to the wall, replace the lid and tighten the screws.
Electronic control

When a vacuum transmitter is connected to the VTS-controller, the transmitter will be automatic detected when the controller is switched on. The function and menu will then be for CVS 1. If no transmitter is connected to the controller the function and menu will be for CVS 2:

The automatic start and stop of the Vacuumarator is controlled by the VTS-controller.

If the default setting can be used, the system is ready for immediate use.

Default setting is based on:

a. The Vacuumarator is set to start at 40% vacuum, and stop at 60% vacuum
b. Max runtime for the Vacuumarator is 40min.

Use and operation:

Press \( \text{ON} \) to switch on the controller.

All indicator lights will light up for 3 sec.

In the display the information \textit{JETS will appear, follow up by CVS1, and then the software version (ex. v1.1)}

Simultaneously the alarm will run for 2 sec.

The system is now ready for use. The Vacuumarator will start in auto mode, and the display will show the current vacuum level.

Press \( \text{OFF} \) to switch off the controller.

This must always be done before installation, maintenance or repair.

To run the Vacuumarator manually, press \( \text{RUN} \) for 5 sec.

The Vacuumarator will then run continuously.

To stop the Vacuumarator, press \( \text{RUN} \) once more.

To the left in the display a sign will indicate in which mode the controller is.
Electronic control

Settings menu:
Press SELECT and RUN simultaneously to activate or deactivate the menu. New settings can be saved by going to the next menu, press SELECT to exit the menu.

Adjustment of vacuum level for stop
Vacuumator (10-95%)
Default setting: 60%
Values can be changed by pressing "RUN".

Adjustment of vacuum level for start
Vacuumator (5-30% below stop level)
Default setting: 20%
Values can be changed by pressing "RUN".

Mode select (Off / Manual / Auto):
Press ON to switch on the controller. The Vacuumator will start running in Auto mode.

Auto mode (normal)
The Vacuumator starts and stops based on set point.
To the right in the display a status indicator will indicate "1" when the Vacuumator runs.

Auto mode (normal)
The Vacuumator starts and stops based on set point.
To the left in the display an indicator will indicate Auto mode.
To the right in the display a status indicator will indicate "0" when the Vacuumator stops.

Off
The Vacuumator can be stopped by pressing "RUN" once.
To the left in the display an indicator will indicate Off mode.
To the right in the display a status indicator will indicate "0" when the Vacuumator stops.

Manual
The Vacuumator will run continuously.
To the left in the display an indicator will indicate Manual.
To the right in the display a status indicator will indicate "1" mode. Press "RUN" once to switch off Manual mode.
History:

To display information on performance, press

- **Display:** 34
- **LED:**

  The value in the display will show the total run time for the
  Vacuumarator.
  The example to the left shows that the Vacuumarator has
  run for 34 hours.

Press

- **Display:** 25
- **LED:**

  The value in the display shows the number of collection tank
  max. level warnings. NB! This value will only change if a
  level indicator is installed.
  The example to the left shows that there has been 25 war-
  nings in the system.

Press

Operation failure (stop max runtime):

- **Display:** 00
- **LED:**

  Stop Vacuumarator
  The Vacuumarator has stopped.
  Press “SELECT” to show the information in the display

Press

- **Display:** ERR
- **LED:**

  Stop Vacuumarator (Max runtime)
  The Vacuumarator has stopped because “max runtime”
  (see setting)
  The error may be leakage in the pipes/piping system
  Switch OFF and turn ON the controller for Reset

Press

The history information will automatically switch off after one min.
In supervisor menu it’s possible to activate special function.

Press \textbf{SELECT} and \textbf{RUN} simultaneously as the power is switched on to activate the menu.

New settings will automatically be saved by selecting next menu, or exit supervisor menu.

Switch OFF the controller to exit the supervisor menu.

- **Display:** \[5\ 4\ 0\]  
  **LED:**  
  \textbf{Adjustment of max runtime, Vacuumarator (5 - 60 min.)}  
  Default setting: 40 min.  
  Values can be changed by pressing “RUN”.

- **Display:** \[5\ \_\]  
  **LED:**  
  \textbf{Change function for the manual run switch}  
  Press the “RUN/DISCHARGE” to alter between impulse or on/off function with discharge mode.  
  (To use discharge mode, the low level switch must be activated).

- **Display:** \[5\ \_\]  
  **LED:**  
  \textbf{Activate discharge mode (low level switch):}  
  Press “RUN/DISCHARGE” to switch on/off the level switch
Startup procedure and checklist

1 Fill the transparent suction chamber with water

2 Connect power and turn on the VTS controller (press ON button)

3 Adjust vacuum level.
The factory setting is 60% vacuum.
For condensate water systems, adjust to 50% vacuum - see page 28.

4 Verify that the system has no leaks, and retains a stable vacuum level.
The pump should start no more than once per hour when the system is not in use.

5 Adjust opening times of all ED valves.
The valves should close 2 seconds after the interceptor tanks have been emptied.

<table>
<thead>
<tr>
<th>Procedure step</th>
<th>Checked by</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Fill with water</td>
<td>(date and signature):</td>
<td></td>
</tr>
<tr>
<td>2 Connect and turn on</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Adjust vacuum level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Verify no leaks</td>
<td></td>
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</tr>
<tr>
<td>5 Adjust opening times</td>
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</tr>
</tbody>
</table>

Fill water up to the edge of the glass when filling the pump for the first time.

Rotate adjustment knob to set the opening time.