Foam proportioning system FIXMIX 2.0E

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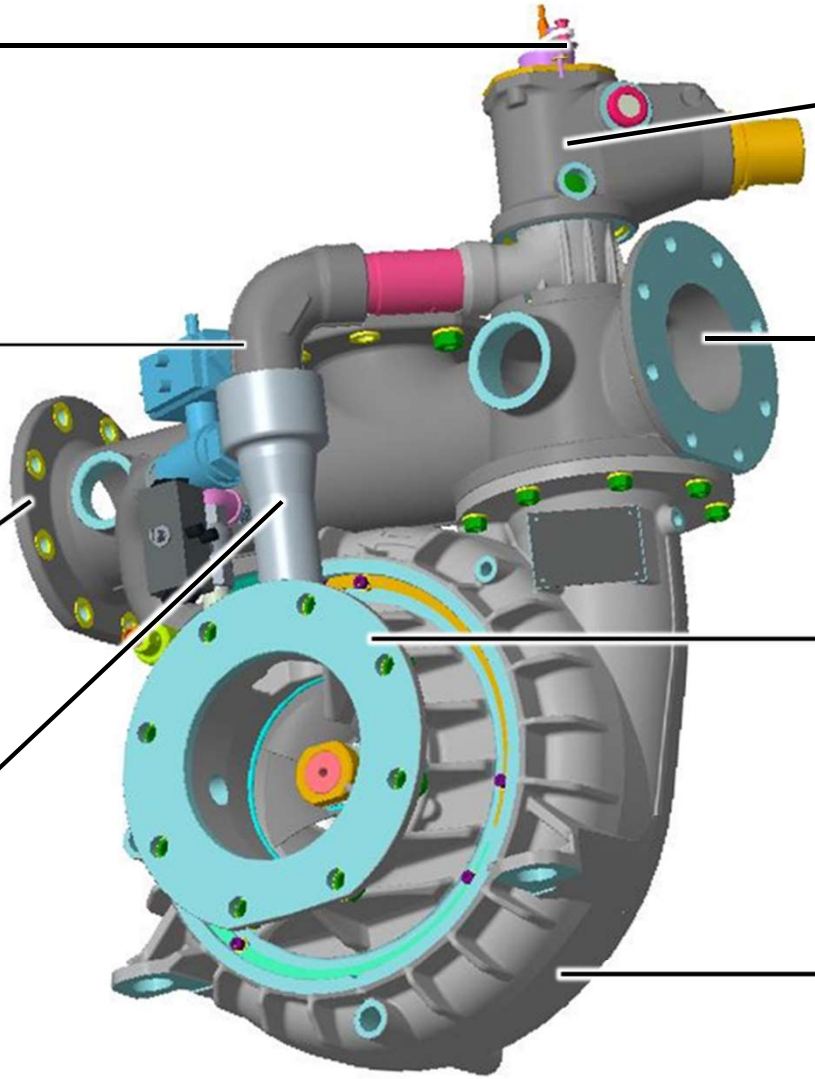
Around-the-pump foam proportioning system FixMix 2.0E

The automatic foam proportioning system FIXMIX 2.0E is an additional device, which is installed on the pump. It establishes a steady relation between delivered water and foam compound at different pressures and water capacity.

Working principle:

Depending on the water supply at the pressure outlets, a water measuring cone is lifted. This lifting movement is transmitted to the foam dosing disc, via a control rod. When activating the foam proportioner, the foam induction valve opens and the injector is activated. Via the released cross-section on the foam dosing disc, the foam compound is primed into the suction chamber and mixed with water, according to the injector principle.

N65/80
FIXMIX 2.0E



Control lever for dosing unit

Dosing unit FIXMIX 2.0E

Foam induction line

Pressure outlet

Pressure outlet

Suction cover

Venturi tube

Pump

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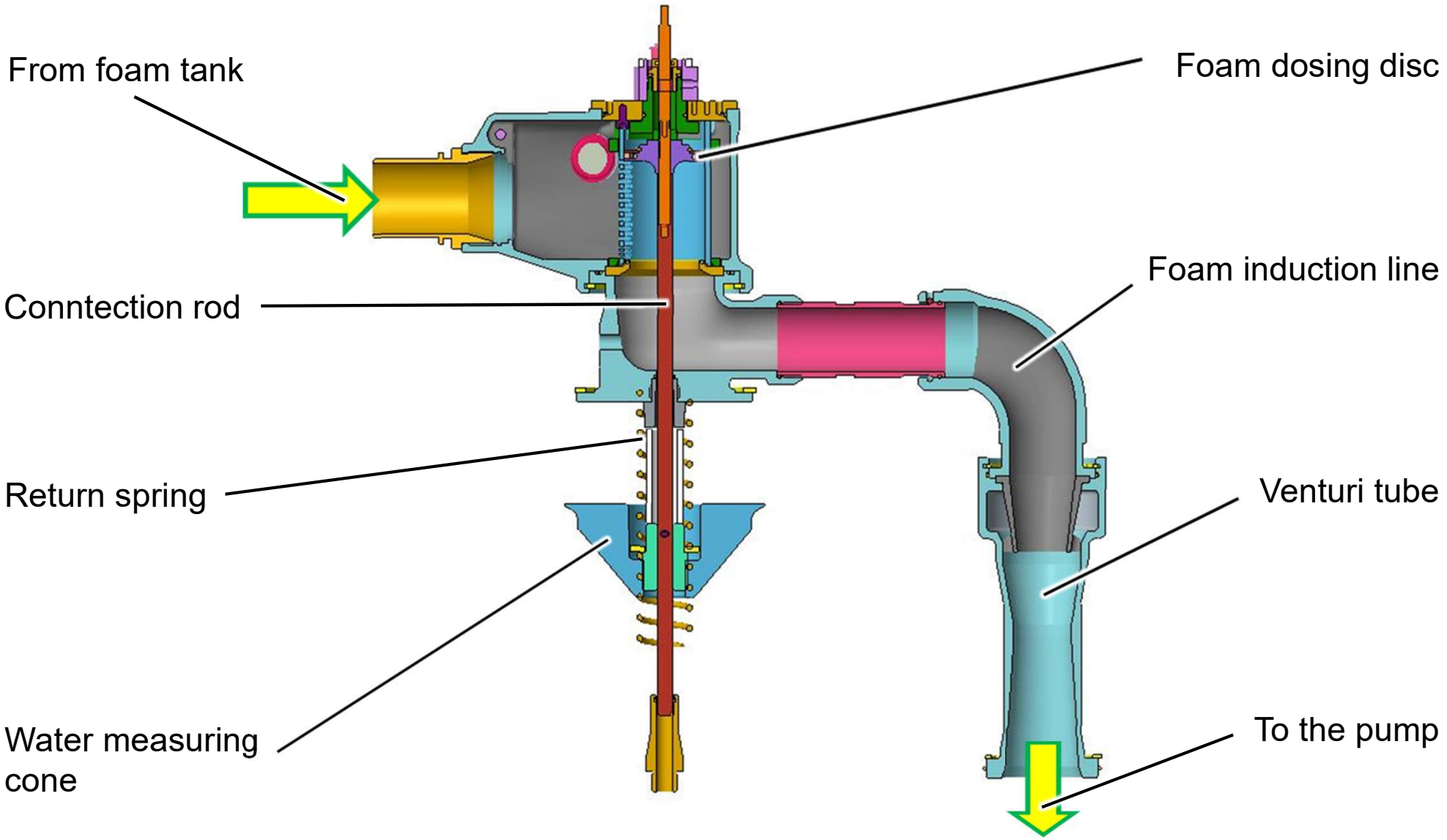
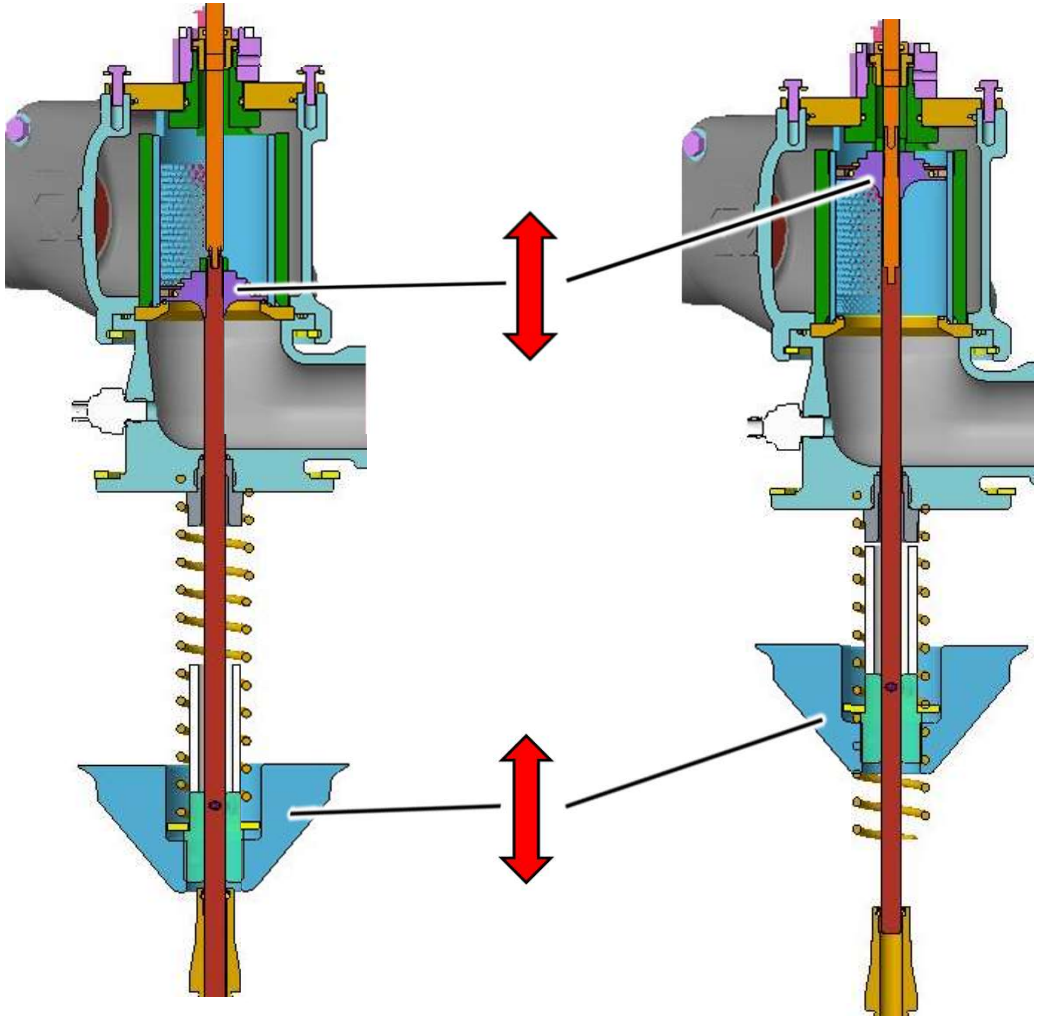


Foam flow rate
FIXMIX 2.0E



Minimum amount of water

Maximum amount of water

Depending on the water supply at the pressure outlets, a water measuring cone is lifted. This lifting movement is transmitted to the foam dosing disc, via a control rod.

Foam flow rate
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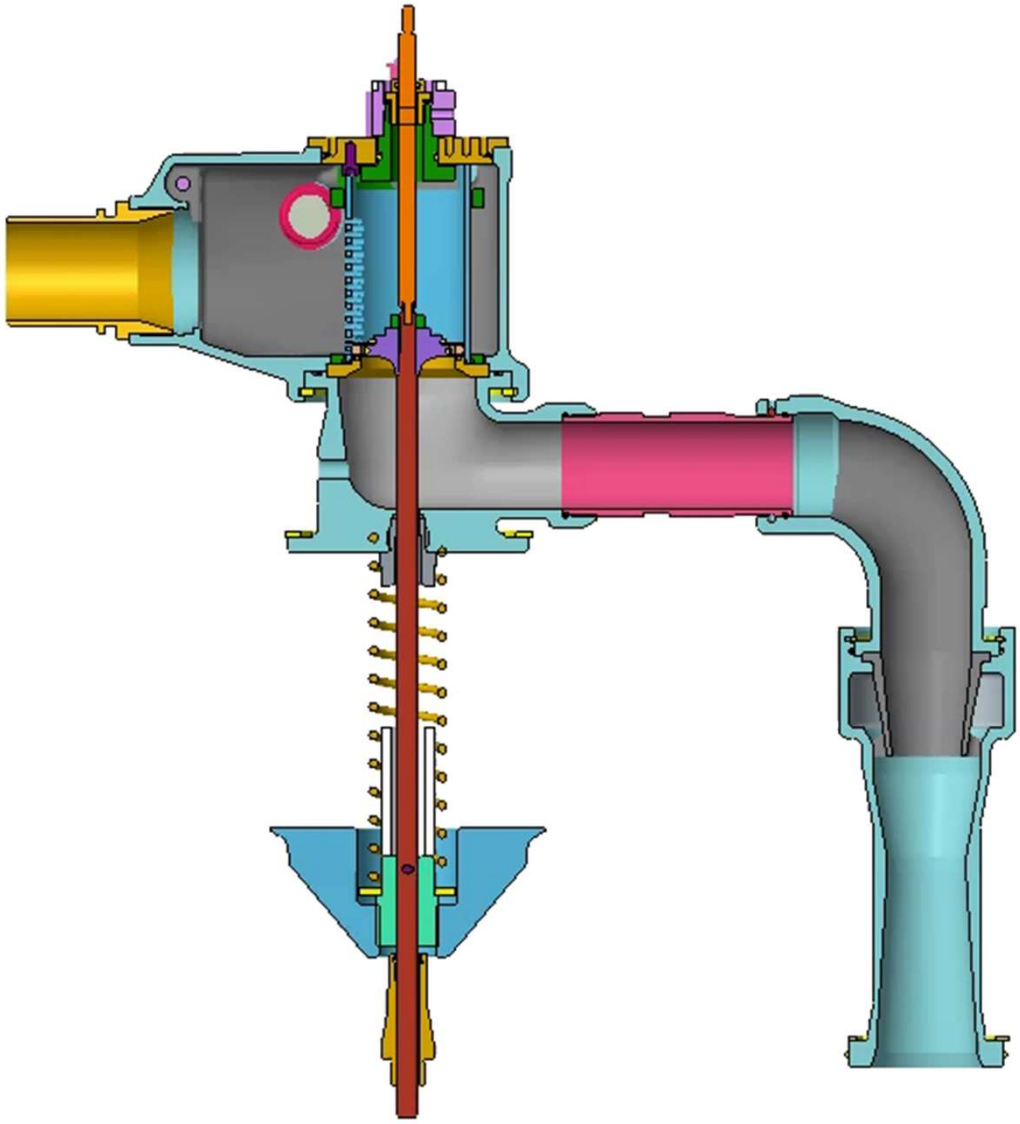

Movement of the water cone from minimum to maximum amount of water.

Foam mixing rate
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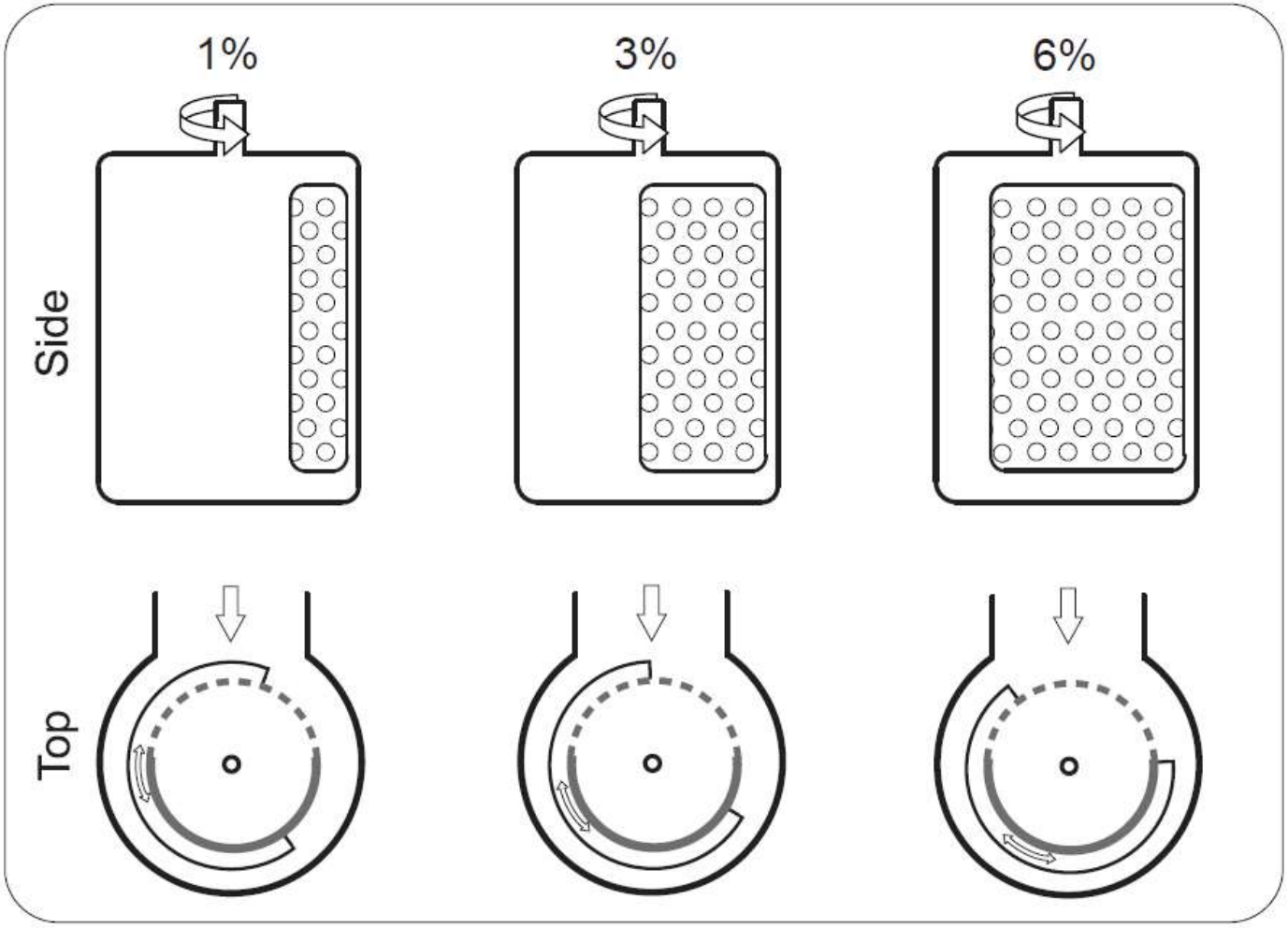

By rotating the foam metering sleeve and thereby a changing of the cross-section, a foam rate of 1%, 3% or 6% is adjusted and the correct amount of foam is released for the selected mixing rate.

Foam mixing rate
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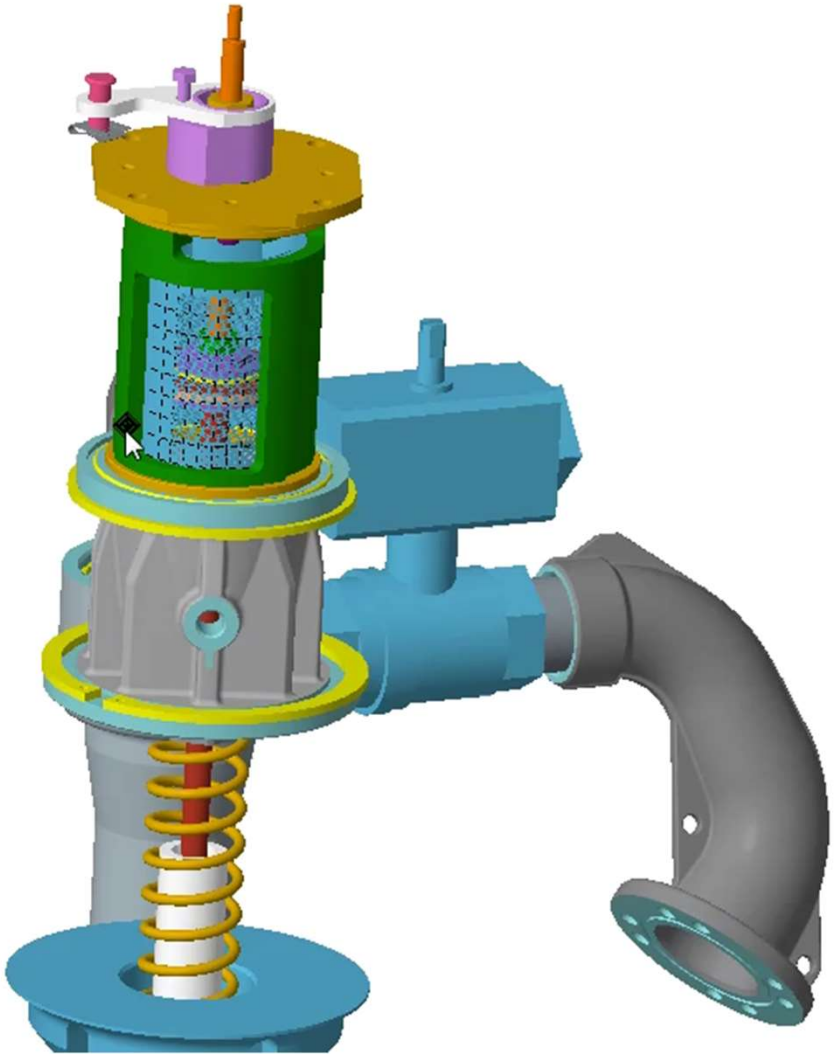

By turning the foam dosing sleeve, from minimum to maximum, the foam mixing rate can be selected.

Venturi tube
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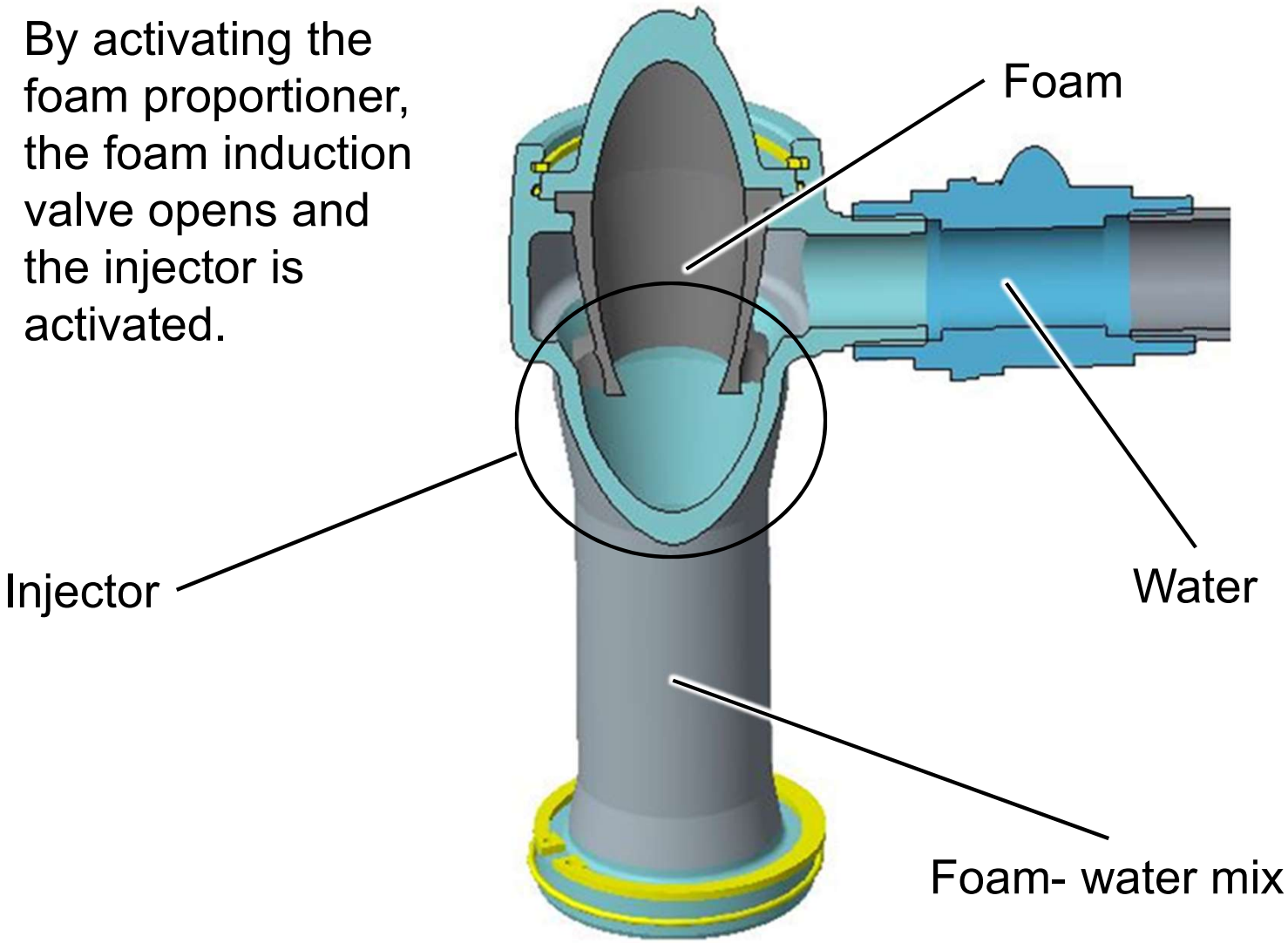
By activating the foam proportioner, the foam induction valve opens and the injector is activated.



Due to the released cross-section of the foam metering sleeve and lifting of the foam metering disk, the correct amount of foam according to the injector principle is sucking into the injector and mixed with water.

Basic principle
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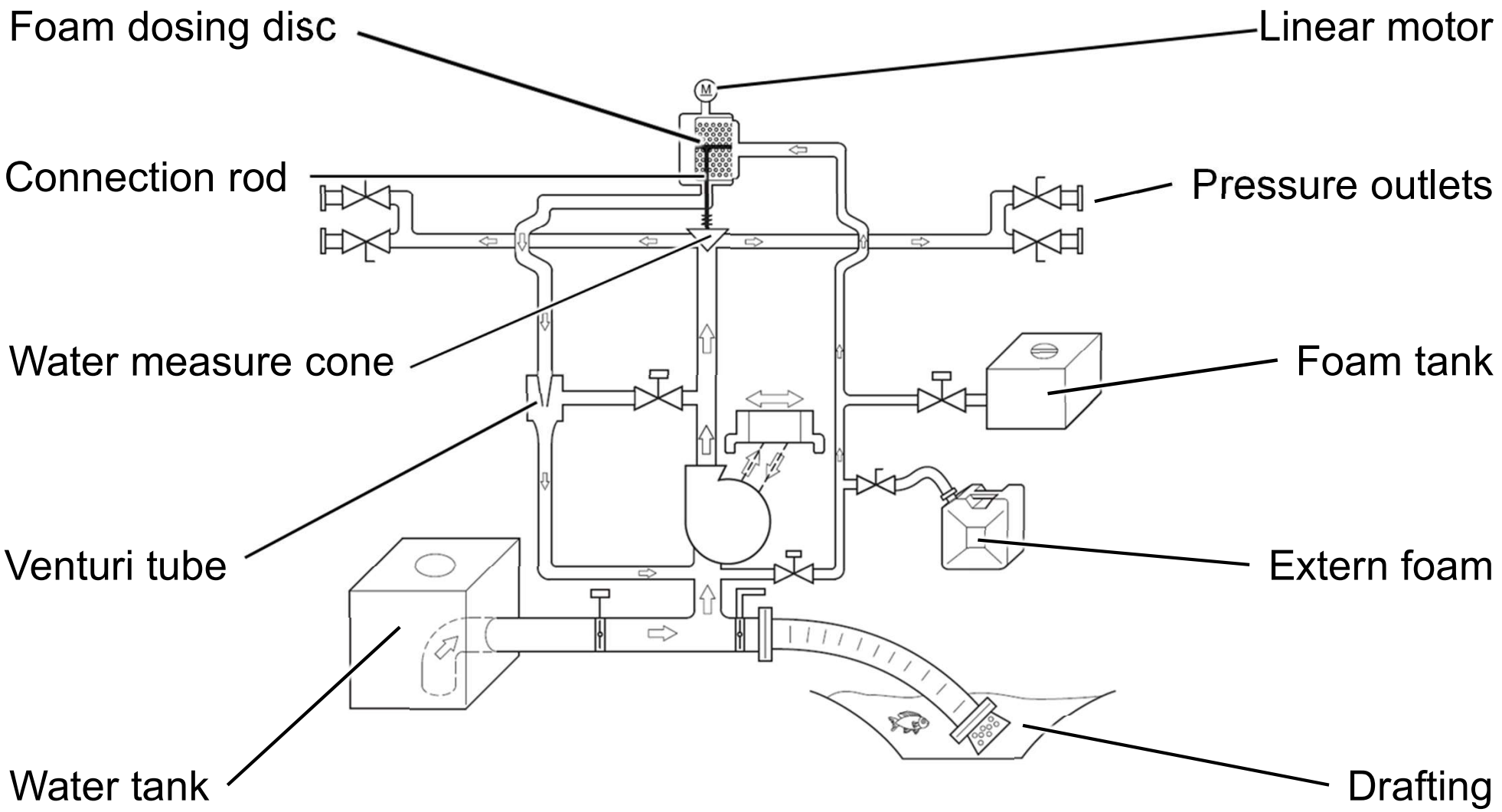

Water operation
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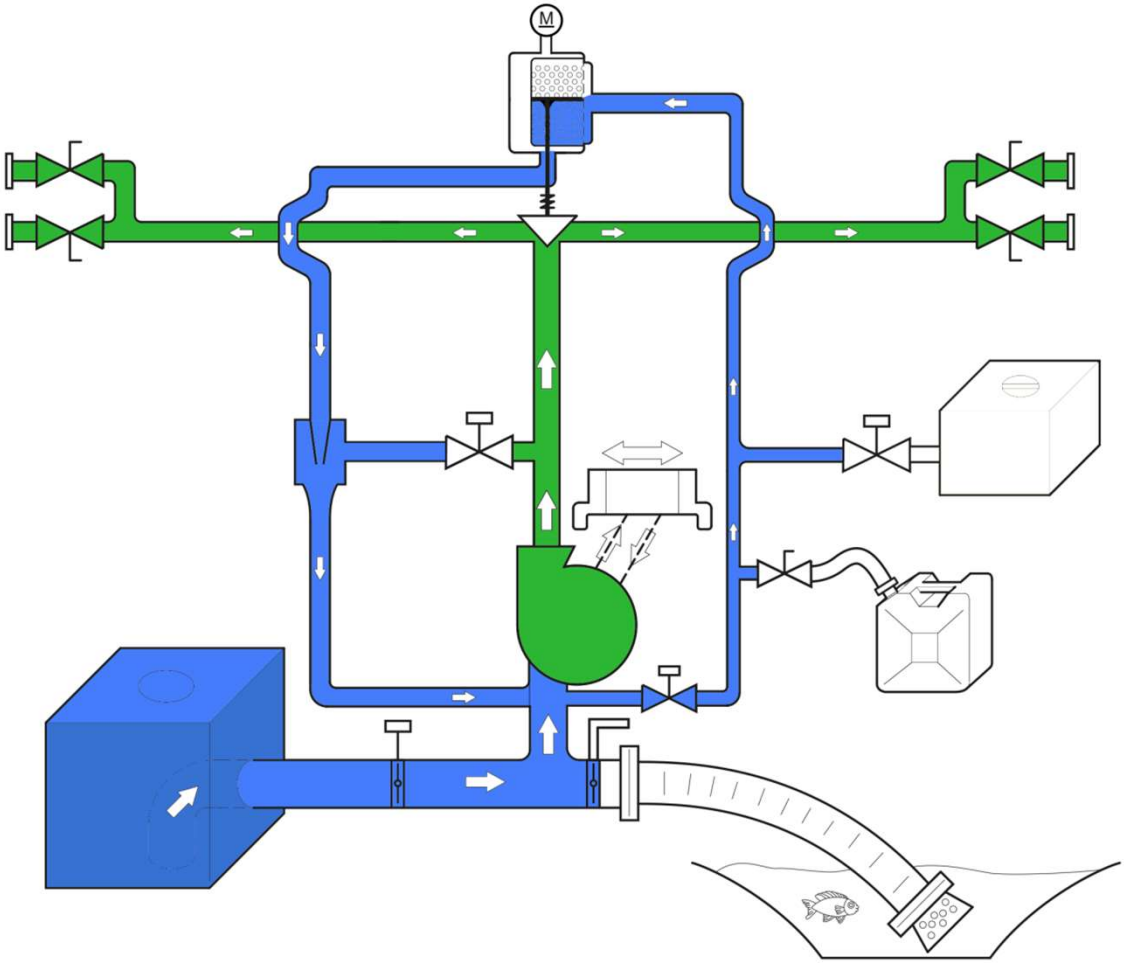

Drafting operation
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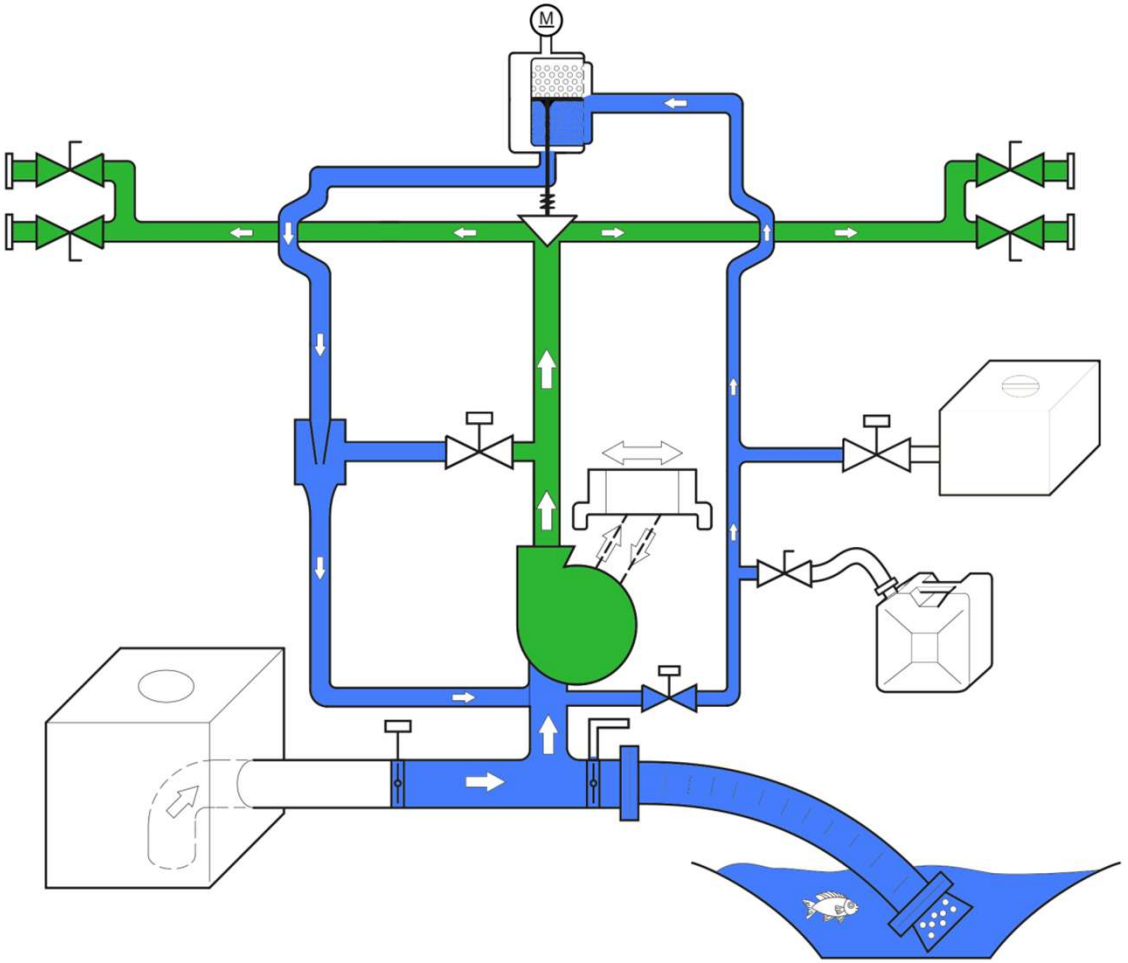

Foam operation from tank
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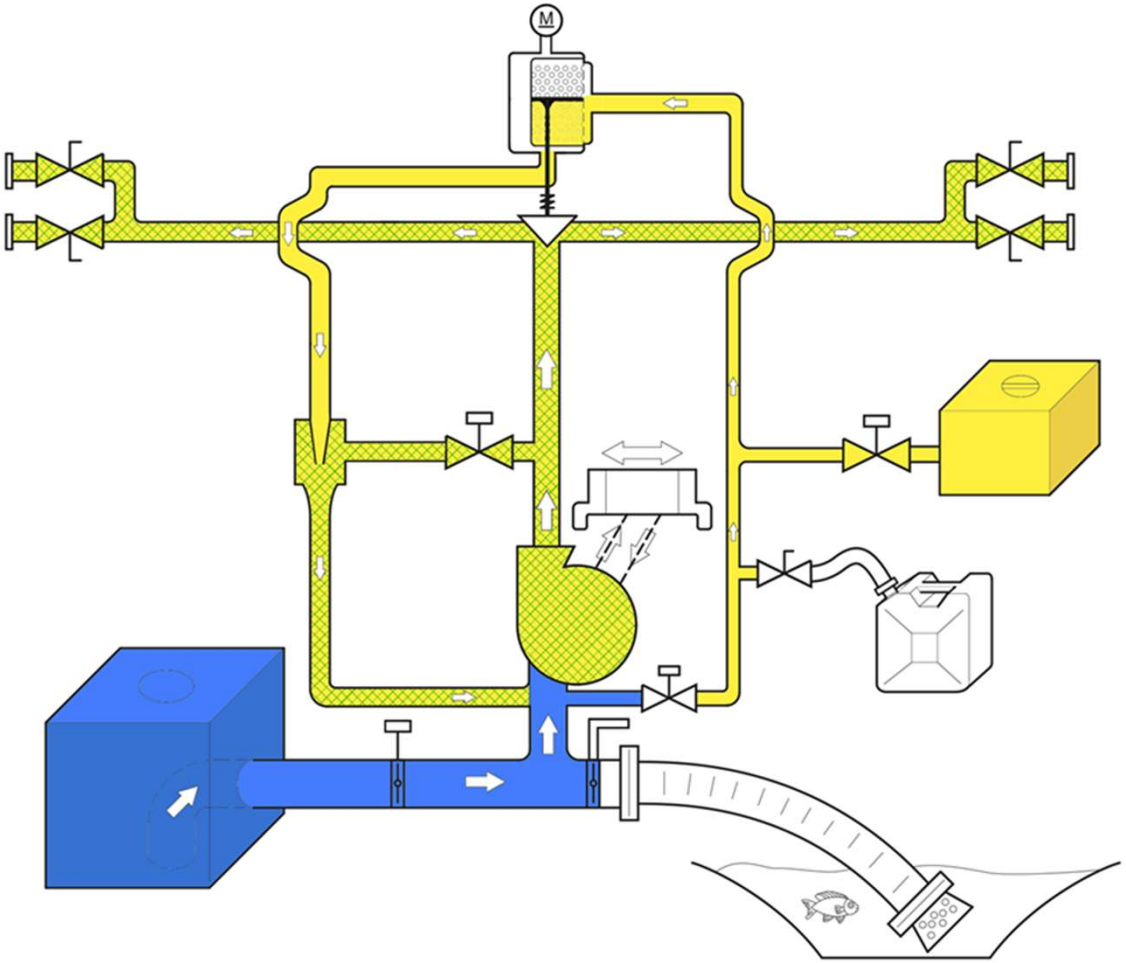
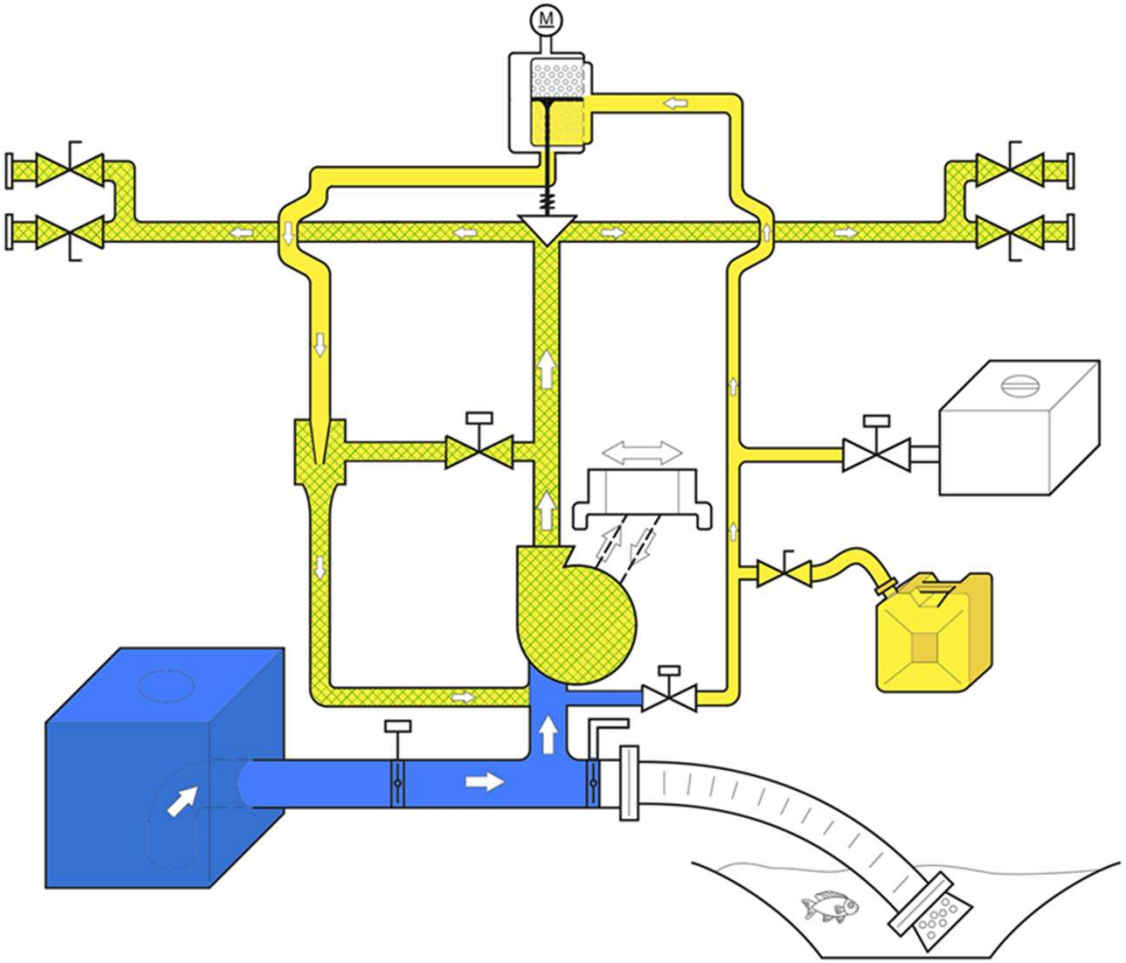


Foam operation external reservoir FIXMIX 2.0E



Test Mode
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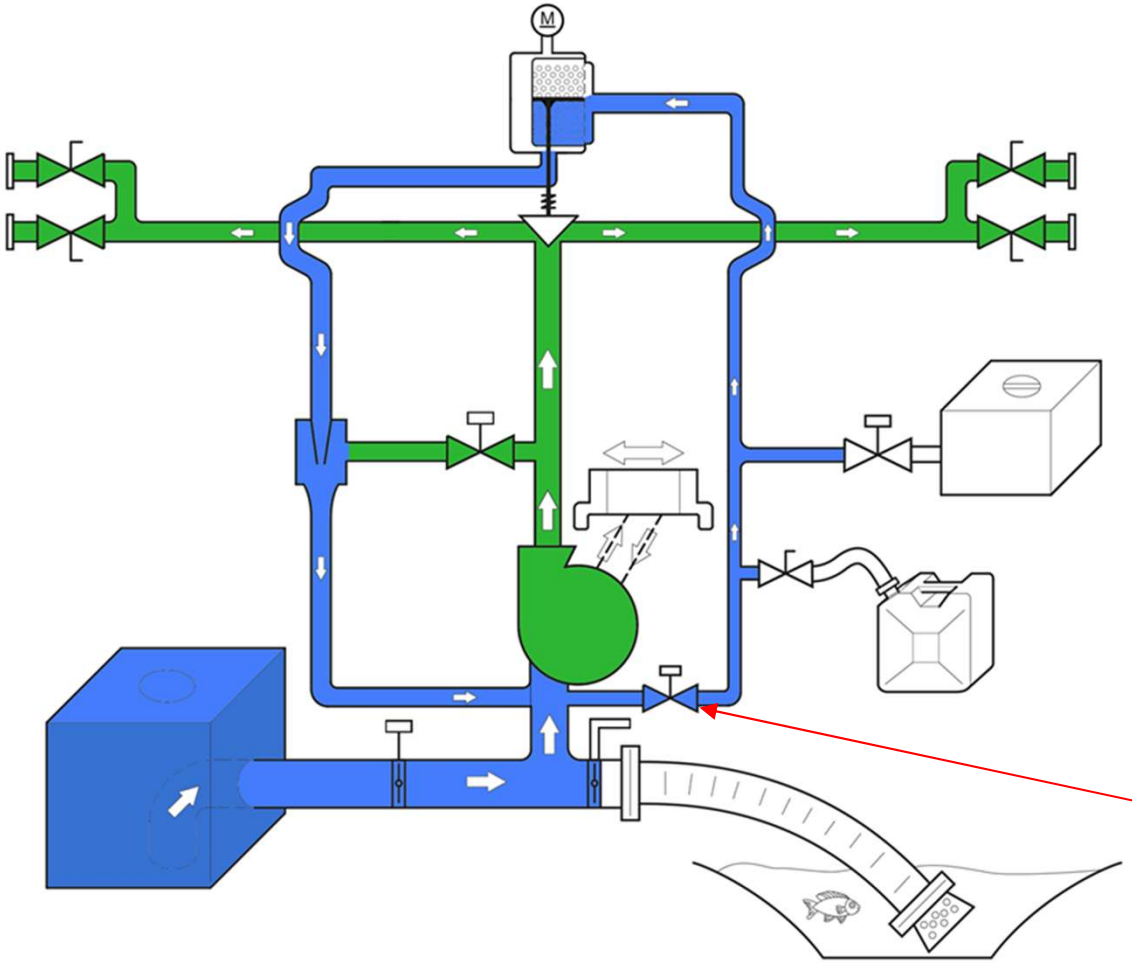
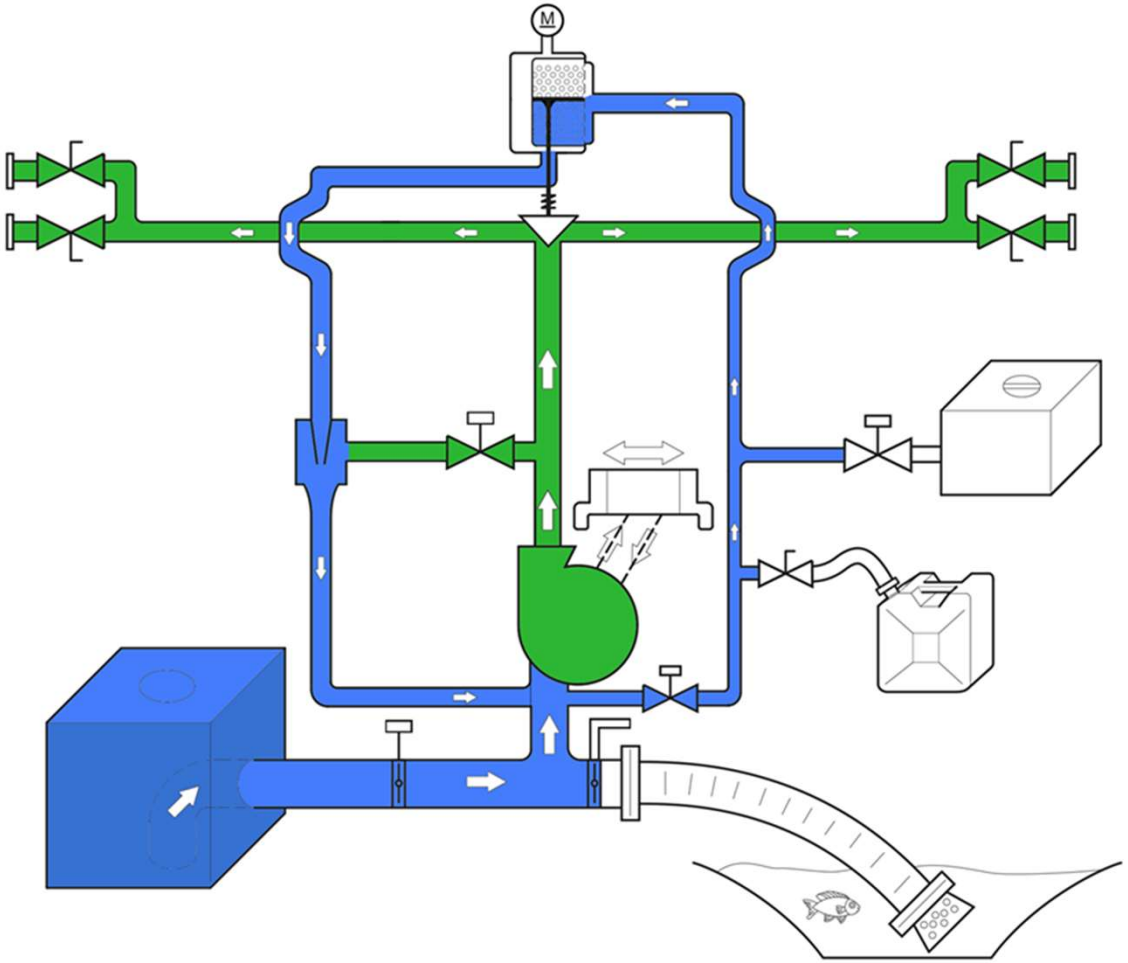


Instead of getting Foam via Foam Tank or external Foam suction, Water is used instead which gets into the foam side via flushing valve

Flush (Automatic)
FIXMIX 2.0E



The automatic flushing is only active for the first 40 seconds after closing the foam tank.

FIXMIX 2.0E Sensors and actors

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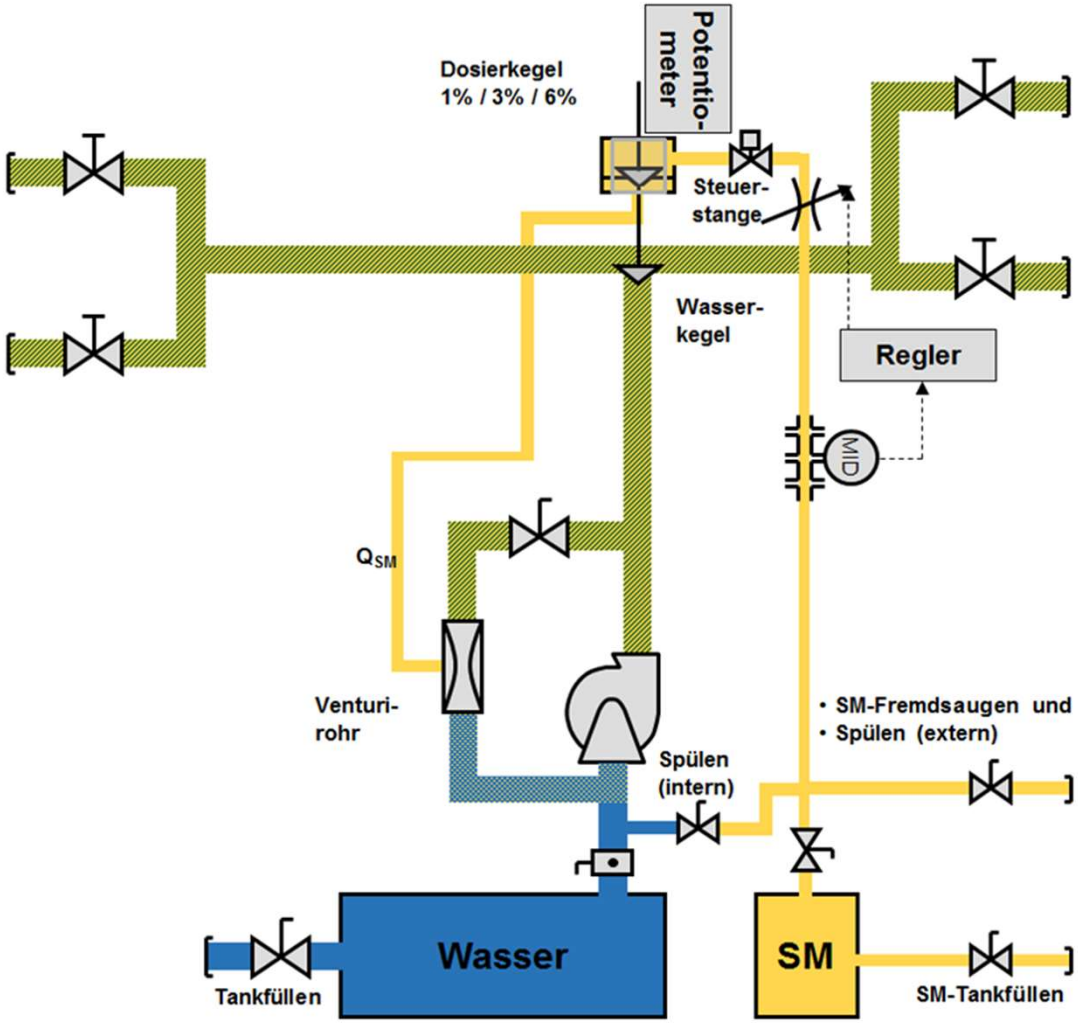
FIXMIX 2.0E
Sensors and actors

- The FIXMIX 2.0E allow a easier adjustment and calibration of the foam system without disassemble.
- The FIXMIX 2.0E is parameterized by setting parameters in the foam module (ID20) and can calibrated by the teach-In program.
- For an exact measurement and adjustment a foam flow meter (MID) is installed.
- Adjustments are only necessary after repair, exchange of linear motor or new installation.

If the foam module (ID20) have to be changed, a new teach-In is not necessary. Module works with the potentiometer values from the linear motor.

FIXMIX 2.0E
Sensors and actors



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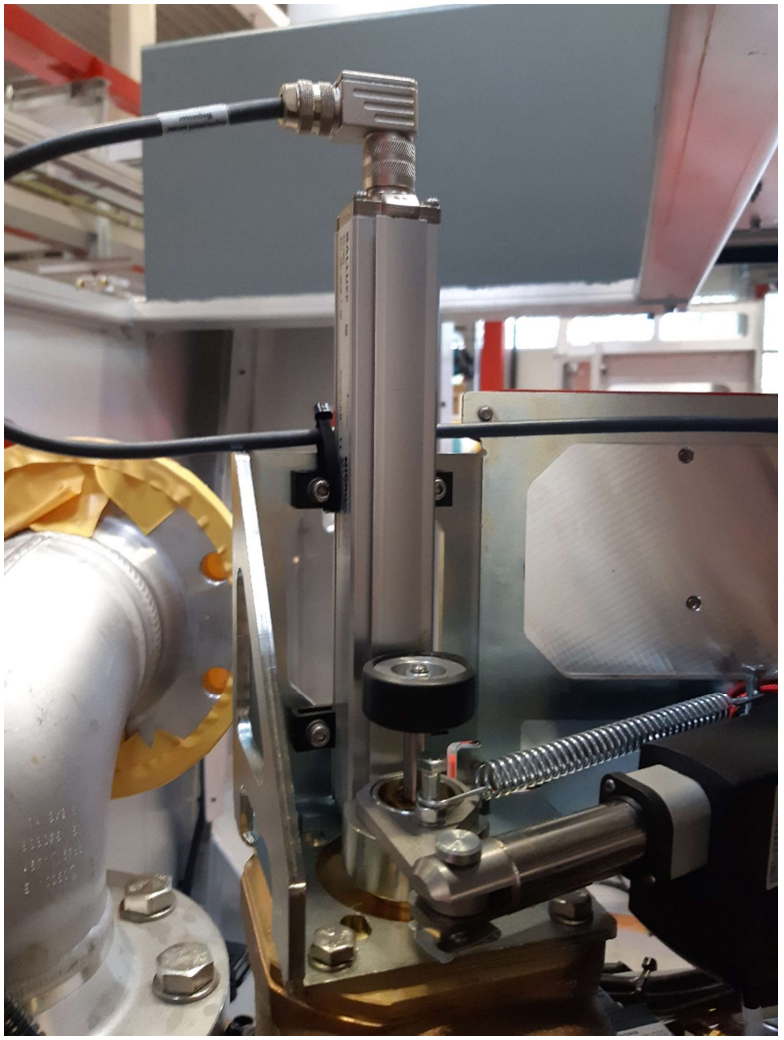
Water flow sensor

- The water flow is measured by the lifting movement of the water cone. For measurement, a linear displacement transducer is used.



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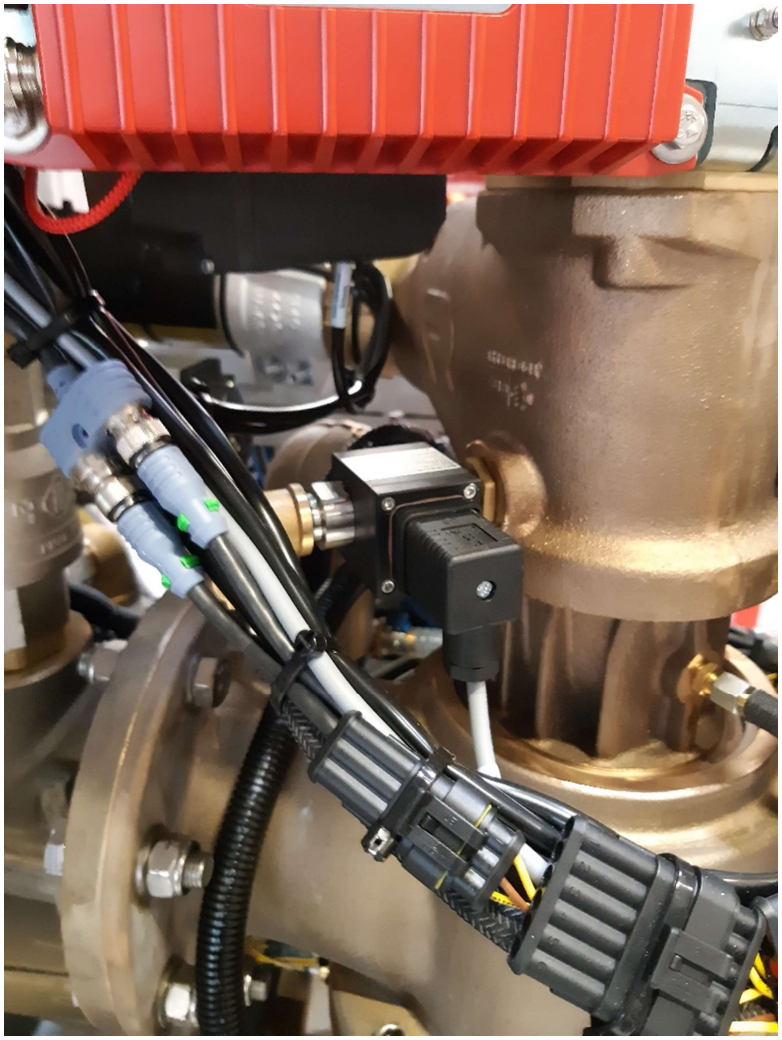
Difference pressure sensor

- The lifting movement of the water cone depends not only on the water amount, but also on the evacuated vacuum in the mixture chamber. Therefore, a difference pressure sensor is installed to include the difference pressure into the water amount calculation.



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Foam flow sensor

- As a foam flow sensor a MID Badger Meter is used.

Linear motor drive

- To adjust the proportioning a linear motor drive is installed.

FIXMIX 2.0E
Sensors and actors

- The lifting movement of the water cone is also dependent on the negative pressure in the foam dosing unit.
- As higher the negative pressure in the foam dosing unit, as bigger the force which acts against the water cone and reduces the lifting movement.
- Differential pressure drops – water cone lift
- The differential pressure drops down with increasing foam flow.