

Germaniastraße 28
44379 Dortmund
(0231) 61009-0

Postfach 700110
44371 Dortmund
www.gefa.com



Filter Control

Hydraulic Control Type WFSPAS / WFSPAL



Data-Sheet

General

Water enters the filter through the inlet pipe and passes through a coarse screen which is designed to protect the cleaning mechanism from large dirt particles. It should not accumulate large quantities of suspended solids and is not cleaned automatically. The water then flows through a fine screen that filters out the smaller particles. Clean water then flows from the filter through the outlet. The particles form a "filtration cake" which accumulates on the fine screen surface. The cake build-up increases the pressure differential across the fine screen, and at a pre-set value (0.5bar; 7psi) the automatic self-cleaning cycle begins. Clean water continues to flow through the outlet. The clean water flow is maintained during this backflush cycle. Suction nozzles sweep across the surface of the fine screen pulling debris off and exhausting it out of the drain port.

This innovative self-cleaning process, utilizes the backflush technique and dirt collector to effectively remove the dirt particles from the fine screen, and provide an uninterrupted downstream flow during the cycle.

The filter is hydraulically operated unit. No external power source is required. This type of control enables operation at remote installation sites. Alternatively, where electricity is available, an electronic controller can also be incorporated into the filter.



The automatic flushing cycle described below takes a few seconds and does not interrupt the supply of process water. Water flows from the inlet through the coarse and fine screens to the outlet. At a pre-set pressure differential (0.5 bar — 7 psi), the rinse controller activates the piston and opens the flushing valve. The water from the rotor chamber flows out the drain. The pressure in the rotor chamber drops, releasing a strong flushing stream that flows through the filter.

This drop in pressure and corresponding release of the backflush stream create suction on the nozzle tips. This effect actuates spot cleaning directly in front of the openings of each nozzle on the inner surface of the fine screen. The water and particles passing through the hydraulic rotor cause the dirt collector to rotate, and the piston moves in an axial direction to the opposite end of the filter.

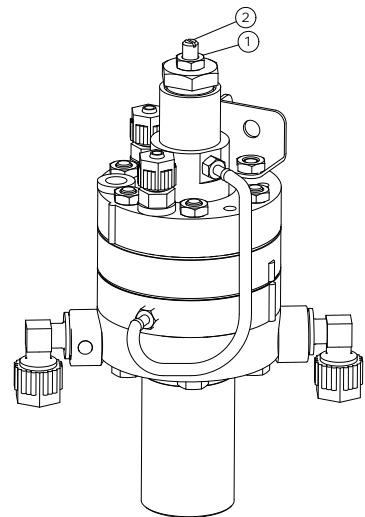
The combination of rotational and axial movement of the dirt collector assembly ensures that the nozzles sweep the entire inner surface of the fine screen.

When the first stroke is completed, the flushing valve closes and after a very short interval the rinse controller activates the second backflush stroke. The dirt collector assembly spins, moving with the piston in the opposite direction and returning to its original position.

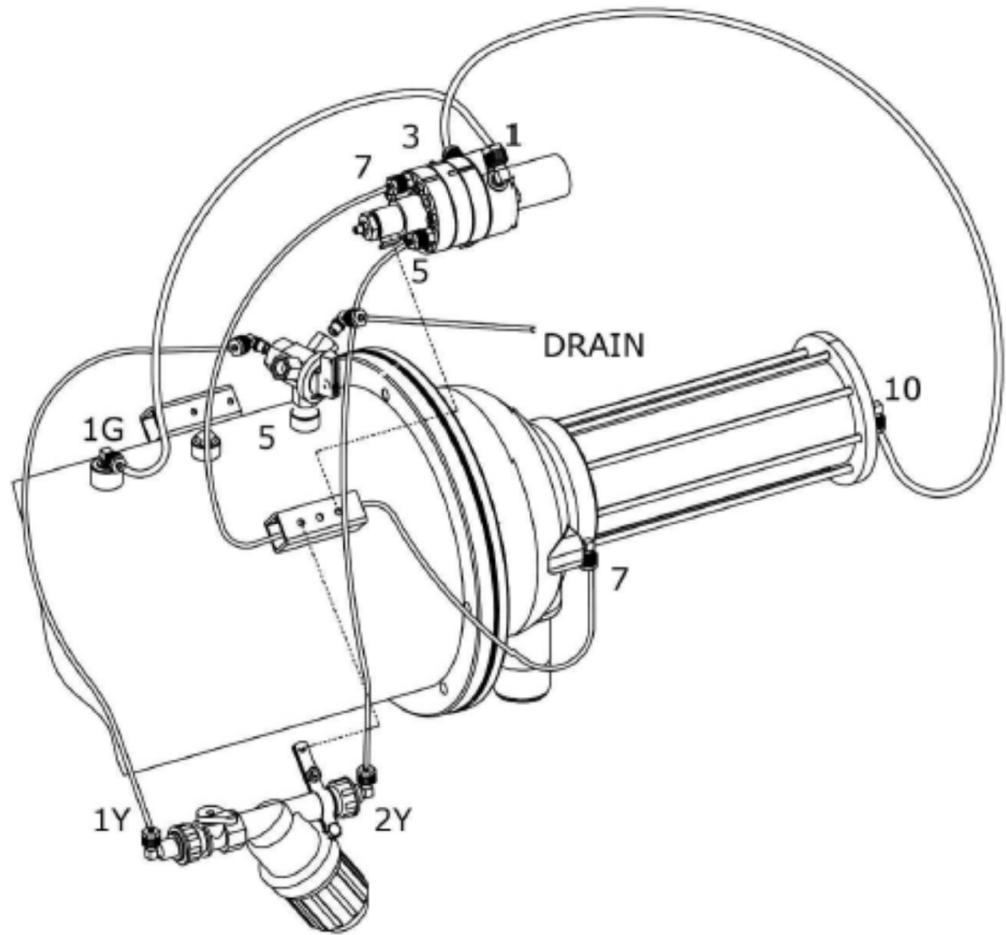
This self-cleaning process takes between 8–15 seconds, depending on the operating pressure.

Adjusting the Rinse controller

- Disconnect the rinse controller drain line.
- Loosen the locking nut on the long nose (1) and loosen (CCW) the adjusting screw (2) until a flush cycle begins.
- Turn the adjusting screw (2) clockwise 1.5 times, and then tighten the locking nut (1). This adjusts the rinse controller for differential pressure of 5m (7psi).
- Observe at least one automatic self-cleaning cycle, if possible.



Control Drawing



General safety instructions



- To prevent accidents, the installation, connection and commissioning may only be carried out by authorized and qualified personnel.
- Improper adjusting of the rinse controller may cause the filter to malfunction.

GEFA Certificates

ISO 9001 - OHSAS 18001 - ISO 14001

Zusätzlich zum Qualitätsmanagementsystem **ISO 9001** hat die GEFA Prozesstechnik GmbH jetzt auch für die Bereiche Arbeitsschutz (**OHSAS 18001**) und Umweltmanagement (**ISO 14001**) ein sichtbares Zeichen:



Die **OHSAS 18001** und **ISO 14001** Zertifizierungen sind weltweit anerkannte Standards mit dem Fokus auf Personenschutz, Arbeitssicherheit, Gesundheitsvorsorge und Umweltschutz.