



Installation, Operation and Maintenance Manual

AVK Series 910 Y-strainer

AVK Series 910 Y-strainers are installed in water supply systems to filter out impurities like grit, dirt, pebbles, etc. It protects the piping, valves, control devices etc. from clogging and concentrates the impurities on one location where they are easily disposed of.



1. AVK series 910 exploded view



2. AVK series 910 parts list

| No. | Description | Material |
|-----|-------------|---------------------------------------|
| 01 | Bolt | Stainless or hot dip galvanized steel |
| 02 | Washer | Stainless or hot dip galvanized steel |
| 03 | Drain plug | Stainless or hot dip galvanized steel |
| 04 | Cap | Ductile iron |
| 05 | O-ring | EPDM or NBR |
| 06 | Screen | Stainless or hot dip galvanized steel |
| 07 | Body | Ductile iron |
| 08 | Nut | Stainless or hot dip galvanized steel |

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4. Principle of operation

With a Y-strainer installed in a pipeline the water is forced through a screen in form of a cylinder with a large number of holes punched into it.

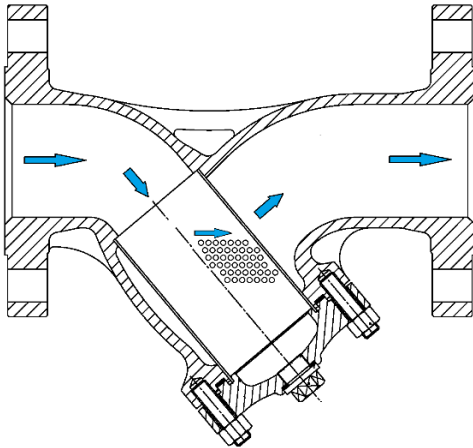


Fig. 1, Flow through strainer

By removing the cap the screen can be taken out for cleaning.

5. Health and safety at work

Make sure all relevant Health and Safety issues and regulations are adhered to prior to and during installation or maintenance work carried out on this product. It is the end user's responsibility to ensure that safe working practices are followed at all times.

All workers handling the product must be aware of the weight of the components or assemblies to be handled and manipulated during installation and maintenance.

It is essential that staff undertaking these operations are adequately trained and it is the responsibility of the end user that only trained and competent staff undertake these duties.

This manual has been designed to assist, but it cannot replace quality training in the workplace. However, the AVK technical staff is always available and ready to answer questions relating to specific problems that may not be covered by this manual.

AVK's products are designed to be fit for purpose and to a high reliability standard. This provides a safe, low risk product when used correctly for the purpose for which it was designed. However, this assumes that the equipment is used and maintained in accordance with this manual, and the user is advised to study it and to make it available to all staff that may need to refer to it.

AVK cannot be held responsible for incidents arising from incorrect installation, operation or maintenance. The responsibility for this rests wholly with the end user.

6. Receiving and storage

Unloading must be carried out carefully. The load must be put gently to the ground without dropping. Lift only by means of shackles in the flange bolt holes or slings around the body casting.

If a forklift is used it shall have sufficient capacity to lift the required weight and have a valid inspection certificate.

All workers involved in the unloading shall be able to perform their functions. They shall wear safety boots, safety vest, safety goggles and hard hat.

All slings used for the lifting shall be of sufficient strength. A record shall document that they have been stored under cool, dry conditions away from sunlight and chemical atmosphere, and that they still perform according to their marked strength.

Immediately after unloading the item should be inspected for compliance with specifications and damage in shipment.

Compliance with specification check shall as a minimum comprise size, pressure class and material specification.

Damage in shipment check shall as a minimum comprise coating and flange surface, but all signs of damage in shipment should be observed.

Storage shall be under dry, cool conditions, away from direct sunlight and corrosive or otherwise chemically active atmosphere.

7. Installation and commissioning

WARNING: *Prior to installation make sure that all pressurized lines involved in the installation are isolated, depressurized and drained before starting any work. Failure to do so may result in sudden pressure release and subsequent severe injury or death.*

When selecting the location for installation make sure there is sufficient space around the strainer to allow for removing and re-installing the screen.

The strainer can be installed in horizontal or vertical direction. An arrow on the side indicates the correct direction of flow.

To facilitate maintenance, it is recommended to install the strainer between isolation valves.

Bosses in the flanges on each side of the mesh can be drilled and tapped and allow for installation of a gauge that can monitor the differential pressure across the strainer. This pressure is a clear indication of the state of the strainer.

Immediately after installation there is an increased risk of left-over debris from the construction. Unless the pipeline has been thoroughly flushed the strainer should be inspected regularly during this initial period of service.

8. Application hazards

The strainer may be used at flow velocities up to 4 m/s corresponding with the maximum flow speed recommended in EN1074 for valves in water supply applications.

Only versions with low temperature EPDM seals are approved for drinking water.

Do not use with flammable liquids, hydrocarbons or solvents unless the rubber seals are fit for this use. Please note that EPDM O-rings are not resistant to hydrocarbons but will dissolve and make the strainer leak. NBR is hydrocarbon resistant but rarely approved or fit for drinking water.

The maximum operating temperature is 70°C, however a special version with heat resistant materials to 130°C is available. Contact AVK for further information.

The strainer is designed with many small holes in the mesh primarily for filtering out small, hard particles in clear water. If used to filter out fibrous materials it is likely to need maintenance and cleaning more often.

Sewage water or polluted wastewater often contains fibres and will likely clog the screen very quickly and make it malfunction.

9. Maintenance

WARNING: Prior to any maintenance work that requires disassembly make sure that the pressurized line involved is isolated, depressurized and drained before starting any disassembly. Failure to do so may result in sudden pressure release and subsequent severe injury or death.

The strainer should be checked and the mesh screen cleaned from time to time, but an exact interval cannot be given – it will depend heavily on the conditions.

To make sure the strainer is always in working condition it is recommended to install a differential pressure gauge and have it monitored regularly – either manually or automatically. Reduction of flow capacity is also an indication of the strainer needing maintenance, but it is most often very imprecise and cannot always be counted on as reliable.

9.1 Cleaning the strainer

- Isolate the strainer – preferably with a set of dedicated isolation valves
- Unscrew the drain plug (03) and drain the isolated section
- Remove the cap (04) and take out the screen (06)
- Check the screen for corrosion and replace if necessary
- Clean the screen with whatever necessary equipment. A brush or a high-pressure hose will often do the job, but it depends on the kind of impurities left on the screen.
- Check the O-ring (05) and replace if necessary
- Reinstall screen and cap

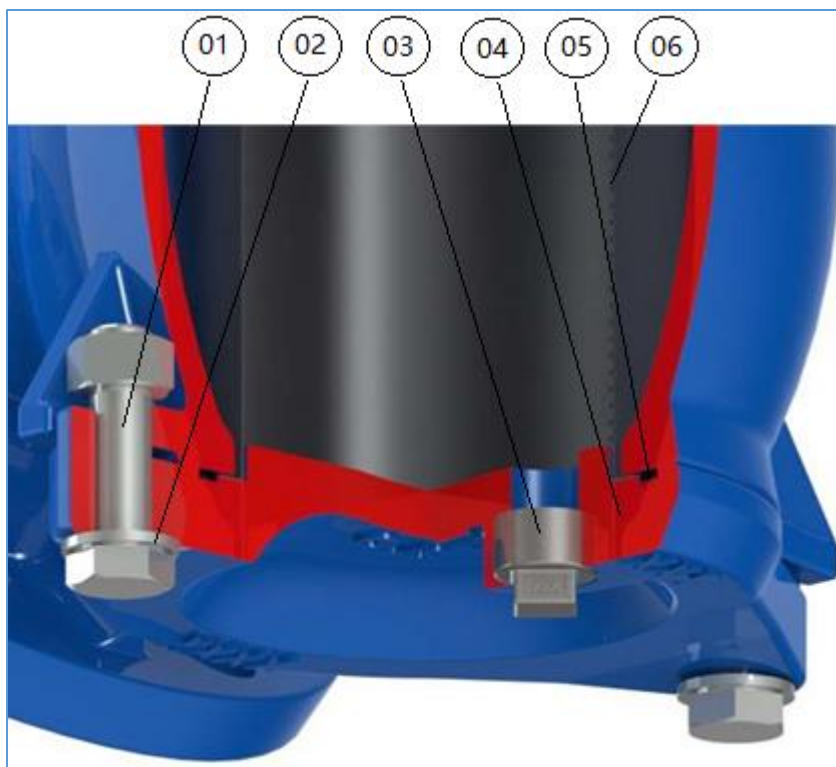


Fig2. Cap and drain plug

10. Decommissioning

When decommissioning the strainer, it should be disposed of according to local regulations and in a way that allows as much recycling of materials as possible.

The AVK series 910 strainers contain no hazardous materials.

11. Trouble shooting

Symptom: Leaks

Cause: Loose bolts

Cure: Tighten the bolts

Symptom: Screen clogs and needs constant cleaning

Cause: Water is too polluted with fibrous materials

Cure: Install a settling pond upstream the strainer

12. Recommended spare parts

Only genuine AVK spare parts should be used. AVK accepts no responsibility for damage caused by failing non-AVK parts.

Following spare parts are recommended to purchase with a ser. 910 strainer:

1. O-Ring (05)
2. Screen (06)



AVK Y-STRAINER

SERIES 910

User guide / Brugervejledning
Gebrauchsanleitung / Guide de l'utilisateur

